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CODE OF FEDERAL REGULATIONS

Title 15
Commerce and Foreign Trade

Parts 745 to 799

Revised as of January 1, 2026

Containing a codification of documents
of general applicability and future effect

As of January 1, 2026

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Cite this Code: CFR

To cite the regulations in this volume use title, part and section number. Thus, 15 CFR 745.1 *refers to title 15, part 745, section 1.*

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Each volume of the Code is revised at least once each calendar year and issued on a quarterly basis approximately as follows:

Title 1 through Title 16.....as of January 1
Title 17 through Title 27.....as of April 1
Title 28 through Title 41.....as of July 1
Title 42 through Title 50.....as of October 1

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OLIVER A. POTTS,
Director,
Office of the Federal Register
January 1, 2026

THIS TITLE

Title 15—COMMERCE AND FOREIGN TRADE is composed of four volumes. The parts in these volumes are arranged in the following order: Parts 0–299, 300–744, 745–799, and part 800–End. The first volume containing parts 0–299 is comprised of Subtitle A—Office of the Secretary of Commerce, Subtitle B, chapter I—Bureau of the Census, Department of Commerce, and chapter II—National Institute of Standards and Technology, Department of Commerce. The second volume containing parts 300–744, is comprised of a portion of chapter III—International Trade Administration, Department of Commerce. The third volume containing parts 745–799 is comprised of the remainder of chapter III—International Trade Administration, Department of Commerce, chapter IV—Foreign-Trade Zones Board, and chapter VII—Bureau of Industry and Security, Department of Commerce. The fourth volume containing part 800–End is comprised of chapter VIII—Bureau of Economic Analysis, Department of Commerce, chapter IX—National Oceanic and Atmospheric Administration, Department of Commerce, chapter XI—Technology Administration, Department of Commerce, chapter XIII—East-West Foreign Trade Board, chapter XIV—Minority Business Development Agency, chapter XV—Office of the Under-Secretary for Economic Affairs, Department of Commerce, Subtitle C, chapter XX—Office of the United States Trade Representative, and Subtitle D, chapter XXIII—National Telecommunications and Information Administration, Department of Commerce. The contents of these volumes represent all current regulations codified under this title of the CFR as of January 1, 2026.

For this volume, Ann Worley was Chief Editor, aided by Michael Chambers. The Code of Federal Regulations publication program is under the direction of John Hyrum Martinez, assisted by Stephen J. Frattini.

Title 15—Commerce and Foreign Trade

(This book contains parts 745 to 799)

SUBTITLE B—Regulations Relating to Commerce and Foreign Trade (Continued)

Part

CHAPTER VII—Bureau of Industry and Security, Department of Commerce (Continued) 745

Subtitle B—Regulations Relating to Commerce and Foreign Trade (Continued)

CHAPTER VII—BUREAU OF INDUSTRY AND SECURITY, DEPARTMENT OF COMMERCE (CONTINUED)

EDITORIAL NOTE: Nomenclature changes to chapter VII appear at 67 FR 20632, Apr. 26, 2002 and 69 FR 60546 and 60547, Oct. 12, 2004.

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Sec.

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745.2 End-Use Certificate reporting requirements under the Chemical Weapons Convention.

SUPPLEMENT NO. 1 TO PART 745—SCHEDULES OF CHEMICALS

SUPPLEMENT NO. 2 TO PART 745—STATES PARTIES TO THE CONVENTION ON THE PROHIBITION OF THE DEVELOPMENT, PRODUCTION, STOCKPILING, AND USE OF CHEMICAL WEAPONS AND ON THEIR DESTRUCTION

SUPPLEMENT NO. 3 TO PART 745—FOREIGN GOVERNMENT AGENCIES RESPONSIBLE FOR ISSUING END-USE CERTIFICATES PURSUANT TO §745.2

AUTHORITY: 50 U.S.C. 1701 *et seq.;* E.O. 12938, 59 FR 59099, 3 CFR, 1994 Comp., p. 950); 22 U.S.C. 6701 *et seq.;* E.O. 13128, 64 FR 36703, 3 CFR 1999 Comp., p. 199; 50 U.S.C. 4801–4852; Notice of November 12, 2019, 84 FR 61817 (November 13, 2019).

SOURCE: 64 FR 27143, May 18, 1999, unless otherwise noted.

§745.1 Advance notification and annual report of all exports of Schedule 1 chemicals to other States Parties.

Pursuant to the Convention, the United States is required to notify the Organization for the Prohibition of Chemical Weapons (OPCW) not less than 30 days in advance of every export of a Schedule 1 chemical, in any quantity, to another State Party. In addition, the United States is required to provide a report of all exports of Schedule 1 chemicals to other States Parties during each calendar year. If you plan to export any quantity of a Schedule 1 chemical controlled under the EAR and licensed by the Department of Commerce or controlled under the International Traffic in Arms Regulations (ITAR) and licensed by the Department of State, you are required under this section to notify the Department of Commerce in advance of this export. You are also required to provide an annual report of exports that actually occurred during the previous calendar year. The United States will transmit the advance notifications and an aggregate annual report to the OPCW of exports of Schedule 1 chemicals from the United States. Note that the notification and annual report requirements of this section do not relieve the exporter of any requirement to obtain a license from the Department of Commerce for the export of Schedule 1 chemicals subject to the EAR or from the Department of State for the export of Schedule 1 chemicals subject to the ITAR.

(a) *Advance notification of exports.* You must notify BIS at least 45 calendar days prior to exporting any quantity of a Schedule 1 chemical listed in supplement no. 1 to this part to another State Party, except that notifications for exports of 5 milligrams or less of saxitoxin (for medical or diagnostic purposes only) must be submitted to BIS at least 3 calendar days prior to the date of export (see 15 CFR 712.6(a)). This is in addition to the requirement to obtain an export license under the EAR for chemicals controlled by ECCN 1C350 or 1C351 for any reason for control, or from the Department of State for Schedule 1 chemicals controlled under the ITAR. Note that such notifications may be sent to BIS prior to or after submission of a license application to BIS for Schedule 1 chemicals controlled subject to the EAR and under ECCNs 1C350 or 1C351 or to the Department of State for Schedule 1 chemicals controlled on the ITAR. Such notices must be submitted separately from license applications.

(1) Such notification should be on company letterhead or must clearly identify the reporting entity by name of company, complete address, name of contact person and telephone and fax numbers, along with the following information:

(i) Common Chemical Name;

(ii) Structural formula of the chemical;

(iii) Chemical Abstract Service (CAS) Registry Number;

(iv) Quantity involved in grams;

(v) Planned date of export;

(vi) Purpose (end-use) of export;
(vii) Name of recipient;
(viii) Complete street address of recipient;
(ix) Export license or control number, if known; and
(x) Company identification number, once assigned by BIS.

(2) Send the notification either by fax to (202) 482–1731 or by mail or courier delivery to the following address: Information Technology Team, Treaty Compliance Division, Bureau of Industry and Security, U.S. Department of Commerce, Room 4515, 14th Street and Pennsylvania Avenue, NW., Washington, DC 20230. Attn: ''Advance Notification of Schedule 1 Chemical Export''.

(3) Upon receipt of the notification, BIS will inform the exporter of the earliest date the shipment may occur under the notification procedure. To export the Schedule 1 chemical, the exporter must have applied for and been granted a license (see §§ 742.2 and 742.18 of the EAR, or the ITAR at 22 CFR part 121.

(b) *Annual report of exports.* (1) You must report all exports of any quantity of a Schedule 1 chemical to another State Party during the previous calendar year, starting with exports taking place during calendar year 1997. Reports for exports during calendar years 1997 and 1998 are due to the Department of Commerce August 16, 1999. Thereafter, annual reports of exports are due on February 13 of the following calendar year. The report should be on company letterhead or must clearly identify the reporting entity by name of company, complete address, name of contact person and telephone and fax numbers along with the following information for *each* export:
(i) Common Chemical Name;
(ii) Structural formula of the chemical;
(iii) CAS Registry Number;
(iv) Quantity involved in grams;
(v) Date of export;
(vi) Export license number;
(vii) Purpose (end-use) of export;
(viii) Name of recipient;
(ix) Complete address of recipient, including street address, city and country; and (x) Company identification number, once assigned by BIS.

(2) The report must be signed by a responsible party, certifying that the information provided in the annual report is, to the best of his/her knowledge and belief, true and complete.

(3) Send the report either by fax to (202) 482–1731 or by mail or courier delivery to the following address: Information Technology Team, Treaty Compliance Division, Bureau of Industry and Security, U.S. Department of Commerce, Room 4515, 14th Street and Pennsylvania Avenue, NW., Washington, DC 20230. Attn: ''Annual Report of Schedule 1 Chemical Export''.

[64 FR 27143, May 18, 1999, as amended at 64 FR 28909, May 28, 1999; 65 FR 12923, Mar. 10, 2000; 73 FR 38910, July 8, 2008; 83 FR 13855, Apr. 2, 2018]

§ 745.2 End-Use Certificate reporting requirements under the Chemical Weapons Convention.

NOTE: The End-Use Certificate requirement of this section does not relieve the exporter of any requirement to obtain a license from the Department of Commerce for the export of Schedule 3 chemicals subject to the Export Administration Regulations or from the Department of State for the export of Schedule 3 chemicals subject to the International Traffic in Arms Regulations.

(a)(1) No U.S. person, as defined in §744.6(c) of the EAR, may export from the United States any Schedule 3 chemical identified in supplement no. 1 to this part to countries not party to the Chemical Weapons Convention (destinations *not* listed in supplement no. 2 to this part) unless the U.S. person obtains from the consignee an End-Use Certificate issued by the government of the importing destination. This Certificate must be issued by the foreign government's agency responsible for foreign affairs or any other agency or department designated by the importing government for this purpose. Supplement no. 3 to this part includes foreign authorized agencies responsible for issuing End-Use Certificates pursuant to this section. Additional foreign authorized agencies responsible for issuing End-Use Certificates will be included in supplement no. 3 to this part when known. End-Use Certificates may be issued to cover aggregate quantities against which multiple shipments may be made to a single consignee. An End-Use Certificate

covering multiple shipments may be used until the aggregate quantity is shipped. End-Use Certificates must be submitted separately from license applications.

(2) Submit a copy of the End-Use Certificate, no later than 7 days after the date of export, either by fax to (202) 482–1731 or by mail or courier delivery to the following address: Information Technology Team, Treaty Compliance Division, Bureau of Industry and Security, U.S. Department of Commerce, Room 4515, 14th Street and Pennsylvania Avenue, NW., Washington, DC 20230. Attn: ''CWC End-Use Certificate Report''.

(b) The End-Use Certificate described in paragraph (a) of this section must state the following:

(1) That the chemicals will be used only for purposes not prohibited under the Chemical Weapons Convention;

(2) That the chemicals will not be transferred to other end-user(s) or end-use(s);

(3) The types and quantities of chemicals;

(4) Their specific end-use(s); and

(5) The name(s) and complete address(es) of the end-user(s).

[64 FR 27143, May 18, 1999, as amended at 64 FR 49381, Sept. 13, 1999; 66 FR 49525, Sept. 28, 2001; 73 FR 38910, July 8, 2008]

SUPPLEMENT NO. 1 TO PART 745—SCHEDULES OF CHEMICALS

	CAS registry No.
Schedule 1	
A. Toxic Chemicals:	
1. *Family:* O-Alkyl($\leq C_{10}$, incl. cycloalkyl) alkyl (Me, Et, n-Pr or i-Pr)- phosphonofluoridates	
Not limited to the following examples:	
Sarin: O-Isopropyl methylphosphonofluoridate	107–44–8
Soman: O-Pinacolyl methylphosphonofluoridate	96–64–0
2. *Family:* O-Alkyl ($\leq C_{10}$, incl. cycloalkyl) N,N-dialkyl (Me, Et, n-Pr or i-Pr) phosphoramidocyanidates	
Not limited to the following example:	
Tabun: O-Ethyl N,N-dimethyl phosphoramidocyanidate	77–81–6
3. *Family:* O-Alkyl (H or $\leq C_{10}$, incl. cycloalkyl) S-2-dialkyl (Me, Et, n-Pr or i-Pr)-aminoethyl alkyl (Me, Et, n-Pr or i-Pr) phosphonothiolates and corresponding alkylated or protonated salts	
Not limited to the following example:	
VX: O-Ethyl S-2-diisopropylaminoethyl methyl phosphonothiolate	50782–69–9
4. *Sulfur mustards:*	
2-Chloroethylchloromethylsulfide	2625–76–5
Mustard gas: Bis(2-chloroethyl)sulfide	505–60–2
Bis(2-chloroethylthio)methane	63869–13–6
Sesquimustard: 1,2-Bis(2-chloroethylthio)ethane	3563–36–8
1,3-Bis(2-chloroethylthio)-n-propane	63905–10–2
1,4-Bis(2-chloroethylthio)-n-butane	142868–93–7
1,5-Bis(2-chloroethylthio)-n-pentane	142868–94–8
Bis(2-chloroethylthiomethyl)ether	63918–90–1
O-Mustard: Bis(2-chloroethylthioethyl)ether	63918–89–8
5. *Lewisites:*	
Lewisite 1: 2-Chlorovinyldichloroarsine	541–25–3
Lewisite 2: Bis(2-chlorovinyl)chloroarsine	40334–69–8
Lewisite 3: Tris(2-chlorovinyl)arsine	40334–70–1
6. *Nitrogen mustards:*	
HN1: Bis(2-chloroethyl)ethylamine	538–07–8
HN2: Bis(2-chloroethyl)methylamine	51–75–2
HN3: Tris(2-chloroethyl)amine	555–77–1
7. Saxitoxin	35523–89–8
8. Ricin	9009–86–3
13. *Family:* P-alkyl (H or $\leq C_{10}$, incl. cycloalkyl) N-(1-(dialkyl($\leq C_{10}$, incl. cycloalkyl)amino))alkylidene(H or $\leq C_{10}$, incl. cycloalkyl) phosphonamidic fluorides and corresponding alkylated or protonated salts	
Not limited to the following examples:	
N-(1-(di-n-decylamino)-n-decylidene)-P-decylphosphonamidic fluoride	2387495–99–8
Methyl-(1-(diethylamino)ethylidene)phosphonamidofluoridate	2387496–12–8
14. *Family:* O-alkyl (H or $\leq C_{10}$, incl. cycloalkyl) N-(1-(dialkyl($\leq C_{10}$, incl. cycloalkyl)amino))alkylidene(H or $\leq C_{10}$, incl. cycloalkyl) phosphoramidofluoridates and corresponding alkylated or protonated salts	
Not limited to the following examples:	
O-n-Decyl N-(1-(di-n-decylamino)-n decylidene)phosphoramidofluoridate	2387496–00–4
Methyl (1-(diethylamino)ethylidene)phosphoramidofluoridate	2387496–04–8
Ethyl (1-(diethylamino)ethylidene)phosphoramidofluoridate	2387496–06–0

	CAS registry No.
15. Methyl-(bis(diethylamino)methylene)phosphonamidofluoridate	2387496–14–0
16. Carbamates (quaternaries and bisquaternaries of dimethylcarbamoyloxypyridines)	
16.1. *Family:* Quaternaries of dimethylcarbamoyloxypyridines: 1-[N,N-dialkyl($\leq C_{10}$)-N-(n-(hydroxyl, cyano, acetoxy)alkyl($\leq C_{10}$)) ammonio]-n-[N-(3-dimethylcarbamoxy-α-picolinyl)-N,N-dialkyl($\leq C_{10}$) ammonio]decane dibromide (n=1–8)	
Not limited to the following example:	
1-[N,N-dimethyl-N-(2-hydroxy)ethylammonio]-10-[N-(3-dimethylcarbamoxy-α-picolinyl)-N,N-dimethylammonio]decane dibromide	77104–62–2
16.2. *Family:* Bisquaternaries of dimethylcarbamoyloxypyridines:1,n-Bis[N-(3-dimethylcarbamoxy-α-picolyl)-N,N-dialkyl($\leq C_{10}$) ammonio]-alkane-(2,(n-1)-dione) dibromide (n=2–12).	
Not limited to the following example:	
1,10-Bis[N-(3-dimethylcarbamoxy-α-picolyl)-N-ethyl-N- methylammonio]decane-2,9-dione dibromide	77104–00–8
B. Precursors:	
9. *Family:* Alkyl (Me, Et, n-Pr or i-Pr) phosphonyldifluorides	
Not limited to the following example:	
DF: Methylphosphonyldifluoride	676–99–3
10. *Family:* O-Alkyl (H or $\leq C_{10}$, incl. cycloalkyl) O-2-dialkyl (Me, Et, n-Pr or i-Pr)-aminoethyl alkyl (Me, Et, n-Pr or i-Pr) phosphonites and corresponding alkylated or protonated salts	
Not limited to the following example:	
QL: O-Ethyl O–2-diisopropylaminoethyl methylphosphonite	57856–11–8
11. *Chlorosarin:* O-Isopropyl methylphosphonochloridate	1445–76–7
12. *Chlorosoman:* O-Pinacolyl methylphosphonochloridate	7040–57–5

Schedule 2

A. Toxic Chemicals:	
1. *Amiton:* O,O-Diethyl S-[2-(diethylamino)ethyl] phosphorothiolate and corresponding alkylated or protonated salts	78–53–5
2. PFIB: 1,1,3,3,3-Pentafluoro-2-(trifluoromethyl)-1-propene	382–21–8
3. *BZ:* 3-Quinuclidinyl benzilate	6581–06–2
B. Precursors:	
4. *Family:* Chemicals, except for those listed in Schedule 1, containing a phosphorus atom to which is bonded one methyl, ethyl or propyl (normal or iso) group but not further carbon atoms,	
Not limited to the following examples:	
Methylphosphonyl dichloride	676–97–1
Dimethyl methylphosphonate	756–79–6
Exemption: Fonofos: O-Ethyl S-phenyl ethylphosphonothiolothionate	944–22–9
5. *Family:* N,N-Dialkyl (Me, Et, n-Pr or i-Pr) phosphoramidic dihalides	
6. *Family:* Dialkyl (Me, Et, n-Pr or i-Pr) N,N-dialkyl (Me, Et, n-Pr or i-Pr)-phosphoramidates	
7. Arsenic trichloride	7784–34–1
8. 2,2-Diphenyl-2-hydroxyacetic acid	76–93–7
9. Quinuclidine-3-ol	1619–34–7
10. *Family:* N,N-Dialkyl (Me, Et, n-Pr or i-Pr) aminoethyl-2-chlorides and corresponding protonated salts	
11. *Family:* N,N-Dialkyl (Me, Et, n-Pr or i-Pr) aminoethane-2-ols and corresponding protonated salts	
Exemptions: N,N-Dimethylaminoethanol and corresponding protonated salts	108–01–0
N,N-Diethylaminoethanol and corresponding protonated salts	100–37–8
12. *Family:* N,N-Dialkyl (Me, Et, n-Pr or i-Pr) aminoethane-2-thiols and corresponding protonated salts	
13. Thiodiglycol: Bis(2-hydroxyethyl)sulfide	111–48–8
14. *Pinacolyl alcohol:* 3,3-Dimethylbutane-2-ol	464–07–3

Schedule 3

A. Toxic Chemicals:	
1. *Phosgene:* Carbonyl dichloride	75–44–5
2. Cyanogen chloride	506–77–4
3. Hydrogen cyanide	74–90–8
4. *Chloropicrin:* Trichloronitromethane	76–06–2
B. Precursors:	
5. Phosphorus oxychloride	10025–87–3
6. Phosphorus trichloride	7719–12–2
7. Phosphorus pentachloride	10026–13–8
8. Trimethyl phosphite	121–45–9
9. Triethyl phosphite	122–52–1
10. Dimethyl phosphite	868–85–9
11. Diethyl phosphite	762–04–9
12. Sulfur monochloride	10025–67–9
13. Sulfur dichloride	10545–99–0
14. Thionyl chloride	7719–09–7
15. Ethyldiethanolamine	139–87–7

	CAS registry No.
16. Methyldiethanolamine	105–59–9
17. Triethanolamine	102–71–6

NOTE TO SUPPLEMENT 1: The numerical sequence of the ''Schedule 1'' Toxic Chemicals and Precursors is not consecutive so as to align with the December 23, 2019, consolidated textual changes to ''Schedule 1'' of the Annex on Chemicals to the Chemical Weapons Convention (CWC), which reflect the decisions adopted by the CWC Conference of the States Parties in November 2019.

[86 FR 942, Jan. 7, 2021]

SUPPLEMENT NO. 2 TO PART 745—STATES PARTIES TO THE CONVENTION ON THE PROHIBITION OF THE DEVELOPMENT, PRODUCTION, STOCKPILING, AND USE OF CHEMICAL WEAPONS AND ON THEIR DESTRUCTION

List of States Parties as of June 1, 2016

Afghanistan
Albania
Algeria
Andorra
Angola
Antigua and Barbuda
Argentina
Armenia
Australia
Austria
Azerbaijan
Bahamas
Bahrain
Bangladesh
Barbados
Belarus
Belgium
Belize
Benin
Bhutan
Bolivia
Bosnia-Herzegovina
Botswana
Brazil
Brunei Darussalam
Bulgaria
Burkina Faso
Burma
Burundi
Cambodia
Cameroon
Canada
Cape Verde
Central African Republic
Chad
Chile
China*
Colombia
Comoros
Congo (Democratic Republic of the)
Congo (Republic of the)
Cook Islands
Costa Rica
Cote d'Ivoire (Ivory Coast)
Croatia
Cuba
Cyprus
Czech Republic
Denmark
Djibouti
Dominica
Dominican Republic
Ecuador
El Salvador
Equatorial Guinea
Eritrea
Estonia
Ethiopia
Fiji
Finland
France
Gabon
Gambia
Georgia
Germany
Ghana
Greece
Grenada
Guatemala
Guinea
Guinea-Bissau
Guyana
Haiti
Holy See
Honduras
Hungary
Iceland
India
Indonesia
Iran
Iraq
Ireland
Italy
Jamaica
Japan
Jordan
Kazakhstan
Kenya
Kiribati
Korea (Republic of)
Kuwait
Kyrgyzstan
Laos (P.D.R.)
Latvia
Lebanon
Lesotho
Liberia
Libya
Liechtenstein

Lithuania
Luxembourg
Macedonia
Madagascar
Malawi
Malaysia
Maldives
Mali
Malta
Marshall Islands
Mauritius
Mauritania
Mexico
Micronesia
Moldova (Republic of)
Monaco
Mongolia
Montenegro
Morocco
Mozambique
Namibia
Nauru
Nepal
Netherlands (Kingdom of the)***
New Zealand
Nicaragua
Niger
Nigeria
Niue
Norway
Oman
Pakistan
Palau
Panama
Papua New Guinea
Paraguay
Peru
Philippines
Poland
Portugal
Qatar
Romania
Russian Federation
Rwanda
Saint Kitts and Nevis
Saint Lucia
Saint Vincent and the Grenadines
Samoa
San Marino
Sao Tome and Principe
Saudi Arabia
Senegal
Serbia
Seychelles
Sierra Leone
Singapore
Slovak Republic
Slovenia
Solomon Islands
Somalia
South Africa
Spain
Sri Lanka
Sudan
Suriname
Swaziland
Sweden
Switzerland
Syria
Tajikistan
Tanzania
Thailand
Timor-Leste
Togo
Tonga
Trinidad and Tobago
Tunisia
Turkey
Turkmenistan
Tuvalu
Uganda
Ukraine
United Arab Emirates
United Kingdom
United States
Uruguay
Uzbekistan
Vanuatu
Venezuela
Vietnam
Yemen
Zambia
Zimbabwe

*For CWC purposes only, China includes Macau.

***For CWC purposes only, the Netherlands (Kingdom of) includes: Aruba, Curaçao, and Saint Maarten (the Dutch two-fifths of the island of Saint Martin).

[85 FR 83791, Dec. 23, 2020]

SUPPLEMENT NO. 3 TO PART 745—FOREIGN AUTHORIZED AGENCIES RESPONSIBLE FOR ISSUING END-USE CERTIFICATES PURSUANT TO §745.2

Israel
Chemical, Environment Technology Administration, Ministry of Industry & Trade, 30 Agron Street, Jerusalem 94190, Israel
Contact: Josef Dancona, Deputy Director, Telephone: 972–2–6220193, Fax: 972–2–6241987
Taiwan[1]
Board of Foreign Trade, Ministry of Economic Affairs, 1 Hukou St., Taipei, Tel: (02) 2351–0271, Fax: (02) 2351–3603
Export Processing Zone Administration, Ministry of Economic Affairs, 600 Chiachang Rd., Nantze, Kaohsiung, Tel: (07) 361–1212, Fax: (07) 361–4348
Science-Based Industrial Park Administration, National Science Council, Executive Yuan, 2 Hsin-an Rd., Hsinchu, Tel: (03) 577–3311, Fax: (03) 577–6222

[64 FR 27143, May 18, 1999, as amended at 64 FR 43982, Sept. 13, 1999]

[1]Two of the three offices (Export Processing Zone Administration and the Science-Based Industrial Park Administration) are in special economic zones and are responsible for the activity in their respective zones.

PART 746—EMBARGOES AND OTHER SPECIAL CONTROLS

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746.3 Iraq.
746.4 North Korea.
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746.6 Temporarily occupied Crimea region of Ukraine and covered regions of Ukraine.
746.7 Iran.
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SUPPLEMENT NO. 3 TO PART 746—COUNTRIES EXCLUDED FROM CERTAIN LICENSE REQUIREMENTS OF §§ 746.6, 746.7, AND 746.8
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SUPPLEMENT NO. 6 TO PART 746—RUSSIAN AND BELARUSIAN INDUSTRY SECTOR SANCTIONS PURSUANT TO § 746.8(a)(6)
SUPPLEMENT NO. 7 TO PART 746—SUPPLEMENT NO. 7 TO PART 746—ITEMS THAT REQUIRE A LICENSE UNDER § 746.6 WHEN DESTINED TO THE TEMPORARILY OCCUPIED CRIMEA REGION OF UKRAINE, UNDER § 746.7 WHEN DESTINED TO IRAN, AND UNDER § 746.8 WHEN DESTINED TO RUSSIA OR BELARUS

AUTHORITY: 50 U.S.C. 4801–4852; 50 U.S.C. 4601 *et seq.;* 50 U.S.C. 1701 *et seq.;* 22 U.S.C. 287c; Sec 1503, Pub. L. 108–11, 117 Stat. 559; 22 U.S.C. 2151 note; 22 U.S.C. 6004; 22 U.S.C. 7201 *et seq.;* 22 U.S.C. 7210; E.O. 12854, 58 FR 36587, 3 CFR, 1993 Comp., p. 614; E.O. 12918, 59 FR 28205, 3 CFR, 1994 Comp., p. 899; Presidential Determination 2003–23, 68 FR 26459, 3 CFR, 2004 Comp., p. 320; Presidential Determination 2007–7, 72 FR 1899, 3 CFR, 2006 Comp., p. 325; Pub. L. 118–50; E.O. 14312.

SOURCE: 61 FR 12806, Mar. 25, 1996, unless otherwise noted.

§ 746.1 Introduction.

In this part, references to the EAR are references to 15 CFR chapter VII, subchapter C. This part implements broad based controls for items and activities subject to the EAR imposed to implement U.S. government policies. Two categories of controls are included in this part.

(a) *Comprehensive controls.* This part contains or refers to all the BIS licensing requirements, licensing policies, and License Exceptions for countries subject to general embargoes or comprehensive sanctions, currently Cuba, Iran, and Syria. This part is the focal point for all the EAR requirements for transactions involving these countries.

(1) *Cuba.* All the items on the Commerce Control List (CCL) require a license to Cuba. In addition, most other items subject to the EAR, but not included on the CCL, designated by the Number ''EAR99'', require a license to Cuba. Most items requiring a license to these destinations are subject to a general policy of denial. Because these controls extend to virtually all exports, they do not appear in the Country Chart in part 738 of the EAR, nor are they reflected in the Commerce Control List in part 774 of the EAR.

(2) *Iran.* BIS maintains license requirements and other restrictions on exports and reexports to Iran. A comprehensive embargo on transactions involving this country is administered by the Department of The Treasury's Office of Foreign Assets Control (OFAC).

(3) *Syria.* Section 746.9 of this part sets forth the specific license requirements, licensing policy and license exceptions applicable to Syria.

(b) *Sanctions on selected categories of items to specific destinations.* (1) BIS controls the export and reexport of selected categories of items to countries under United Nations Security Council arms embargoes. See the Commerce Control List in supplement no. 1 to part 774. See also §§ 746.3 (Iraq) and 746.4 (North Korea).

(2) The countries subject to United Nations Security Council arms embargoes are: Central African Republic, Democratic Republic of the Congo, Eritrea, Iran, Iraq, Lebanon, Libya, North Korea, Somalia, and Sudan.

(3) A license is required to export or reexport items identified in part 774 as having a ''UN'' reason for control to countries identified in paragraph (b)(2) of this section. To the extent consistent with United States national security and foreign policy interests, BIS will not approve applications for such licenses if the authorization would be

contrary to the relevant United Nations Security Council Resolution.

(4) You may not use any License Exception, other than License Exception GOV, for items for personal or official use by personnel and agencies of the U.S. Government or agencies of cooperating governments as set forth in §740.11(b) of the EAR, to export or reexport items with a UN reason for control to countries listed in paragraph (b)(2) of this section. This paragraph does not apply to Iraq, which is governed by §746.3(c) of this part; North Korea, which is governed by §746.4(c) of this part; or Iran, which is governed by §746.7(c) of this part.

(c) *Russian Industry Sector Sanctions.* The Russian Industry Sector Sanctions are set forth under §746.5 and referenced under the License Requirements section of certain Export Control Classification Numbers (ECCNs) in supplement No. 1 to part 774 (Commerce Control List), as well as in a footnote to the Commerce Country Chart in supplement no. 1 to part 738.

(d) This part also contains descriptions of controls maintained by the Office of Foreign Assets Control in the Treasury Department and by the Directorate of Defense Trade Controls in the Department of State. Comprehensive embargoes and supplemental controls implemented by BIS under the EAR usually also involve controls on items and activities maintained by these agencies. This part sets forth the allocation of licensing responsibilities between BIS and these other agencies. References to the requirements of other agencies are informational; for current, complete, and authoritative requirements, you should consult the appropriate agency's regulations.

[61 FR 12806, Mar. 25, 1996, as amended at 62 FR 25459, May 9, 1996; 65 FR 38160, June 19, 2000; 67 FR 70546, Nov. 25, 2002; 69 FR 3005, Jan. 22, 2004; 69 FR 23638, Apr. 29, 2004; 69 FR 46076, July 30, 2004; 72 FR 3725, Jan. 26, 2007; 73 FR 36, Jan. 2, 2008; 76 FR 77117, Dec. 12, 2011; 77 FR 42975, July 23, 2012; 78 FR 22723, Apr. 16, 2013; 79 FR 32625, June 5, 2014; 79 FR 45679, Aug. 6, 2014; 81 FR 76861, Nov. 4, 2016; 90 FR 42320, Sept. 2, 2025]

§746.2 Cuba.

(a) *License requirements.* As authorized by section 6 of the Export Administration Act of 1979, as amended (EAA) and by the Trading with the Enemy Act of 1917, as amended, you will need a license to export or reexport all items subject to the EAR (see part 734 of the EAR for the scope of items subject to the EAR) to Cuba, including any release of technology or source code subject to the EAR to a Cuban national, except as follows:

(1) *License exceptions.* You may export or reexport without a license if your transaction meets all the applicable terms and conditions of any of the following License Exceptions. To determine the scope and eligibility requirements, you will need to turn to the sections or specific paragraphs of part 740 of the EAR (License Exceptions). Read each License Exception carefully, as the provisions available for embargoed countries are generally narrow.

(i) Temporary exports and reexports (TMP) by the news media (see §740.9(a)(9) of the EAR).

(ii) Operation technology and software (TSU) for legally exported commodities or software (see §740.13(a) of the EAR).

(iii) Sales technology (TSU) (see §740.13(b) of the EAR).

(iv) Software updates (TSU) for legally exported software (see §740.13(c) of the EAR).

(v) Parts (RPL) for one-for-one replacement in certain legally exported commodities (see §740.10(a) of the EAR).

(vi) Baggage (BAG) (see §740.14 of the EAR).

(vii) Governments and international organizations (GOV) (see §740.11 of the EAR).

(viii) Gift parcels and humanitarian donations (GFT) (see §740.12 of the EAR).

(ix) Items in transit (TMP) from Canada through the U.S. (see §740.9(b)(1)(iv) of the EAR).

(x) Aircraft, vessels and spacecraft (AVS) for certain aircraft on temporary sojourn; equipment and spare parts for permanent use on a vessel or aircraft, and ship and plane stores; vessels on temporary sojourn; or cargo transiting Cuba on aircraft or vessels on temporary sojourn (*see* §740.15(a), (b), (d), and (e) of the EAR).

(xi) Permissive reexports of certain spare parts in foreign-made equipment (see § 740.16(h) of the EAR).

(xii) Exports of agricultural commodities, classified as EAR99, under License Exception Agricultural Commodities (AGR) and certain reexports of U.S. origin agricultural commodities, classified as EAR99, under License Exception AGR (see § 740.18 of the EAR).

(xiii) Commodities and software authorized under License Exception Consumer Communications Devices (CCD) (see § 740.19 of the EAR).

(xiv) License Exception Support for the Cuban People (SCP) (*see* § 740.21 of the EAR).

(2) *Deemed exports and deemed reexports.* A license is not required to release technology or source code subject to the EAR but not on the Commerce Control List (*i.e.*, EAR99 technology or source code) to a Cuban national in the United States or a third country.

(b) *Licensing policy.* Items requiring a license are subject to a general policy of denial, except as follows:

(1) *Medicines and Medical Devices.* Applications to export medicines and medical devices as defined in part 772 of the EAR will generally be approved, except:

(i) To the extent restrictions would be permitted under section 5(m) of the Export Administration Act of 1979, as amended (EAA), or section 203(b)(2) of the International Emergency Economic Powers Act;

(ii) If there is a reasonable likelihood that the item to be exported will be used for purposes of torture or other human rights abuses;

(iii) If there is a reasonable likelihood that the item to be exported will be reexported;

(iv) If the item to be exported could be used in the production of any biotechnological product; or

(v) If it is determined that the United States government is unable to verify, by on-site inspection or other means, that the item to be exported will be used for the purpose for which it was intended and only for the use and benefit of the Cuban people, but this exception shall not apply to donations of medicines for humanitarian purposes to a nongovernmental organization in Cuba.

(2) *Exports and reexports that generally will be approved.* Applications for licenses to export or reexport the following generally will be approved:

(i) Telecommunications items that would improve communications to, from, and among the Cuban people;

(ii) Commodities and software to human rights organizations or to individuals and non-governmental organizations that promote independent activity intended to strengthen civil society in Cuba;

(iii) Commodities and software to U.S. news bureaus in Cuba whose primary purpose is the gathering and dissemination of news to the general public;

(iv) Agricultural items that are outside the scope of agricultural commodities as defined in part 772 of the EAR, such as insecticides, pesticides and herbicides, and agricultural commodities not eligible for License Exception AGR;

(v) Items necessary to ensure the safety of civil aviation and the safe operation of commercial aircraft engaged in international air transportation, excluding the export or reexport of such aircraft leased to state-owned enterprises; and

(vi) Items necessary for the environmental protection of U.S. and international air quality, waters, or coastlines (including items related to renewable energy or energy efficiency).

(3) *Exports and reexports that may be authorized on a case-by-case basis.* (i) Applications for licenses to export or reexport items to meet the needs of the Cuban people, including exports and reexports of such items to state-owned enterprises, agencies, and other organizations of the Cuban government that provide goods and services for the use and benefit of the Cuban people may be authorized on a case-by-case basis. This policy of case-by-case review includes applications for licenses to export or reexport items for:

(A) Agricultural production, artistic endeavors (including the creation of public content, historic and cultural works and preservation), education, food processing, disaster preparedness, relief and response, public health and sanitation, residential construction

and renovation and public transportation;

(B) Wholesale and retail distribution for domestic consumption by the Cuban people;

(C) Construction of facilities for treating public water supplies, facilities for supplying electricity or other energy to the Cuban people, sports and recreation facilities, and other infrastructure that directly benefits the Cuban people; and

(D) Items that will enable or facilitate export from Cuba of items produced by the private sector.

NOTE 1 TO PARAGRAPH (b)(3)(i): Licenses issued pursuant to the policy set forth in this paragraph generally will have a condition prohibiting both reexports from Cuba to any other destination and uses that enable or facilitate the export of goods or services from Cuba, that primarily generate revenue for the state.

NOTE 2 TO PARAGRAPH (b)(3)(i): The policy of case-by-case review in this paragraph is intended to facilitate exports and reexports to meet the needs of the Cuban people. Accordingly, BIS generally will deny applications to export or reexport items for use by state-owned enterprises, agencies, and other organizations that primarily generate revenue for the state, including those engaged in tourism and those engaged in the extraction or production of minerals or other raw materials. Applications for export or reexport of items destined to the Cuban military, police, intelligence or security services also generally will be denied. Additionally, pursuant to section 3(a) of the National Security Presidential Memorandum on Strengthening the Policy of the United States Toward Cuba (NSPM), dated June 16, 2017, BIS generally will deny applications to export or reexport items for use by entities or subentities identified by the Department of State in the FEDERAL REGISTER or at *https://www.state.gov/e/eb/tfs/spi/cuba/cubarestrictedlist/index.htm*, unless such transactions are determined to be consistent with sections 2 and 3(a)(iii) of the NSPM.

(ii) [Reserved]

(4) *Temporary sojourns of aircraft and vessels.* Applications for exports or reexports of aircraft or vessels on temporary sojourn to Cuba, other than aircraft operated by certificated air carriers or cargo vessels for hire, are subject to a general policy of denial unless consistent with the foreign policy or national security interests of the United States. Applications for exports or reexports of aircraft operated by certificated air carriers or cargo vessels for hire on temporary sojourn to Cuba may be authorized on a case-by-case basis.

NOTE 1 TO PARAGRAPH (b)(4): Applications for exports or reexports of private and corporate aircraft, cruise ships, sailboats, fishing vessels, and other similar aircraft and vessels on temporary sojourn to Cuba will generally be denied.

(c) *Definitions.* For purposes of this section, ''U.S. person'' means any person subject to the jurisdiction of the United States, as described in § 515.329 of the Cuban Assets Control Regulations (31 CFR 515.329).

(d) *Related controls.* OFAC maintains controls on the activities of persons subject to U.S. jurisdiction, wherever located, involving transactions with Cuba or any Cuban national, as provided in 31 CFR part 515. Exporters and reexporters should consult with OFAC for further guidance on its related controls.

[61 FR 12802, Mar. 25, 1996]

EDITORIAL NOTE: For FEDERAL REGISTER citations affecting § 746.2, see the List of CFR Sections Affected, which appears in the Finding Aids section of the printed volume and at *www.govinfo.gov*.

§ 746.3 Iraq.

Pursuant to United Nations Security Council (UNSC) Resolutions 1483 and 1546 and other relevant resolutions, the United Nations maintains an embargo on the sale or supply to Iraq of arms and related materiel and their means of production, except items required by the Government of Iraq to serve the purposes of Resolution 1546. UNSC Resolutions 707 and 687 require that Iraq eliminate its nuclear weapons program and restrict its nuclear activities to the use of isotopes for medical, industrial or agricultural purposes. Such resolutions further mandate that Iraq eliminate its chemical and biological weapons programs as well as its ballistic missile program. In support of the applicable UNSC resolutions, certain Iraq specific license requirements and licensing policies are detailed in this section. In addition, this section details restrictions on transfers of items subject to the EAR within Iraq. Exporters should be aware that other

provisions of the EAR, including parts 742 and 744, will continue to apply with respect to exports and reexports to Iraq and transfers within Iraq.

(a) *License requirements.* (1) A license is required for the export or reexport to Iraq or transfer within Iraq of any item controlled on the Commerce Control List for NS, MT, NP, CW, CB, RS, CC, EI, SI, or SL reasons. See part 742 of the EAR.

(2) A license is required for the export or reexport to Iraq or transfer within Iraq of any item controlled on the Commerce Control List for UN reasons.

(3) A license is required for the export or reexport to Iraq or transfer within Iraq of items on the Commerce Control List controlled for RS reasons under the following ECCNs: 0B999, 0D999, 1B999, 1C992, 1C995, 1C997, 1C999 and 6A992.

(4) A license is required for the export or reexport to Iraq or transfer within Iraq of any item subject to the EAR if, at the time of the export, reexport or transfer, you know, have reason to know, or are informed by BIS that the item will be, or is intended to be, used for a ''military end-use'' or by a ''military end-user'', as defined in this section. This license requirement does not apply to exports, reexports or transfers of items for the official use by personnel and agencies of the U.S. Government or exports, reexports or transfers to the Government of Iraq. See § 740.11(b)(3) of the EAR for the definition of ''agency of the U.S. Government.'' BIS may inform an exporter, reexporter, or other person, either individually by specific notice or through amendment to the EAR, that a license is required for export, reexport or transfer of items subject to the EAR to specified end-users, because BIS has determined that there is an unacceptable risk of diversion to the uses or users described in this paragraph. Specific notice is to be given only by, or at the direction of, the Deputy Assistant Secretary for Export Administration. When such notice is provided orally, it will be followed by a written notice within two working days signed by the Deputy Assistant Secretary for Export Administration. The absence of any such notification does not excuse the exporter, reexporter or other person from compliance with the license requirements of this paragraph.

(i) *Military end-use.* In this section, the phrase ''military end-use'' means incorporation into a military item described on the U.S. Munitions List (USML) (22 CFR part 121, International Traffic in Arms Regulations) or the Wassenaar Arrangement Munitions List (WAML) (as set out on the Wassenaar Arrangement website at *http://www.wassenaar.org*); or use, development, or deployment of military items described on the USML or the WAML.

(ii) *Military end-user.* In this section, the term ''military end-user'' means any ''person'' whose actions or functions are intended to support ''military end-uses'' as defined in paragraph (a)(4)(i) of this section and who is not recognized as a legitimate military organization by the U.S. Government.

(5) *Definitions.* For purposes of exports or reexports to Iraq or transfers within Iraq, ''ballistic missile'' is defined as any missile capable of a range greater than 150 kilometers.

(b) *Licensing policy.* (1) License applications for the export or reexport to Iraq or transfer within Iraq of items listed in paragraph (a)(1), (a)(2), or (a)(3) of this section for Iraqi civil nuclear or military nuclear activity, except for use of isotopes for medical, industrial or agricultural purposes, will be subject to a policy of denial.

(2) License applications for the export or reexport to Iraq or transfer within Iraq of machine tools controlled for national security (NS) or nuclear nonproliferation (NP) reasons, as well as for any items controlled for crime control (CC) or United Nations (UN) reasons (including items classified under ECCN 0A505.c) or ECCNs that end in the number ''018'' or items classified under ''600 series'' ECCNs, that would make a material contribution to the production, research, design, development, support, maintenance or manufacture of Iraqi weapons of mass destruction, ballistic missiles or arms and related materiel will be subject to a general policy of denial. Exports of ''600 series'' items to the Government

of Iraq will be reviewed under the policies set forth for such items in §§ 742.4(b) and 742.6(b) of the EAR.

(3) License applications for the export or reexport to Iraq or transfer within Iraq of items listed in paragraph (a)(3) of this section will be reviewed on a case-by-case basis to determine if they would contribute to the building of Iraqi civil infrastructure. Applications determined not to contribute to the building of Iraqi civil infrastructure will be subject to a general policy of denial.

(4) License applications for the export or reexport to Iraq or transfer within Iraq of items listed in paragraph (a)(4) of this section will be subject to a policy of denial.

(c) *License exceptions.* You may export or reexport without a license if your transaction meets all the requirements of any of the following License Exceptions: CIV, APP, TMP, RPL, GOV, GFT, TSU, BAG, AVS, or ENC. For specific requirements of each of these License Exceptions, refer to part 740 of the EAR. Notwithstanding the above, this paragraph may not be applied to exports or reexports that require a license under paragraph (a)(4) of this section.

(d) *Related State Department controls.* The Department of State, Directorate of Defense Trade Controls, maintains controls on arms and military equipment to Iraq under the International Traffic in Arms Regulations (22 CFR parts 120 through 130).

(e) *Transition for licenses issued by the Department of the Treasury's Office of Foreign Assets Control.* Prior to July 30, 2004, the Department of the Treasury's Office of Foreign Assets Control (OFAC) exercised primary licensing jurisdiction for transactions with Iraq, as provided in 31 CFR part 575. This section establishes a validity period for licenses issued by OFAC for exports or reexports to Iraq.

(1) *Validity period.* Licenses issued by OFAC for the export or reexport of items that require a license to Iraq under the Export Administration Regulations (EAR) shall continue to be valid under the EAR. For those licenses with specified expiration dates, such dates will continue to apply. Licenses without specified expiration dates will be valid through July 30, 2005. The recordkeeping requirements applicable to exports and reexports of items pursuant to licenses issued by OFAC are described in paragraph (e)(3) of this section.

NOTE TO PARAGRAPH (e)(1): Persons that have been authorized by OFAC to export or reexport items that are subject to the export control jurisdiction of other agencies must consult with OFAC and the other relevant agencies with regard to the expiration date of the authorization granted by OFAC.

(2) *Reexports or transfers.* Items subject to a license requirement under the EAR for export or reexport to Iraq as of July 30, 2004, that were previously exported or reexported to Iraq under a specific license granted by OFAC:

(i) May not be transferred within Iraq to a new end-user without a license from BIS,

(ii) May be reexported to the United States without a license,

(iii) May be reexported to third countries subject to the license requirements for the destination, end-use or end-user set forth elsewhere in the EAR.

(3) *Recordkeeping requirement.* Persons in receipt of a specific license granted by OFAC described in paragraph (e)(1) of this section must maintain a record of those items exported or reexported to Iraq pursuant to such specific license and record when the items are consumed or destroyed in the normal course of their use in Iraq, reexported to a third country not requiring further authorization from BIS, or returned to the United States. This requirement applies only to items subject to a license requirement under the EAR for export to Iraq as of July 30, 2004. These records must be maintained in accordance with recordkeeping requirements set forth in part 762 of the EAR and must include the following information:

(i) Date of export or reexport and related details (including means of transport);

(ii) Description of items (including ECCN) and value of items in U.S. Dollars;

(iii) Description of proposed end-use and locations in Iraq where items are intended to be used;

(iv) Parties other than specific OFAC licensee who may be given temporary access to the items; and

(v) Date of consumption or destruction, if the items are consumed or destroyed in the normal course of their use in Iraq, or the date of reexport to a third country not requiring further authorization from BIS, or return to the United States.

(f) *License Requirements for certain transfers within Iraq of items subject to the EAR*—(1) *Licensed items.* A license is required for the transfer within Iraq of any item subject to the EAR exported or reexported pursuant to a specific license issued by the Department of the Treasury or a Department of Commerce specific license or License Exception.

(2) *Other items.* (i) A license is required for the transfer within Iraq of any item subject to the EAR, if, at the time of the transfer, you know, have reason to know, or are informed by BIS that the item will be used in the design, development, production or use of weapons of mass destruction or the means of their delivery, as set forth in part 744 of the EAR.

(ii) A license is required for the transfer within Iraq to designated terrorists or terrorist organizations, as set forth in § 744.12, § 744.13, or § 744.14 of the EAR.

[69 FR 46077, July 30, 2004, as amended at 71 FR 20886, Apr. 24, 2006; 71 FR 51718, Aug. 31, 2006; 71 FR 67036, Nov. 20, 2006; 73 FR 57509, Oct. 3, 2008; 78 FR 22723, Apr. 16, 2013; 79 FR 32625, June 5, 2014; 85 FR 4177, Jan. 23, 2020]

§ 746.4 North Korea.

(a) *Licensing requirements.* As authorized by section 6 of the Export Administration Act of 1979, as amended, and consistent with United Nations Security Council Resolution 1718, a license is required to export or reexport any item subject to the EAR (see part 734 of the EAR) to the Democratic People's Republic of Korea (North Korea), except food and medicines classified as EAR99 (definitions in part 772 of the EAR). Portions of certain license exceptions, set forth in paragraph (c) of this section, may be available. Exporters should be aware that other provisions of the EAR, including parts 742 and 744, also apply to exports and reexports to North Korea.

(b) *Licensing policy.* Items requiring a license are subject to case-by-case review, except as follows:

(1) *Luxury goods.* Applications to export or reexport luxury goods, e.g., luxury automobiles; yachts; gems; jewelry; other fashion accessories; cosmetics; perfumes; furs; designer clothing; luxury watches; rugs and tapestries; electronic entertainment software and equipment; recreational sports equipment; tobacco; wine and other alcoholic beverages; musical instruments; art; and antiques and collectible items, including but not limited to rare coins and stamps are subject to a general policy of denial. For further information on luxury goods, see supplement no. 1 to part 746.

(2) Applications to export or reexport arms and related materiel are subject to a general policy of denial. In addition, applications to export or reexport items specified by UN documents S/2006/814, S/2006/815 and S/2006/853 and other items that the UN Security Council or the Sanctions Committee established pursuant to UN Security Council Resolution 1718 has determined could contribute to North Korea's nuclear-related, ballistic missile-related or other weapons of mass destruction-related programs are also subject to a general policy of denial.

(3) Applications to export or reexport items controlled for NP and MT reasons (except ECCN 7A103 items) are subject to a general policy of denial.

(4) Applications to export or reexport humanitarian items (e.g., blankets, basic footwear, heating oil, and other items meeting subsistence needs) intended for the benefit of the North Korean people; items in support of United Nations humanitarian efforts; and agricultural commodities or medical devices items that are determined by BIS, in consultation with the interagency license review community, not to be luxury goods are subject to a general policy of approval.

(5) Other items on the CCL. See Section 742.19(b) of the EAR.

(c) *License exceptions.* You may export or reexport without a license if your transaction meets all the applicable

terms and conditions of any of the license exception subsections specified in this paragraph. To determine scope and eligibility requirements, you will need to refer to the sections or specific paragraphs of part 740 (License Exceptions). Read each license exception carefully, as the provisions available for countries subject to sanctions are generally narrow.

(1) TMP for items for use by the news media as set forth in §740.9(a)(9) of the EAR.

(2) GOV for items for personal or official use by personnel and agencies of the U.S. Government, the International Atomic Energy Agency (IAEA), or the European Atomic Energy Community (Euratom) as set forth in §740.11(a), (b)(2) of the EAR.

(3) GFT, except that GFT is not available to export or reexport luxury goods as described in this section to North Korea.

(4) TSU for operation technology and software for lawfully exported commodities as set forth in §740.13(a) and sales technology as set forth in §740.13 (b) of the EAR.

(5) BAG for exports of items by individuals leaving the United States as personal baggage as set forth in §740.14(a) through (d) of the EAR.

(6) AVS for civil aircraft as set forth in §740.15(a)(4) of the EAR.

(d) The Secretary of State has designated North Korea as a country the government of which has repeatedly provided support for acts of international terrorism. For anti-terrorism controls, see Section 742.19 of the EAR.

(e) OFAC maintains controls on certain transactions involving persons subject to U.S. jurisdiction and North Korean entities or any specially designated North Korean national.

[72 FR 3725, Jan. 26, 2007, as amended at 72 FR 20223, Apr. 24, 2007; 79 FR 32625, June 5, 2014]

§746.5 [Reserved]

§746.6 Temporarily occupied Crimea region of Ukraine and covered regions of Ukraine.

(a) *License requirements*—(1) *General prohibition—Temporarily Occupied Crimea Region of Ukraine.* (i) A license is required to export or reexport to or transfer within the temporarily occupied Crimea region of Ukraine any item subject to the EAR other than food and medicine designated as EAR99, or 'software necessary to enable the exchange of personal communications over the Internet'; and

(ii) Except as described in paragraph (a)(4) of this section, a license is required to reexport, export from abroad, or transfer (in-country) to any destination any foreign-produced item subject to the EAR under the Russia/Belarus/Temporarily occupied Crimea region of Ukraine FDP rule described in §734.9(f) of the EAR.

(2) *General prohibition—Donetsk People's Republic (DNR) and Luhansk People's Republic (LNR).* A license is required to export or reexport to, or transfer within, the so-called DNR or LNR regions of Ukraine any item subject to the EAR other than: Food and medicine designated as EAR99, or 'software necessary to enable the exchange of personal communications over the internet'.

(3) *Deemed exports or reexports.* For purposes of applying the EAR deemed export and deemed reexport requirements pursuant to the general prohibitions described in this paragraph (a)(3), the nationality of the foreign national (as determined by accepted methods, such as looking to the passport or other nationality document(s) recognized by the United States Government) is what is used for purposes of determining whether a license is required for a deemed export or deemed reexport.

(4) *Exclusion from license requirements under paragraph (a)(1)(ii) of this section.* The countries listed in supplement No. 3 to this part have committed to implementing substantially similar export controls on Russia and Belarus under their domestic laws. Therefore, exports or reexports from the countries listed in supplement No. 3 to this part or transfers (in-country) within the countries listed in this supplement are not subject to the license requirements described in paragraphs (a)(1)(ii) of this section, unless a limit to the exclusion is described in the Scope column in supplement no. 3 to this part.

(5) *Exclusion for deployments by the Government of Ukraine to or within the*

temporarily occupied Crimea region of Ukraine or covered regions of Ukraine. The license requirements of paragraph (a) of this section do not apply to exports, reexports, and transfers (in country) used in or for deployments by the Government of Ukraine to or within the temporarily occupied Crimea region of Ukraine or covered regions of Ukraine.

(b) *License review policy*. With limited exceptions, applications for the export, reexport, or transfer (in-country) of any item that requires a license pursuant to the requirements of this section will be reviewed with a policy of denial. The following types of license applications for licenses required under paragraphs (a)(1) and (2) of this section will be reviewed on a case-by-case basis: applications related to safety of flight; applications related to maritime safety; applications for civil nuclear safety; applications to meet humanitarian needs; applications that support government space cooperation; applications for items destined to wholly-owned U.S. subsidiaries, foreign subsidiaries of U.S. companies that are joint ventures with other U.S. companies, joint ventures of U.S. companies with companies headquartered in countries from Country Group A:5 and A:6 in supplement No. 1 to part 740 of the EAR, the wholly-owned subsidiaries of companies headquartered in countries from Country Group A:5 and A:6 in supplement no. 1 to part 740, joint ventures of companies headquartered in Country Groups A:5 and A:6 with other companies headquartered in Country Groups A:5 and A:6; applications for companies headquartered in the United States or in Country Groups A:5 and A:6 to support civil telecommunications infrastructure; and government-to-government activities. In reviewing such applications, whether the transaction in question would benefit the Russian or Belarusian government or defense sector or would otherwise be detrimental to the country or people of Ukraine are factors that will be taken into consideration.

(c) *License exceptions*. You may export, reexport or transfer (in-country) without a license if your transaction meets all the applicable terms and conditions of any of the license exception paragraphs specified in this paragraph (c). To determine scope and eligibility requirements, you will need to refer to the sections or specific paragraphs of part 740 (License Exceptions) of the EAR, as well as § 740.2 license exception restrictions. Read each license exception carefully, as the provisions available for countries subject to sanctions are generally narrow.

(1) TMP for items for use by the news media as set forth in § 740.9(a)(9) of the EAR.

(2) GOV for items for personal or official use by personnel and agencies of the U.S. Government, the International Atomic Energy Agency (IAEA), or the European Atomic Energy Community (Euratom) as set forth in § 740.11(a) and (b)(2) of the EAR.

(3) GFT for gift parcels and humanitarian donations as set forth in § 740.12 of the EAR.

(4) TSU for operation technology and software for lawfully exported commodities as set forth in § 740.13(a) and sales technology as set forth in § 740.13 (b) of the EAR.

(5) BAG for exports of items by individuals leaving the United States as personal baggage as set forth in § 740.14(a) through (d) of the EAR.

(6) AVS for civil aircraft and vessels as set forth in § 740.15(a)(4) and (d) of the EAR.

(7) License Exception MED (§ 740.23 of the EAR).

(d) *Definitions*. For purpose of this section, use the following definitions of terms:

(1) 'Crimea region of Ukraine' includes the land territory in that region as well as any maritime area over which sovereignty, sovereign rights, or jurisdiction is claimed based on occupation of that land territory.

(2) 'Donetsk People's Republic (DNR) region' or 'Luhansk People's Republic (LNR) region' include the land territory in those regions as well as any maritime area over which sovereignty, sovereign rights, or jurisdiction is claimed based on purported sovereignty over that land territory or area.

(3) 'Software necessary to enable the exchange of personal communications

over the internet' includes only software (such as software for instant messaging, chat and email, social networking, sharing of photos and movies, Web browsing, and blogging), designated EAR99 or classified as mass market software under Export Control Classification Number (ECCN) 5D992.c of the EAR, provided that such software is widely available to the public at no cost to the user.

[87 FR 12248, Mar. 3, 2022, as amended at 87 FR 34152, June 6, 2022; 88 FR 33429, May 23, 2023; 89 FR 4811, Jan. 25, 2024; 89 FR 33228, Apr. 29, 2024]

§ 746.7 Iran.

The Treasury Department's Office of Foreign Assets Control (OFAC) administers a comprehensive trade and investment embargo against Iran. This embargo includes prohibitions on exports and certain reexport transactions involving Iran, including transactions dealing with items subject to the EAR. These prohibitions are set forth in OFAC's Iranian Transactions Regulations (31 CFR part 560). In addition, BIS maintains licensing requirements on exports and reexports to or from Iran under the EAR as described in paragraphs (a)(1)(i) through (iii) of this section or elsewhere in the EAR (*see, e.g.*, § 742.8).

(a) *License requirements*—(1) *EAR license requirements*—(i) *CCL-based license requirements.* A license is required under the EAR to export or reexport to Iran any item on the CCL containing a CB Column 1, CB Column 2, CB Column 3, NP Column 1, NP Column 2, NS Column 1, NS Column 2, MT Column 1, RS Column 1, RS Column 2, CC Column 1, CC Column 2, CC Column 3, AT Column 1 or AT Column 2 in the Country Chart Column of the License Requirements section of an ECCN or classified under ECCNs 0A503, 0A980, 0A982, 0A983, 0E982, 1C355, 1C395, 1C980, 1C982, 1C983, 1C984, 2A994, 2D994, 2E994, 5A001.f.1, 5A980, 5D001 (for 5A001.f.1or for 5E001.a (for 5A001.f.1, or for 5D001.a (for 5A001.f.1)), 5D980, 5E001.a (for 5A001.f.1, or for 5D001.a (for 5A001.f.1)) or 5E980.

(ii) *Supplement no. 7 to part 746 of the EAR license requirements.* A license is required under the EAR to export or reexport to Iran any item identified in supplement no. 7 to part 746 of the EAR when such item is subject to the EAR for any reason other than § 734.9(j) of the EAR.

(iii) *Foreign-produced items subject to the EAR under § 734.9(j) of the EAR (Iran FDP rule).* Except as described in paragraph (a)(1)(iv) of this section, a license is required to reexport or export from abroad to, or transfer (in-country) within Iran any foreign-produced item subject to the EAR under the Iran FDP rule that is located in or destined to Iran. A Department of Commerce license is not required for transactions described in this paragraph (a)(1)(iii) that would have otherwise met all of the terms and conditions of an OFAC general license or other authorization if the transactions had been subject to OFAC jurisdiction.

(iv) *Exclusion from license requirements under paragraph (a)(1)(iii) of this section.* (A) Exports from abroad or reexports from the countries described in supplement no. 3 to this part are not subject to the license requirements described in paragraph (a)(1)(iii) of this section, unless a limit to the exclusion is described in the ''Scope'' column in supplement no. 3 to this part.

(B) An item is excluded from license requirements under paragraph (a)(1)(iii) of this section if the item is any of the following:

(*1*) Food, ''medicine,'' or ''medical devices'' designated as EAR99;

(*2*) Necessary and ordinarily incident to communications, designated as EAR99 or specified in ECCN 5A992.c or 5D992.c, and classified in accordance with § 740.17 of the EAR; and would otherwise meet all of the terms and conditions of an OFAC general license or other authorization if the transaction were subject to OFAC jurisdiction.

(v) *Exclusion from scope of U.S.-origin controlled content under paragraph (a)(1) of this section.* For purposes of determining U.S.-origin controlled content under supplement no. 2 to part 734 of the EAR when making a *de minimis* calculation for reexports and exports from a country described in supplement no. 3 to this part to Iran, the license requirements in paragraph (a)(1)(ii) of this section are not used to determine controlled U.S.-origin content in a foreign-made item, provided the U.S.-origin content is identified in supplement no.

7 to this part and is designated EAR99 and is not otherwise excluded from the applicable ''Scope'' column in supplement no. 3 to this part.

(2) *BIS authorization.* To avoid duplication, exporters or reexporters are not required to seek separate authorization from BIS for an export or reexport subject both to the EAR and to OFAC's Iranian Transactions Regulations. Therefore, if OFAC authorizes an export or reexport, such authorization is considered authorization for purposes of the EAR as well. Transactions that are not subject to OFAC regulatory authority may require BIS authorization.

(b) *Licensing policy.* Applications for licenses for transactions for humanitarian reasons or for the safety of civil aviation and safe operation of U.S-origin aircraft will be considered on a case-by-case basis. Licenses for other purposes generally will be denied.

(c) *License exceptions.* No license exceptions may be used for exports or reexports to Iran.

(d) *EAR anti-terrorism controls.* The Secretary of State has designated Iran as a country that has repeatedly provided support for acts of international terrorism. Anti-terrorism license requirements and licensing policy regarding Iran are set forth in §742.8 of the EAR.

(e) *Prohibition on exporting or reexporting EAR items without required OFAC authorization.* No person may export or reexport any item that is subject to the EAR if such transaction is prohibited by the Iranian Transactions Regulations (31 CFR part 560) and not authorized by OFAC. The prohibition of this paragraph (e) applies whether or not the EAR requires a license for the export or reexport.

[74 FR 2358, Jan. 15, 2009, as amended at 77 FR 39369, July 2, 2012; 78 FR 37383, June 20, 2013; 81 FR 29486, May 12, 2016; 85 FR 4177, Jan. 23, 2020; 88 FR 12154, Feb. 27, 2023; 89 FR 60565, July 26, 2024]

§ 746.8 Sanctions against Russia and Belarus.

(a) *License requirements.* Except as described in the exclusions in paragraph (a)(12), and in addition to license requirements specified on the Commerce Control List (CCL) in supplement no. 1 to part 774 of the EAR and in other provisions of the EAR, including part 744 and other sections of part 746, a license is required as specified under paragraphs (a)(1) through (8) of this section. These license requirements follow an order of review, which provides guidance on the relationship between the different license requirements and which ones take precedence for certain items. For purposes of paragraphs (a)(5) through (7) of this section, a license is not required for any item that is listed in supplement nos. 4, 5 or 6 to this part that is also classified under an Export Control Classification Number (ECCN) on the Commerce Control List (CCL) in supplement no. 1 to part 774 of the EAR. *See* paragraph (a)(1) of this section and part 742 for license requirements for exports, reexports, and transfers to or within Russia or Belarus for items classified in ECCNs, as well as part 744 for end-use and end-user controls that may apply to your transaction. Paragraphs (a)(1) and (2) of this section, are also used for determining license requirements for exports, reexports, and transfers to or within Russia or Belarus of any item that is listed in supplement nos. 4, 5, or 6 to this part and is classified in an ECCN on the CCL in supplement no. 1 to part 774 of the EAR. License requirements in paragraph (a)(4) of this section that apply to exports, reexports, and transfers (in-country) involved in certain end uses should be reviewed only after license requirements in paragraphs (a)(1) through (3) and (5) through (8) of this section are reviewed.

(1) *Items classified in any ECCN on the CCL.* A license is required to export, reexport, or transfer (in-country) to or within Russia or Belarus any item subject to the EAR and specified in any Export Control Classification Number (ECCN) on the CCL.

(2) *Russia/Belarus/Temporarily occupied Crimea region of Ukraine foreign ''direct product'' (FDP) rule.* A license is required to reexport, export from abroad, or transfer (in-country) to any destination any foreign-produced item subject to the EAR under the Russia/Belarus/Temporarily occupied Crimea region of Ukraine under the FDP rule described in §734.9(f) of the EAR.

(3) *Russia/Belarus-Military End User and Procurement FDP rule.* A license is required to reexport, export from abroad, or transfer (in-country) to or within any destination or to any end user or party any foreign-produced item subject to the EAR under § 734.9(g) of the EAR.

(4) *Oil and Gas*—(i) *Certain exploration or production of oil or gas.* A license is required to export, reexport, or transfer (in-country) any item subject to the EAR listed in supplement no. 2 to this part and items specified in ECCNs 0A998, 1C992, 3A229, 3A231, 3A232, 6A991, 8A992, and 8D999 when you ''know'' that the item will be used directly or indirectly in exploration for, or production of, oil or gas in Russian deepwater (greater than 500 feet) or Arctic offshore locations or shale formations in Russia or Belarus, or are unable to determine whether the item will be used in such projects. Such items include, but are not limited to, drilling rigs, parts for horizontal drilling, drilling and completion equipment, subsea processing equipment, Arctic-capable marine equipment, wireline and down hole motors and equipment, drill pipe and casing, software for hydraulic fracturing, high pressure pumps, seismic acquisition equipment, remotely operated vehicles, compressors, expanders, valves, and risers.

(ii) *Additional prohibition on those informed by BIS.* BIS may inform persons, either individually by specific notice or through amendment to the EAR, that a license is required for a specific export, reexport, or transfer (in-country) or for the export, reexport, or transfer (in-country) of specified items to a certain end-user or end-use, because there is an unacceptable risk of use in, or diversion to, the activities specified in this section in Russia or Belarus. Specific notice is to be given only by, or at the direction of, the Principal Deputy Assistant Secretary for Strategic Trade and Technology Security or the Deputy Assistant Secretary for Strategic Trade. When such notice is provided orally, it will be followed by a written notice within two working days signed by either the Principal Deputy Assistant Secretary for Strategic Trade and Technology Security or the Deputy Assistant Secretary for Strategic Trade. However, the absence of any such notification does not excuse persons from compliance with the license requirements of this section.

(5) *Industrial Goods.* A license is required to export, reexport, or transfer (in-country) any item subject to the EAR listed in supplement no. 4 to this part to or within Russia or Belarus.

(6) *Itemized Items.* A license is required to export, reexport, or transfer (in-country) any item subject to the EAR listed in supplement no. 6 to this part to or within Russia or Belarus.

(7) *'Luxury goods.'* A license is required to export, reexport, or transfer (in-country) any item subject to the EAR listed in supplement no. 5 to this part to or within Russia or Belarus.

NOTE 2 TO PARAGRAPH (a)(7): For purposes of paragraph (a)(7) of this section, a 'luxury good' means any item that is identified in supplement no. 5 to this part.

(8) *EAR99 designated software.* (i) A license is required to export, reexport, or transfer (in-country) to or within Russia or Belarus any ''software'' subject to the EAR and described in paragraph (a)(8)(ii) of this section.

(ii) The following types of software subject to the EAR are in the scope of paragraph (a)(8): Enterprise resource planning (ERP); customer relationship management (CRM); business intelligence (BI); supply chain management (SCM); enterprise data warehouse (EDW); computerized maintenance management system (CMMS); project management software, product lifecycle management (PLM); building information modelling (BIM); computer aided design (CAD); computer-aided manufacturing (CAM); engineering to order (ETO); and software for the operation of computer numerical control (CNC) machine tools. The scope of paragraph (a)(8) also includes software updates for software identified in this paragraph that are subject to the EAR and designated as EAR99.

(9)–(11) [Reserved]

(12) *Exclusions from license requirements and scope of U.S.-origin controlled content.* Paragraphs (a)(12)(i), (ii), and (iii)(A) of this section exclude certain exports, reexports, and transfers (in-country) from the scope of the license requirements of this section. Paragraph (a)(12)(iii)(B) excludes certain

items from the scope of U.S.-origin content for purposes of *de minimis* calculations from certain destinations.

(i) *Deemed exports and deemed reexports.* The license requirements in paragraph (a) do not apply to deemed exports or reexports. However, the exclusion for deemed exports and deemed reexports is limited to the license requirements specified only in this section of the EAR. Any deemed export or deemed reexport to a Russian or Belarusian national must be made in accordance with all other applicable EAR license requirements, such as CCL-based license requirements. For example, the release of NS1 controlled technology to a Russian or Belarusian national in the United States or in a third country would require a CCL-based deemed export or deemed reexport license (as applicable). Consequently, authorization (in the form of a deemed export or deemed reexport license, or license exception eligibility) would be required under the EAR notwithstanding the exclusion in this paragraph (b).

(ii) *Mass market encryption commodities and software, and software designated EAR99.* Commodities specified under ECCN 5A991, and commodities and software classified under ECCNs 5A992.c or 5D992.c that have been 'classified in accordance with §740.17,' as well as software designated EAR99 and identified in paragraph (a)(8)(ii) of this section do not require a license to export, reexport, or transfer (in-country) to or within Russia or Belarus for the following civil end-users:

(A) Wholly owned U.S. subsidiaries, branches, or sales offices;

(B) Joint ventures between two or more U.S. companies, including the wholly owned subsidiaries, branches, or sales offices of such joint ventures;

(C) Joint ventures between U.S. companies and companies headquartered in countries from Country Group A:5 and A:6 in supplement no. 1 to part 740 of the EAR, including the wholly owned subsidiaries, branches, or sales offices of such joint ventures;

(D) Wholly owned subsidiaries, branches, or sales offices of companies headquartered in countries from Country Group A:5 and A:6 in supplement no. 1 to part 740;

(E) Joint ventures between two or more companies headquartered in Country Group A:5 and A:6 in supplement no. 1 to part 740, including the wholly owned subsidiaries, branches, or sales offices of such joint ventures; *or*

(F) For official business of diplomatic or consular missions of the governments of Country Group A:5 and A:6 destinations.

(iii) *Global Export Control Coalition (GECC).* The countries listed in supplement no. 3 to this part have committed to implementing substantially similar export controls on Russia, Belarus, and the temporarily occupied Crimea region of Ukraine under their domestic laws. Therefore, exports or reexports from the countries listed in supplement no. 3 to this part or transfers (in-country) within the countries listed in this supplement are not subject to the following license requirements in paragraph (a) of this section unless a limit to the exclusion is described in the Scope column in supplement no. 3 to this part:

(A) *Foreign direct product rules.* The license requirement described in paragraphs (a)(2) and (3) of this section;

(B) *De minimis.* For purposes of determining U.S.-origin controlled content under supplement no. 2 to part 734 of the EAR, when making a *de minimis* calculation for reexports and exports from abroad to Russia or Belarus, the license requirements in paragraphs (a)(1) and (a)(4) through (7) of this section are not used to determine controlled U.S.-origin content in a foreign-made item, provided the criteria of paragraphs (a)(12)(B)(*1*) and (*2*) of this section are met:

(*1*) The U.S.-origin content is described in an Anti-Terrorism (AT)-only ECCN or is designated EAR99. For purposes of this paragraph, AT-only items mean any ECCN that only specifies either only AT in the reason for control paragraph of the ECCN or is classified under ECCN 9A991; *and*

(*2*) The foreign made item will be reexported or exported from abroad from a destination described in supplement no. 3 to this part.

(iv) *Software designated EAR99.* Software that is subject to the EAR and designated EAR99 is excluded from the license requirement in paragraph (a)(8)

when destined to entities engaged exclusively in the agriculture or medical industries.

(b) *Licensing policy*. (1) License applications required under paragraph (a)(3) of this section will be reviewed under a policy of denial in all cases.

(2) Applications for the export, reexport, or transfer (in-country) of any item pursuant to paragraph (a)(4) of this section that require a license for Russia or Belarus will be reviewed under a policy of denial when for use directly or indirectly for exploration or production from deepwater (greater than 500 feet), Arctic offshore, or shale projects in Russia or Belarus that have the potential to produce oil or gas.

(3) Applications for the export, reexport, or transfer (in-country) of any item pursuant to paragraphs (a)(1), (2), and (a)(5) through (8) of this section will be reviewed under a policy of denial. However, the following types of license applications submitted pursuant to paragraphs (a)(1), (2), and (4) through (8) will be reviewed on a case-by-case basis to determine whether the transaction in question would benefit the Russian or Belarusian government or defense sector:

(i) Applications for export, reexport, or transfer (in-country) of items that may be necessary for health and safety reasons, including the safety of flight, maritime safety, and civil nuclear safety;

(ii) Applications for the disposition of items by companies not headquartered in Country Group D:1, D:5, E:1, or E:2 in supplement no. 1 to part 740 that are winding down or closing all operations in Russia or Belarus;

(iii) Applications for items that meet humanitarian needs, including applications for items that are predominantly agricultural or medical in nature;

(iv) Applications for government-to-government activities or to support government space cooperation;

(v) Replacement licenses for exports and reexports to and transfers within Russia and Belarus of items described in HTS–6 Codes or items described in supplement no. 6 to part 746 that were added to the EAR and made subject to license requirements after the validation date of the BIS license.

(vi) Applications for items destined to:

(A) Wholly owned U.S. subsidiaries, branches, or sales offices;

(B) Foreign subsidiaries, branches, or sales offices of U.S. companies that are joint ventures with other U.S. companies;

(C) Joint ventures of U.S. companies with companies headquartered in countries from Country Group A:5 and A:6 in supplement no. 1 to part 740 of the EAR;

(D) The wholly owned subsidiaries, branches, or sales offices of companies headquartered in countries from Country Group A:5 and A:6 in supplement no. 1 to part 740;

(E) Joint ventures of companies headquartered in Country Groups A:5 and A:6 with other companies headquartered in Country Groups A:5 and A:6; *or*

(F) For official business of governments of Country Group A:5 and A:6 destinations.

(vii) Applications for companies headquartered in Country Groups A:5 and A:6 to support civil telecommunications infrastructure.

NOTE 3 TO PARAGRAPH (b): See also §750.7(c)(1)(xi) of the EAR for the divesture of items within Russia or Belarus or the transfer of items within Russia or Belarus for the purpose of reexporting such items from Russia or Belarus. For purposes of §750.7(c)(1)(xi), divesture means the action or process of selling off subsidiary business interests or investments involving items subject to the EAR.

(c) *License exceptions*. Consistent with §740.2(b), BIS may revise, suspend, or revoke License Exception availability under this section consistent with U.S. national security and foreign policy interests, including on a case-by-case basis, to prevent Russian or Belarusian persons from circumventing the restrictions in this section.

(1) No license exceptions may overcome the license requirements in paragraph (a)(3) of this section, except as specified in the entry for a Footnote 3 entity on the Entity List in supplement no. 4 to part 744 of the EAR.

(2) No license exceptions may overcome the license requirements in paragraphs (a)(1), (2), and (4) through (8) of this section except the following:

(i) License Exception TMP for items for use by the news media as set forth in §740.9(a)(9) of the EAR.

(ii) License Exception GOV (§740.11(b) of the EAR) may overcome the license requirements in paragraphs (a)(1), (2), and (4) through (7) of this section. License Exception GOV under (§740.11(e) of the EAR) may overcome the license requirements in paragraphs (a)(1) and (2) of this section for ECCN 9A004.

(iii) License Exception TSU for software updates for civil end-users that are wholly-owned U.S. subsidiaries, branches, or sales offices; foreign subsidiaries, branches, or sales offices of U.S. companies that are joint ventures with other U.S. companies; joint ventures of U.S. companies with companies headquartered in countries from Country Group A:5 and A:6 in supplement no. 1 to part 740 of the EAR countries; the wholly-owned subsidiaries, branches, or sales offices of companies headquartered in countries from Country Group A:5 and A:6 in supplement no. 1 to part 740; or joint ventures of companies headquartered in Country Group A:5 and A:6 with other companies headquartered in Country Groups A:5 and A:6 (§740.13(c) of the EAR).

(iv) License Exception BAG, excluding firearms and ammunition (§740.14, excluding paragraph (e), of the EAR).

(v) License Exception AVS, excluding any aircraft registered in, owned or controlled by, or under charter or lease by Russia or Belarus or a national of Russia or Belarus (§740.15(a) and (b) of the EAR).

(vi) License Exception Encryption commodities, software, and technology (ENC) for civil end-users that are wholly-owned U.S. subsidiaries, branches, or sales offices; foreign subsidiaries, branches, or sales offices of U.S. companies that are joint ventures with other U.S. companies; joint ventures of U.S. companies with companies headquartered in countries from Country Group A:5 and A:6 in supplement no. 1 to part 740 of the EAR countries; the wholly-owned subsidiaries, branches, or sales offices of companies headquartered in countries from Country Group A:5 and A:6 in supplement no. 1 to part 740; joint ventures of companies headquartered in Country Group A:5 and A:6 with other companies headquartered in Country Groups A:5 and A:6; or for official business of diplomatic or consular missions of the governments of Country Group A:5 and A:6 destinations (§§740.13(c) and 740.17 of the EAR).

(vii) License Exception CCD (§740.19 of the EAR).

(viii) License Exception MED (§740.23 of the EAR).

(d) *License Applications.* License applications submitted to BIS under this section may include the phrase ''§746.8'' and identify the paragraph (a) license requirement(s) from this section that are applicable. You should include a description such as ''paragraph (a)(1) or any of the other paragraph (a) paragraphs that may be applicable to a license application'' in Block 9 (Special Purpose) of your license application as described in supplement no. 1 to part 748 of the EAR.

[89 FR 51662, June 18, 2024, as amended at 89 FR 68543, Aug. 27, 2024; 89 FR 51664, June 18, 2024; 89 FR 68543, Aug. 27, 2024; 89 FR 84777, Oct. 23, 2024; 89 FR 87282, Nov. 1, 2024]

§ 746.9 Syria.

(a) *License requirements.* A license is required for the export or reexport to Syria of all items subject to the EAR, except food and medicine classified as EAR99 (food and medicine are defined in part 772 of the EAR). A license is required for the deemed export and deemed reexport, as described in §§734.13(b) and 734.14(b) of the EAR, respectively, of any technology or source code on the Commerce Control List (CCL) to a Syrian foreign national. Deemed exports and deemed reexports to Syrian foreign nationals involving technology or source code subject to the EAR but not listed on the CCL do not require a license.

(b) *License Exceptions.* No License Exceptions to the license requirements set forth in paragraph (a) of this section are available for exports or reexports to Syria, except the following:

(1) SPP for the export or reexport of ''EAR99'' items pursuant to §740.5;

(2) TMP for technology pursuant to the provisions in §740.9(a)(3), containers pursuant to the provisions in §740.9(a)(7), items for use by the news media pursuant to §740.9(a)(9), exports to a U.S. person's foreign subsidiary,

affiliate, or facility abroad pursuant to §740.9(a)(10), and personal protective ''equipment'' pursuant to the provisions of §740.9 (a)(11)(ii) of the EAR;

(3) RPL pursuant to the provisions of §740.10(a) of the EAR, provided that such exports will not support the Syrian police, military, or intelligence sensitive end users or uses pursuant to supplement no. 2 to 742;

(4) GOV for exports or reexports under the United States Government authorization pursuant to §740.11(b)(2), exports, reexports and transfers (in country) to ''Cooperating Governments and the North Atlantic Treaty Organization'' pursuant to the provisions of 740.11(c), and items for international inspections under the Chemical Weapons Convention pursuant to 740.11(d) of the EAR;

(5) TSU for operation technology and software, sales technology, and software updates pursuant to the terms in §740.13(a), (b), (c), and (g) of the EAR;

(6) BAG for exports of personally-owned items by individuals leaving the United States as personal baggage pursuant to the terms of §740.14(a) through (d) of the EAR;

(7) AVS for temporary exports of U.S.-registered civil aircraft and vessels and temporary reexports of U.S. and foreign-registered civil aircraft and vessels to Syria on temporary sojourn pursuant to the terms of §740.15(a) through (d) of the EAR provided that such export, reexport, or transfer (in-country) will not support the Syrian police, military, or intelligence end-users or end uses pursuant to Supp 2 to 742; *and*

(8) CCD for the export or reexport of consumer communications devices pursuant to the provisions in §740.19.

(c) *Licensing policy*—(1) *Presumption of approval licensing policy for certain commercial end uses and to support the Syrian people.* License applications for exports and reexports of items on the CCL to Syria will be reviewed under a presumption of approval review policy for commercial end uses that support economic and business development in Syria or that support the Syrian people, including through the improvement or maintenance of telecommunications, water supply and sanitation, power generation, aviation, or other civil services that support peace and prosperity in Syria without making a significant contribution to the military potential of Syria or the ability of Syria to support acts of international terrorism.

(2) *Case-by-case licensing policy.* License applications for exports and reexports of items on the CCL to Syria that are not described in paragraph (c)(1) of this section will be reviewed on a case-by-case basis to determine whether the items will be used in a manner consistent with U.S. national security and foreign policy purposes, including to promote peace and prosperity in Syria.

NOTE 1 TO PARAGRAPHS (c)(1) AND (2): Items on the CCL will also be reviewed according to the license policies for the items set out in relevant sections of part 742 with the exception of items controlled for Anti-terrorism (AT). For AT items, see §746.9(c). All end-use and end user controls set out in part 744 of the EAR will continue to apply.

[76 FR 77117, Dec. 12, 2011, as amended at 78 FR 43973, July 23, 2013; 79 FR 32625, June 5, 2014; 82 FR 61157, Dec. 27, 2017; 90 FR 42320, Sept. 2, 2025]

§746.10 [Reserved]

SUPPLEMENT NO. 1 TO PART 746—EXAMPLES OF LUXURY GOODS

The following further amplifies the illustrative list of luxury goods set forth in §746.4(b)(1):

(a) Tobacco and tobacco products

(b) Luxury watches: Wrist, pocket, and others with a case of precious metal or of metal clad with precious metal

(c) Apparel and fashion items, as follows:

(1) Leather articles

(2) Silk articles

(3) Fur skins and artificial furs

(4) Fashion accessories: Leather travel goods, vanity cases, binocular and camera cases, handbags, wallets, designer fountain pens, silk scarves

(5) Cosmetics, including beauty and make-up

(6) Perfumes and toilet waters

(7) Designer clothing: Leather apparel and clothing accessories

(d) Decorative items, as follows:

(1) Rugs and tapestries

(2) Tableware of porcelain or bone china

(3) Items of lead crystal

(4) Works of art (including paintings, original sculptures and statuary), antiques (more than 100 years old), and collectible items, including rare coins and stamps

(e) Jewelry: Jewelry with pearls, gems, precious and semi-precious stones (including

diamonds, sapphires, rubies, and emeralds), jewelry of precious metal or of metal clad with precious metal

(f) Electronic items, as follows:

(1) Flat-screen, plasma, or LCD panel televisions or other video monitors or receivers (including high-definition televisions), and any television larger than 29 inches; DVD players

(2) Personal digital assistants (PDAs)

(3) Personal digital music players

(4) Computer laptops

(g) Transportation items, as follows:

(1) Yachts and other aquatic recreational vehicles (such as personal watercraft)

(2) Luxury automobiles (and motor vehicles): Automobiles and other motor vehicles to transport people (other than public transport), including station wagons

(3) Racing cars, snowmobiles, and motorcycles

(4) Personal transportation devices (stand-up motorized scooters)

(h) Recreational items, as follows:

(1) Musical instruments

(2) Recreational sports equipment

(i) Alcoholic beverages: wine, beer, ales, and liquor

[72 FR 3726, Jan. 26, 2007, as amended at 72 FR 20223, Apr. 24, 2007]

SUPPLEMENT NO. 2 TO PART 746—RUSSIAN AND BELARUSIAN INDUSTRY SECTOR SANCTION LIST PURSUANT TO §746.8(a)(4)

(a) The source for the Harmonized Tariff Schedule (HTS)-6 codes and descriptions in this list comes from the United States International Trade Commission (USITC's) Harmonized Tariff Schedule of the United States (2023). The items described in supplement no. 2 to part 746 include any modified or designed ''components,'' ''parts,'' ''accessories,'' and ''attachments'' therefor regardless of the HTS Code or HTS Description of the ''components,'' ''parts,'' ''accessories,'' and ''attachments,'' apart from any ''part'' or minor ''component'' that is a fastener (*e.g.*, screw, bolt, nut, nut plate, stud, insert, clip, rivet, pin), washer, spacer, insulator, grommet, bushing, spring, wire, or solder. The exclusion of fasteners from this control does not apply to fasteners that are designated under an HTS Code under this supplement. Although generally fasteners (*e.g.*, screws, bolts, nuts, nut plates, studs, inserts, clips, rivets, pins), and washers, spacers, insulator, grommets, bushings, springs, wires, and solders are excluded from the scope of this supplement, certain part 744 license requirements for Russia and Belarus extend to all items ''subject to the EAR,'' and would therefore not exclude these items from the license requirements under that part (*e.g.*, §744.21 of the EAR and the Entity List license requirements, which in most cases extend to all items ''subject to the EAR''). This supplement includes two columns consisting of the HTS Codes and HTS Descriptions to assist exporters, reexporters, and transferors in identifying the products in this supplement. For information on HTS codes in general, you may contact a local import specialist at U.S. Customs and Border Protection at the nearest port. HTS–6 codes 730424, 731100, 761300, 841350, 841360, 841382, 841392, 842139, 843049, 843139, 843143, 847989, and 870520 are listed in both this supplement and supplement no. 4 to this part, so exporters, reexporters, and transferors must comply with the license requirements under both §746.8(a)(4) and (5) as applicable.

(b) The items identified in the HTS–6 Code column of this supplement are subject to the license requirement under §746.8(a)(4). The other column—HTS Description—is intended to assist exporters with their Automated Export System (AES) filing responsibilities. The other column—HTS Description—is intended to assist exporters with their Automated Export System (AES) filing responsibilities. The license requirements apply to HTS Codes at the 8 and 10 digit level (HTS–8 and HTS–10 Codes, respectively) when such longer HTS codes begin with the HTS–6 Codes as their first 6 numbers.

HTS–6 code	HTS description
730411	LINE PIPE FOR OIL AND GAS PIPELINES, OF STAINLESS STEEL.
730419	LINE PIPE FOR OIL AND GAS PIPELINES, OF SEAMLESS IRON (OTHER THAN CAST IRON) OR STEEL, NES.
730422	DRILL PIPE OF A KIND USED IN DRILLING FOR OIL OR GAS, OF STAINLESS STEEL.
730423	DRILL PIPE OF A KIND USED IN DRILLING FOR OIL OR GAS, OF IRON (EXCEPT CAST IRON) OR STEEL. NES.
730424	CASING & TUBING USED IN DRILLING FOR OIL OR GAS, OTHER OF STAINLESS STEEL.
730429	CASING AND TUBING OF A KIND USED IN DRILLING FOR OIL OR GAS, OF IRON (EXCEPT CAST IRON) OR STEEL.
730511	LINE PIPE FOR OIL OR GAS PIPELINES, EXTERNAL DIAMETER OVER 406.4 MM (16 IN.), OF IRON OR STEEL, LONGITUDINALLY SUBMERGED ARC WELDED.
730512	LINE PIPE FOR OIL OR GAS PIPELINES, EXTERNAL DIAMETER OVER 406.4 MM (16 IN.), OF IRON OR STEEL, LONGITUDINALLY WELDED NESOI.

HTS–6 code	HTS description
730519	LINE PIPE FOR OIL OR GAS PIPELINES, EXTERNAL DIAMETER OVER 406.4 MM (16 IN.), OF IRON OR STEEL, RIVETED OR SIMILARLY CLOSED NESOI.
730520	CASING FOR OIL OR GAS DRILLING, EXTERNAL DIAMETER OVER 406.4 MM (16 IN.), OF IRON OR STEEL.
730611	LINE PIPE FOR OIL OR GAS PIPELINES, WELDED, OF STAINLESS STEEL, NESOI.
730619	LINE PIPE FOR OIL OR GAS PIPELINES, OF IRON OR STEEL, NESOI.
731100	CONTAINERS FOR COMPRESSED OR LIQUEFIED GAS, OF IRON OR STEEL.
761300	ALUMINUM CONTAINERS FOR COMPRESSED OR LIQUEFIED GAS.
820713	ROCK DRILLING OR EARTH BORING TOOLS WITH WORKING PART OF CERMETS, AND PARTS THEREOF.
820719	INTERCHANGEABLE TOOLS FOR HANDTOOLS, WHETHER OR NOT POWER-OPERATED, OR FOR MACHINE-TOOLS, INCLUDING ROCK DRILLING OR EARTH BORING TOOLS; BASE METL PARTS.
841350	RECIPROCATING POSITIVE DISPLACEMENT PUMPS, NESOI.
841360	ROTARY POSITIVE DISPLACEMENT PUMPS, NESOI.
841382	LIQUID ELEVATORS.
841392	PARTS OF LIQUID ELEVATORS.
842139	FILTERING OR PURIFYING MACHINERY AND APPARATUS FOR GASES, NESOI.
843049	BORING OR SINKING MACHINERY, NESOI, OTHER THAN SELF-PROPELLED.
843139	PARTS FOR LIFTING, HANDLING, LOADING OR UNLOADING MACHINERY, NESOI.
843143	PARTS FOR BORING OR SINKING MACHINERY, NESOI.
847989	MACHINES AND MECHANICAL APPLIANCES HAVING INDIVIDUAL FUNCTIONS, NESOI.
870520	MOBILE DRILLING DERRICKS.
870899	PARTS AND ACCESSORIES FOR MOTOR VEHICLES, NESOI.
890520	FLOATING OR SUBMERSIBLE DRILLING OR PRODUCTION PLATFORMS.
890590	LIGHT VESSELS, FIRE FLOATS, FLOATING CRANES AND OTHER VESSELS WITH NAVIGABILITY NOT THE MAIN FUNCTION, NESOI; FLOATING DOCKS.

[88 FR 12182, Feb. 27, 2023, as amended at 88 FR 33430, May 23, 2023; 89 FR 4812, Jan. 25, 2024; 89 FR 51665, June 18, 2024]

SUPPLEMENT NO. 3 TO PART 746—COUNTRIES EXCLUDED FROM CERTAIN LICENSE REQUIREMENTS OF §§746.6, 746.7, AND 746.8

Countries listed in this supplement have committed to implementing substantially similar export controls on Russia and Belarus under their domestic laws and are consequently excluded from certain requirements in §§746.6 and 746.8 of the EAR, as described in §§746.6(a)(4) and 746.8(a)(12)(iii). In addition, these countries are excluded from the license requirements related to Iran in §746.7, as described in §746.7(a)(1)(iv) and (v). The Scope column of the following table identifies whether the country receives a full or partial exclusion. For countries with partial exclusions, the items for which such exclusions apply are listed in the Scope column.

Country	Scope	**Federal Register** citation
Australia	Full	87 FR 12250, 3/3/2022.
Austria	Full	87 FR 12250, 3/3/2022.
Belgium	Full	87 FR 12250, 3/3/2022.
Bulgaria	Full	87 FR 12250, 3/3/2022.
Canada	Full	87 FR 12250, 3/3/2022.
Croatia	Full	87 FR 12250, 3/3/2022.
Cyprus	Full	87 FR 12250, 3/3/2022.
Czech Republic	Full	87 FR 12250, 3/3/2022.
Denmark	Full	87 FR 12250, 3/3/2022.
Estonia	Full	87 FR 12250, 3/3/2022.
Finland	Full	87 FR 12250, 3/3/2022.
France	Full	87 FR 12250, 3/3/2022.
Germany	Full	87 FR 12250, 3/3/2022.
Greece	Full	87 FR 12250, 3/3/2022.
Hungary	Full	87 FR 12250, 3/3/2022.
Iceland	Full	87 FR 21555, 4/12/2022.

Country	Scope	**Federal Register** citation
Ireland	Full	87 FR 12250, 3/3/2022.
Italy	Full	87 FR 12250, 3/3/2022.
Japan	Full	87 FR 12250, 3/3/2022.
Latvia	Full	87 FR 12250, 3/3/2022.
Liechtenstein	Full	87 FR 21555, 4/12/2022.
Lithuania	Full	87 FR 12250, 3/3/2022.
Luxembourg	Full	87 FR 12250, 3/3/2022.
Malta	Full	87 FR 12250, 3/3/2022.
Netherlands	Full	87 FR 12250, 3/3/2022.
New Zealand	Full	87 FR 12250, 3/3/2022.
Norway	Full	87 FR 21555, 4/12/2022.
Poland	Full	87 FR 12250, 3/3/2022.
Portugal	Full	87 FR 12250, 3/3/2022.
Romania	Full	87 FR 12250, 3/3/2022.
Slovakia	Full	87 FR 12250, 3/3/2022.
Slovenia	Full	87 FR 12250, 3/3/2022.
South Korea	Full	87 FR 13628, 3/10/2022.
Spain	Full	87 FR 12250, 3/3/2022.
Sweden	Full	87 FR 12250, 3/3/2022.
Switzerland	Full	87 FR 21555, 4/12/2022.
Taiwan	Full	87 FR 12183, 2/27/2023.
United Kingdom	Full	87 FR 12250, 3/3/2022.

[87 FR 12250, Mar. 3, 2022, as amended at 87 FR 13063, Mar. 8, 2022; 87 FR 13628, Mar. 11, 2022; 87 FR 21555, Apr. 12, 2022; 88 FR 12154, 12183, Feb. 27, 2023; 88 FR 33430, May 23, 2023; 89 FR 51665, June 18, 2024]

SUPPLEMENT NO. 4 TO PART 746—RUSSIAN AND BELARUSIAN INDUSTRY SECTOR SANCTIONS PURSUANT TO §746.8(a)(5)

(a) The source for the Harmonized Tariff Schedule (HTS)-6 codes and descriptions in this list is the United States International Trade Commission (USITC)'s Harmonized Tariff Schedule of the United States (2023). The items described in supplement no. 4 to part 746 include any modified or designed ''components,'' ''parts,'' ''accessories,'' and ''attachments'' therefor regardless of the HTS Code or HTS Description of the ''components,'' ''parts,'' ''accessories,'' and ''attachments,'' apart from any ''part'' or minor ''component'' that is a fastener (*e.g.*, screw, bolt, nut, nut plate, stud, insert, clip, rivet, pin), washer, spacer, insulator, grommet, bushing, spring, wire, or solder. The exclusion of fasteners from this control does not apply to fasteners that are designated under an HTS Code under this supplement. Although generally fasteners (*e.g.*, screws, bolts, nuts, nut plates, studs, inserts, clips, rivets, pins), and washers, spacers, insulators, grommets, bushings, springs, wires, and solders are excluded from the scope of this supplement, certain part 744 license requirements for Russia and Belarus apply to all items ''subject to the EAR,'' and would therefore not exclude these items from the license requirements under that part (*e.g.*, §744.21 and the Entity List license requirements, which in most cases apply to all items ''subject to the EAR.''). This supplement includes two columns consisting of the HTS Codes and HTS Descriptions to assist exporters, reexporters, and transferors in identifying the products in this supplement. For information on HTS codes in general, you may contact a local import specialist at U.S. Customs and Border Protection at the nearest port. HTS–6 codes 730424, 731100, 761300, 841350, 841360, 841382, 841392, 842139, 843049, 843139, 843143, 847989, and 870520 are listed in both this supplement and supplement no. 2 to this part, so exporters, reexporters, and transferors must comply with the license requirements under both §746.8(a)(4) and (5) as applicable. HTS–6 Codes 590500, 840710, 840721, 840729, 840731, 840732, 840733, 840734, 840790, 840810, 840820, 840890, 840910, 840991, 840999, 841111, 841112, 841121, 841122, 841181, 841182, 841191, 841199, 841229, 841290, 841451, 841459, 841460, 841510, 841810, 841821, 841829, 841830, 841840, 841981, 842211, 842310, 842860, 843139, 844312, 844331, 844332, 844339, 845011, 845012, 845019, 845121, 845210, 847010, 847021, 847029, 847030, 847130, 847141, 847149, 847150, 847160, 847170, 847180, 847190, 847290, 847960, 848310, 848320, 848330, 848340, 848350, 848360, 848390, 850811, 850819, 850860, 850980, 851110, 851120, 851130, 851140, 851150, 851180, 851190, 851220, 851230, 851240, 851631, 851650, 851660, 851671, 851672, 851679, 851711, 851713, 851718, 851761, 851762, 851769, 851920, 851930, 851981, 851989, 852110, 852190, 852691, 852712, 852713, 852719, 852721, 852729, 852791, 852792, 852799, 852871, 852872, 852910, 853110, 854370, 854430, 870310, 870321, 870322, 870323, 870324, 870331, 870332, 870333, 870340, 870350, 870360, 870370, 870380, 870390, and 902000 are

listed in both this supplement and supplement no. 5 to this part, so exporters, reexporters, and transferors must comply with the license requirements under both §746.8(a)(5) and (7) as applicable.

(b) The items identified in the HTS–6 Code column of this supplement are subject to the license requirement under §746.8(a)(5). The other column—HTS Description—is intended to assist exporters with their AES filing responsibilities. The license requirements extend to HTS Codes at the 8 and 10 digit level (HTS–8 and HTS–10 codes, respectively) when such longer HTS Codes begin with the HTS–6 Codes as their first 6 numbers. When a description mentions parts related to one or more numerical headings, this means parts related to any HS codes that begin with the digits in the range specified. For example, 'headings 8524 to 8528' means any HS code, HTS code, or Schedule B which has 8524, 8525, 8526, 8527, or 8528 as the first four digits.

HTS–6 code	HTS description
250200	UNROASTED IRON PYRITES.
250300	SULFUR OF ALL KINDS, OTHER THAN SUBLIMED SULFUR, PRECIPITATED SULFUR AND COLLOIDAL SULFUR.
250410	NATURAL GRAPHITE, IN POWDER OR IN FLAKES.
250490	NATURAL GRAPHITE, EXCEPT POWDER OR FLAKES.
250510	SILICA SANDS AND QUARTZ SANDS, NATURAL.
250590	SANDS, NATURAL, EXCEPT METAL BEARING OR SILICA OR QUARTZ SANDS.
250610	QUARTZ (OTHER THAN NATURAL SANDS).
250620	QUARTZITE.
250700	KAOLIN AND OTHER KAOLINIC CLAYS, WHETHER OR NOT CALCINED.
250810	BENTONITE, WHETHER OR NOT CALCINED.
250830	FIRE CLAY, WHETHER OR NOT CALCINED.
250840	CLAYS (EXCLUDING EXPANDED CLAYS), NESOI, INCLUDING COMMON BLUE CLAY AND OTHER BALL CLAYS, WHETHER OR NOT CALCINED.
250850	ANDALUSITE, KYANITE AND SILLIMANITE, WHETHER OR NOT CALCINED.
250860	MULLITE.
250870	CHAMOTTE OR DINAS EARTH.
250900	CHALK.
251110	NATURAL BARIUM SULFATE (BARYTES).
251120	NATURAL BARIUM CARBONATE (WITHERITE).
251200	SILICEOUS FOSSIL MEALS (INCLUDING KIESELGUHR, TRIPOLITE AND DIATOMITE) AND SIMILAR SILICEOUS EARTHS, OF AN APPARENT SPECIFIC GRAVITY OF 1 OR LESS.
251310	PUMICE STONE.
251320	EMERY, NATURAL CORUNDUM, NATURAL GARNET AND OTHER NATURAL ABRASIVES.
251400	SLATE, WHETHER OR NOT ROUGHLY TRIMMED OR MERELY CUT, BY SAWING ETC. INTO BLOCKS OR SLABS OF RECTANGULAR OR SQUARE SHAPE.
251511	MARBLE AND TRAVERTINE, CRUDE OR ROUGHLY TRIMMED.
251512	MARBLE AND TRAVERTINE, MERELY CUT INTO BLOCKS OR SLABS OF RECTANGULAR OR SQUARE SHAPE.
251520	CALCAREOUS MONUMENTAL OR BUILDING STONE, EXCEPT MARBLE AND TRAVERTINE; ALABASTER.
251611	GRANITE, CRUDE OR ROUGHLY TRIMMED.
251612	GRANITE, MERELY CUT INTO BLOCKS OR SLABS OF RECTANGULAR OR SQUARE SHAPE.
251620	SANDSTONE.
251690	BASALT, PORPHYRY AND OTHER MONUMENTAL OR BUILDING STONE, NESOI, WHETHER OR NOT TRIMMED OR MERELY CUT INTO BLOCKS ETC. OF RECTANGULAR OR SQUARE SHAPE.
251710	PEBBLES, GRAVEL, BROKEN OR CRUSHED STONES FOR CONCRETE AGGREGATES, FOR ROAD METALLING OR BALLAST, SHINGLE AND FLINT, WHETHER OR NOT HEAT TREATED.
251720	MACADAM OF SLAG, DROSS OR SIMILAR INDUSTRIAL WASTE, WHETHER OR NOT INCORPORATING PEBBLES, GRAVEL, BROKEN OR CRUSHED STONES, CITED IN SUBHEADING 251710.
251730	TARRED MACADAM.
251741	MARBLE GRANULES, CHIPPINGS AND POWDER.
251749	GRANULES, CHIPPINGS AND POWDER OF MONUMENTAL OR BUILDING STONES (CALCAREOUS NESOI, ALABASTER, GRANITE, PORPHYRY, BASALT, SANDSTONE ETC.), NESOI.
251810	DOLOMITE NOT CALCINED.
251820	CALCINED DOLOMITE.
251910	NATURAL MAGNESIUM CARBONATE (MAGNESITE).

HTS–6 code	HTS description
251990	FUSED MAGNESIA; DEAD-BURNED (SINTERED) MAGNESIA; OTHER MAGNESIUM OXIDE NESOI, WHETHER OR NOT PURE.
252010	GYPSUM; ANHYDRITE.
252020	PLASTERS CONSISTING OF CALCINED GYPSUM OR CALCIUM SULFATE.
252100	LIMESTONE FLUX; LIMESTONE AND OTHER CALCAREOUS STONE, OF A KIND USED FOR THE MANUFACTURE OF LIME OR CEMENT (OR FOR SOIL IMPROVEMENT).
252210	QUICKLIME.
252220	SLAKED LIME.
252230	HYDRAULIC LIME.
252310	CEMENT CLINKERS.
252321	WHITE PORTLAND CEMENT, WHETHER OR NOT ARTIFICIALLY COLORED.
252329	PORTLAND CEMENT, EXCEPT WHITE PORTLAND CEMENT.
252330	ALUMINOUS CEMENT.
252390	HYDRAULIC CEMENTS, NESOI.
252410	CROCIDOLITE ASBESTOS.
252490	ASBESTOS, EXCLUDING CROCIDOLITE.
252510	CRUDE MICA AND MICA RIFTED INTO SHEETS OR SPLITTINGS.
252520	MICA POWDER.
252530	MICA WASTE.
252610	NATURAL STEATITE AND TALC, NOT CRUSHED, NOT POWDERED.
252620	NATURAL STEATITE AND TALC, CRUSHED OR POWDERED.
252800	NATURAL BORATES & CONCENTRATES THEREOF, NOT INCLUDING BORATES SEPARATED FROM NATURAL BRINE; NATURAL BORIC ACID CONTAINING LT=85% H3BO3 CALC ON DRY WGT.
252910	FELDSPAR.
252921	FLUORSPAR, CONTAINING BY WEIGHT 97% OR LESS OF CALCIUM FLUORIDE.
252922	FLUORSPAR, CONTAINING BY WEIGHT MORE THAN 97% OF CALCIUM FLUORIDE.
252930	LEUCITE; NEPHELINE AND NEPHELINE SYENITE.
253010	VERMICULITE, PERLITE AND CHLORITES, UNEXPANDED.
253020	KIESERITE, EPSOM SALTS (NATURAL MAGNESIUM SULFATES).
253090	MINERAL SUBSTANCES, NESOI.
260111	IRON ORE CONCENTRATES (OTHER THAN ROASTED IRON PYRITES) AND NON-AGGLOMERATED IRON ORES.
260112	AGGLOMERATED IRON ORES.
260120	ROASTED IRON PYRITES.
260200	MANGANESE ORES AND CONCENTRATES, INCLUDING FERRUGINOUS MANGANESE ORES AND CONCENTRATES WITH A MANGANESE CONTENT OF 20% OR MORE, BASED ON DRY WEIGHT.
260300	COPPER ORES AND CONCENTRATES.
260400	NICKEL ORES AND CONCENTRATES.
260500	COBALT ORES AND CONCENTRATES.
260600	ALUMINUM ORES AND CONCENTRATES.
260700	LEAD ORES AND CONCENTRATES.
260800	ZINC ORES AND CONCENTRATES.
260900	TIN ORES AND CONCENTRATES.
261000	CHROMIUM ORES AND CONCENTRATES.
261100	TUNGSTEN ORES AND CONCENTRATES.
261220	THORIUM ORES AND CONCENTRATES.
261310	MOLYBDENUM ORES AND CONCENTRATES, ROASTED.
261390	MOLYBDENUM ORES AND CONCENTRATES, NOT ROASTED.
261400	TITANIUM ORES AND CONCENTRATES.
261510	ZIRCONIUM ORES AND CONCENTRATES.
261590	NIOBIUM, TANTALUM AND VANADIUM ORES AND CONCENTRATES.
261610	SILVER ORES AND CONCENTRATES.
261690	PRECIOUS METAL ORES AND CONCENTRATES, OTHER THAN SILVER.
261710	ANTIMONY ORES AND CONCENTRATES.
261790	ORES AND CONCENTRATES, NESOI.
261800	GRANULATED SLAG (SLAG SAND) FROM IRON OR STEEL MANUFACTURE.
261900	SLAG, DROSS (OTHER THAN GRANULATED SLAG), SCALINGS AND OTHER WASTE FROM THE MANUFACTURE OF IRON OR STEEL.
262011	HARD ZINC SPELTER.
262019	ASH AND RESIDUE (OTHER THAN FROM THE MANUFACTURE OF IRON OR STEEL) CONTAINING MAINLY ZINC, OTHER THAN HARD ZINC SPELTER.
262021	ASHES AND RESIDUES OF LEADED GASOLINE SLUDGES AND LEADED ANTI-KNOCK COMPOUND SLUDGES.
262029	ASH AND RESIDUES CONTAINING MAINLY LEAD, NESOI.
262030	ASH AND RESIDUES NESOI, CONTAINING MAINLY COPPER.
262040	ASH AND RESIDUES NESOI, CONTAINING MAINLY ALUMINUM.

HTS–6 code	HTS description
262060	ASH & RESIDUES CONTAINING ARSENIC, MERCURY, THALLIUM OR THEIR MIXTURES, USED FOR EXTRACTION OF THOSE METALS.
262091	ASH & RESIDUES OF ANTIMONY, BERYLLIUM, CADMIUM, CHROMIUM OR THEIR MIXTURES, NESOI.
262099	ASH AND RESIDUES NESOI, CONTAINING METALS OR METALLIC COMPOUNDS NESOI.
262110	ASH AND RESIDUES FROM THE INCINERATION OF MUNICIPAL WASTE.
262190	ASH AND SLAG, INCLUDING SEAWEED ASH (KELP), NESOI.
270111	ANTHRACITE COAL, WHETHER OR NOT PULVERIZED, BUT NOT AGGLOMERATED.
270112	BITUMINOUS COAL, WHETHER OR NOT PULVERIZED, BUT NOT AGGLOMERATED.
270119	COAL, OTHER THAN ANTHRACITE OR BITUMINOUS, WHETHER OR NOT PULVERIZED, BUT NOT AGGLOMERATED.
270120	BRIQUETTES, OVOIDS AND SIMILAR SOLID FUELS FROM COAL.
270210	LIGNITE, NOT AGGLOMERATED, EXCLUDING JET.
270220	AGGLOMERATED LIGNITE, EXCLUDING JET.
270300	PEAT (INCLUDING PEAT LITTER) WHETHER OR NOT AGGLOMERATED.
270400	COKE AND SEMICOKE OF COAL, OF LIGNITE OR OF PEAT, WHETHER OR NOT AGGLOMERATED; RETORT CARBON.
270500	COAL GAS, WATER GAS, PRODUCER GAS AND SIMILAR GASES, EXCEPT PETROLEUM GASES AND OTHER GASEOUS HYDROCARBONS.
270600	MINERAL TARS, INCLUDING RECONSTITUTED TARS.
270710	BENZENE.
270720	TOLUENE.
270730	XYLENES.
270740	NAPHTHALENE.
270750	AROMATIC HYDROCARBONS NESOI, OF WHICH 65% OR MORE BY VOLUME (INCLUDING LOSSES) DISTILLS AT 250 DEGREES CENTIGRADE BY THE ASTM D 86 METHOD.
270791	CREOSOTE OILS.
270799	OILS AND PRODUCTS OF THE DISTILLATION OF HIGH TEMPERATURE COAL TAR, NESOI; SIMILAR PRODUCTS WHICH HAVE A PREDOMINATE (WT.) AROMATIC CONSTITUENT, NESOI.
270810	PITCH FROM COAL AND OTHER MINERAL TARS.
270820	PITCH COKE FROM COAL AND OTHER MINERAL TARS.
270900	PETROLEUM OILS AND OILS FROM BITUMINOUS MINERALS, CRUDE.
271012	LIGHT OILS AND PREPARATIONS CONTAINING GT=70% BY WEIGHT PETROLEUM OILS OR OILS FROM BITUMINOUS MINERALS, NOT CONTAINING BIODIESEL, NOT WASTE OILS.
271019	PETROLEUM OILS, OILS FROM BITUMINOUS MINERALS (OTHER THAN CRUDE) & PRODUCTS CONTAINING BY WEIGHT GT=70% OR MORE OF THESE OILS, NOT BIODIESEL OR WASTE.
271020	PETROLEUM OILS AND PREPARATIONS CONTAINING BIODIESEL, CONTAINING BY WEIGHT GT=70% PETROLEUM OILS OR OILS OF BITUMINOUS MINERALS, OTHER THAN WASTE OILS.
271091	WASTE OILS CONTAINING POLYCHLORINATED BIPHENYLS (PBC), POLYCHLORINATED TERPHENYLS (PCT) OR POLYBROMINATED BIPHENYLS (PBB).
271099	WASTE OILS, NESOI.
271111	NATURAL GAS, LIQUEFIED.
271112	PROPANE, LIQUEFIED.
271113	BUTANES, LIQUEFIED.
271114	ETHYLENE, PROPYLENE, BUTYLENE AND BUTADIENE, LIQUEFIED.
271119	PETROLEUM GASES AND OTHER GASEOUS HYDROCARBONS, LIQUEFIED, NESOI.
271121	NATURAL GAS, GASEOUS.
271129	PETROLEUM GASES AND OTHER GASEOUS HYDROCARBONS IN A GASEOUS STATE, NESOI (OTHER THAN NATURAL GAS).
271210	PETROLEUM JELLY.
271220	PARAFFIN WAX CONTAINING BY WEIGHT LESS THAN 0.75% OIL.
271290	MICROCRYSTALLINE PETROLEUM WAX, SLACK WAX, OZOKERITE, LIGNITE WAX, PEAT WAX, OTHER MINERAL WAXES, AND SIMILAR PRODUCTS, NESOI.
271311	PETROLEUM COKE, NOT CALCINED.
271312	PETROLEUM COKE, CALCINED.
271320	PETROLEUM BITUMEN.
271390	RESIDUES OF PETROLEUM OILS OR OF OILS OBTAINED FROM BITUMINOUS MINERALS, NESOI.
271410	BITUMINOUS OR OIL SHALE AND TAR SANDS.
271490	BITUMEN AND ASPHALT, NATURAL; ASPHALTITES AND ASPHALTIC ROCKS.

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271500	BITUMINOUS MIXTURES BASED ON NATURAL ASPHALT, NATURAL BITUMEN, PETROLEUM BITUMEN, MINERAL TAR OR MINERAL TAR PITCH.
280110	CHLORINE.
280200	SULFUR, SUBLIMED OR PRECIPITATED; COLLODIAL SULFUR.
280410	HYDROGEN.
280430	NITROGEN.
280461	SILICON, CONTAINING BY WEIGHT NOT LESS THAN 99.99% OF SILICON.
280470	PHOSPHORUS.
280480	ARSENIC.
280511	SODIUM.
280610	HYDROGEN CHLORIDE (HYDROCHLORIC ACID).
280620	CHLOROSULFURIC ACID.
281111	HYDROGEN FLUORIDE (HYDROFLUORIC ACID).
281129	INORGANIC OXYGEN COMPOUNDS OF NONMETALS, NESOI.
281310	CARBON DISULFIDE.
281410	ANHYDROUS AMMONIA.
281420	AMMONIA IN AQUEOUS SOLUTION.
281512	SODIUM HYDROXIDE (CAUSTIC SODA), IN AQUEOUS SOLUTION (SODA LYE OR LIQUID SODA).
281820	ALUMINUM OXIDE, EXCEPT ARTIFICIAL CORUNDUM, NESOI.
281830	ALUMINUM HYDROXIDE.
281990	CHROMIUM OXIDES AND HYDRIDES, EXCEPT CHROMIUM TRIOXIDE, NESOI.
282010	MANGANESE DIOXIDE.
282110	IRON OXIDES AND HYDROXIDES.
282510	HYDRAZINE AND HYDROXYLAMINE AND THEIR INORGANIC SALTS.
282731	MAGNESIUM CHLORIDE.
282732	ALUMINUM CHLORIDE.
282735	NICKEL CHLORIDE.
282751	BROMIDES OF SODIUM OR OF POTASSIUM.
282890	HYPOCHLORITES, CHLORITES, AND HYPOBROMITES, NESOI.
282911	SODIUM CHLORATE.
282990	PERCHLORATES; BROMATES AND PERBROMATES; IODATES AND PERIODATES.
283220	SULFITES, EXCEPT SODIUM SULFITES, NESOI.
283324	NICKEL SULFATE.
283330	ALUMS.
283410	NITRITES.
283539	POLYPHOSPHATES, NESOI.
283630	SODIUM HYDROGENCARBONATE (SODIUM BICARBONATE).
283650	CALCIUM CARBONATE.
283990	SILICATES; COMMERCIAL ALKALI METAL SILICATES, NESOI.
284030	PEROXOBORATES (PERBORATES).
284150	CHROMATES AND DICHROMATES, NESOI; PEROXOCHROMATES.
284180	TUNGSTATES (WOLFRAMATES).
284310	COLLOIDAL PRECIOUS METALS.
284329	SILVER COMPOUNDS, EXCEPT SILVER NITRATE, NESOI.
284330	GOLD COMPOUNDS.
284700	HYDROGEN PEROXIDE, WHETHER OR NOT SOLIDIFIED WITH UREA.
284910	CARBIDES OF CALCIUM, WHETHER OR NOT CHEMICALLY DEFINED.
320110	QUEBRACHO EXTRACT.
320120	WATTLE EXTRACT.
320190	TANNING EXTRACTS OF VEGETABLE ORIGIN, NESOI; TANNINS AND THEIR SALTS, ETHERS, ESTERS AND OTHER DERIVATIVES.
320210	SYNTHETIC ORGANIC TANNING SUBSTANCES.
320290	INORGANIC TANNING SUBSTANCES; TANNING PREPARATIONS; ENZYMATIC PREPARATIONS FOR PRETANNING.
320300	COLORING MATTER OF VEGETABLE OR ANIMAL ORIGIN AND PREPARATIONS BASED THEREON.
320490	SYNTHETIC ORGANIC COLORING MATTER, NESOI.
320500	COLOR LAKES; PREPARATIONS BASED ON COLOR LAKES.
320611	PIGMENTS AND PREPARATIONS CONTAINING 80% OR MORE BY WEIGHT OF TITANIUM DIOXIDE CALCULATED ON THE DRY MATTER.
320641	ULTRAMARINE AND PREPARATIONS BASED THEREON.
320649	COLORING MATTER OF A KIND USED FOR COLORING ANY MATERIAL OR USED IN THE MANUFACTURE OF COLORING PREPARATIONS (OTHER THAN PAINTS OR ENAMELS), NESOI.
320710	PREPARED PIGMENTS, PREPARED OPACIFIERS, PREPARED COLORS AND SIMILAR PREPARATIONS.
320720	VITRIFIABLE ENAMELS AND GLAZES, ENGOBES (SLIPS) AND SIMILAR PREPARATIONS.
320730	LIQUID LUSTRES AND SIMILAR PREPARATIONS.
320740	GLASS FRIT AND OTHER GLASS, IN THE FORM OF POWDER, GRANULES OR FLAKES.
320810	PAINTS AND VARNISHES (INCLUDING ENAMELS AND LACQUERS) BASED ON SYNTHETIC AND OTHER POLYMERS, IN A NON-AQUEOUS MEDIUM, BASED ON POLYESTERS.

HTS–6 code	HTS description
320820	PAINTS AND VARNISHES (INCLUDING ENAMELS AND LACQUERS) BASED ON SYNTHETIC AND OTHER POLYMERS IN A NONAQUEOUS MEDIUM, BASED ON ACRYLIC OR VINYL POLYMERS.
320890	PAINTS AND VARNISHES (INCLUDING ENAMELS AND LACQUERS) BASED ON SYNTHETIC AND OTHER POLYMERS IN A NONAQUEOUS MEDIUM, NESOI.
320910	PAINTS AND VARNISHES (INCLUDING ENAMELS AND LACQUERS) BASED ON SYNTHETIC AND OTHER POLYMERS IN AN AQUEOUS MEDIUM, BASED ON ACRYLIC OR VINYL POLYMERS.
320990	PAINTS AND VARNISHES (INCLUDING ENAMELS AND LACQUERS) BASED ON SYNTHETIC AND OTHER POLYMERS IN AN AQUEOUS MEDIUM, NESOI.
321000	PAINTS AND VARNISHES (INCLUDING ENAMELS, LACQUERS AND DISTEMPERS); PREPARED WATER PIGMENTS OF A KIND USED FOR FINISHING LEATHER.
321290	PIGMENTS (INCLUDING METALLIC POWDERS AND FLAKES) IN NONAQUEOUS MEDIA FOR PAINT MANUFACTURE; DYES AND COLORS PACKAGED FOR RETAIL SALES.
321410	MASTICS (INCLUDING GLAZIERS' PUTTY, GRAFTING PUTTY, RESIN CEMENTS AND CAULKIING COMPOUNDS); PAINTERS' FILLINGS.
321490	NONREFRACTORY SURFACING PREPARATIONS FOR FACADES, INDOOR WALLS, FLOORS, CEILINGS OR THE LIKE.
321511	PRINTING INK, BLACK.
321519	PRINTING INK, OTHER THAN BLACK.
340311	LUBRICATING PREPARATIONS FOR THE TREATMENT OF TEXTILE MATERIALS, LEATHER, FURSKINS OR OTHER MATERIALS, CONTAINING PETROLEUM OR BITUMINOUS MINERAL OILS.
340319	LUBRICATING PREPARATIONS CONTAINING PETROLEUM OILS OR OILS OBTAINED FROM BITUMINOUS MINERALS, NESOI.
340391	LUBRICATNG PREPARTIONS FOR THE TREATMENT OF TEXTILE MATERIALS, LEATHER, FUR OR OTHER MATERIALS, NOT CONTAINING PETROLEUM OR BITUMINOUS MINERAL OILS.
340399	LUBRICATING PREPARATIONS NOT CONTAINING PETROLEUM OILS OR OILS OBTAINED FROM BITUMINOUS MINERALS, NESOI.
350510	DEXTRINS AND OTHER MODIFIED STARCHES.
350699	PREPARED GLUES AND ADHESIVES, NESOI.
370120	INSTANT PRINT FILM IN THE FLAT.
370191	PHOTOGRAPHIC PLATES AND FLAT FILM (OF MATERIAL OTHER THAN PAPER, PAPERBOARD OR TEXTILES) FOR COLOR PHOTOGRAPHY (POLYCHROME), SENSITIZED, UNEXPOSED.
370210	X-RAY FILM IN ROLLS, SENSITIZED, UNEXPOSED.
370231	PHOTOGRAPHIC FILM IN ROLLS, NESOI, WITHOUT SPROCKET HOLES, NOT OVER 105 MM IN WIDTH, FOR COLOR PHOTOGRAPHY (POLYCHROME), SENSITIZED, UNEXPOSED.
370232	PHOTOGRAPHIC FILM IN ROLLS, NESOI, WITHOUT SPROCKET HOLES, NOT OVER 105 MM (4.1 IN.) IN WIDTH, WITH SILVER HALIDE EMULSION, SENSITIZED, UNEXPOSED.
370239	PHOTOGRAPHIC FILM IN ROLLS, NESOI, WITHOUT SPROCKET HOLES, NOT OVER 105 MM (4.1 IN.) IN WIDTH, NESOI, SENSITIZED, UNEXPOSED.
370241	PHOTOGRAPHIC FILM IN ROLLS, NESOI, WITHOUT SPROCKET HOLES, OVER 610 MM IN WIDTH AND OVER 200 M IN LENGTH, FOR COLOR PHOTOGRAPHY, SENSITIZED, UNEXPOSED.
370242	PHOTOGRAPHIC FILM IN ROLLS, NESOI, WITHOUT SPROCKET HOLES, OVER 610 MM IN WIDTH AND OVER 200 M IN LENGTH, NESOI, SENSITIZED, UNEXPOSED.
370243	PHOTOGRAPHIC FILM IN ROLLS, NESOI, WITHOUT SPROCKET HOLES, OVER 610 MM (24 IN.) IN WIDTH AND NOT OVER 200 M (656 FT.) IN LENGTH, SENSITIZED, UNEXPOSED.
370244	PHOTOGRAPHIC FILM IN ROLLS, NESOI, WITHOUT SPROCKET HOLES, OVER 105 MM (4.1 IN.) BUT NOT OVER 610 MM (24 IN.) IN WIDTH, SENSITIZED, UNEXPOSED.
370252	PHOTOGRAPHIC FILM IN ROLLS WITH PERFORATIONS, FOR COLOR PHOTOGRAPHY (POLYCHROME), NOT OVER 16 MM (0.6 IN.) WIDE, SENSITIZED, UNEXPOSED, ETC.
370253	PHOTOGRAPHIC FILM ROLLS, NESOI, FILM NESOI, FOR COLOR SLIDES, OVER 16 MM, NOT OVER 35 MM WIDE AND NOT OVER 30 M LONG, SENSITIZED, UNEXPOSED.

HTS–6 code	HTS description
370254	PHOTOGRAPHIC FILM ROLLS, NESOI, FILM NESOI, FOR COLOR PHOTOGRAPHY NESOI, OVER 16 MM, NOT OVER 35 MM WIDE AND NOT OVER 30 M LONG, SENSITIZED, UNEXPOSED.
370255	PHOTOGRAPHIC FILM ROLLS, NESOI, FILM NESOI, FOR COLOR PHOTOGRAPHY, OVER 16 MM, BUT NOT OVER 35 MM WIDE AND OVER 30 M LONG, SENSITIZED, UNEXPOSED.
370256	PHOTOGRAPHIC FILM ROLLS, NESOI, FILM NESOI, FOR COLOR PHOTOGRAPHY, OVER 35 MM (1.4 IN.) WIDE, SENSITIZED, UNEXPOSED.
370296	PHOTOGRAPHIC FILM OF A WIDTH NOT EXCEEDING 35 MM (1.4 IN.) AND OF A LENGTH NOT EXCEEDING 30 M (98 FT.), MONOCHROME, SENSITIZED, UNEXPOSED, NESOI.
370297	PHOTOGRAPHIC FILM OF A WIDTH NOT EXCEEDING 35 MM (1.4 IN.) AND OF A LENGTH EXCEEDING 30 M (98 FT.), MONOCHROME, SENSITIZED, UNEXPOSED, NESOI.
370298	PHOTOGRAPHIC FILM OF A WIDTH EXCEEDING 35 MM (1.4 IN.), MONOCHROME (BLACK AND WHITE), SENSITIZED, UNEXPOSED, NOT OF PAPER, PAPERBOARD ETC, NESOI.
370310	PHOTOGRAPHIC PAPER, PAPERBOARD AND TEXTILES IN ROLLS, OVER 610 MM (24 IN.) WIDE, SENSITIZED, UNEXPOSED.
370320	PHOTOGRAPHIC PAPER, PAPERBOARD AND TEXTILES, NESOI, FOR COLOR PHOTOGRAPHY (NOT IN ROLLS OVER 610 MM (24 IN.) WIDE), SENSITIZED, UNEXPOSED.
370390	PHOTOGRAPHIC PAPER, PAPERBOARD AND TEXTILES, NESOI, OTHER THAN FOR COLOR PHOTOGRAPHY (NOT IN ROLLS OVER 610 MM (24 IN.) WIDE), SENSITIZED, UNEXPOSED.
370500	PHOTOGRAPHIC PLATES AND FILM, EXPOSED AND DEVELOPED, OTHER THAN CINEMATOGRAPHIC FILM.
370610	MOTION-PICTURE FILM, EXPOSED AND DEVELOPED, 35 MM (1.4 IN.) OR OVER IN WIDTH.
370690	MOTION-PICTURE FILM, EXPOSED AND DEVELOPED, LESS THAN 35 MM (1.4 IN.) IN WIDTH.
380120	COLLOIDAL OR SEMI-COLLOIDAL GRAPHITE.
380620	SALTS OF ROSIN OR OF RESIN ACIDS OR OF DERIVATIVES OF ROSIN OR RESIN ACIDS, EXCEPT SALTS OF ROSIN ADDUCTS.
380700	WOOD TAR; WOOD TAR OILS; WOOD CRESOTE; WOOD NAPHTHA; VEGETABLE PITCH; BREWERS' PITCH AND LIKE PRODUCTS BASED ON ROSIN, RESIN ACIDS OR VEGETABLE PITCH.
380910	FINISHING AGENTS, DYE CARRIERS AND DRESSINGS USED IN THE TEXTILE, PAPER ETC. INDUSTRIES, WITH A BASIS OF AMYLACEOUS SUBSTANCES.
380991	FINISHING AGENTS, DYE CARRIERS AND PREPARATIONS NESOI, OF A KIND USED IN THE TEXTILE OR LIKE INDUSTRIES.
380992	FINISHING AGENTS, DYE CARRIERS AND PREPARATIONS NESOI, OF A KIND USED IN THE PAPER OR LIKE INDUSTRIES.
380993	FINISHING AGENTS, DYE CARRIERS AND PREPARATION NESOI, OF A KIND USED IN THE LEATHER OR LIKE INDUSTRIES.
381010	PICKLING PREPARATION FOR METAL SURFACES; SOLDERING, BRAZING OR WELDING POWDERS AND PASTES CONSISTING OF METAL AND OTHER MATERIALS.
381090	FLUXES AND OTHER AUXILIARY PREPARATIONS FOR SOLDERING, BRAZING OR WELDING, NESOI; PREPARED CORES OR COATINGS FOR WELDING ELECTRODES OR RODS.
381111	ANTIKNOCK PREPARATIONS, BASED ON LEAD COMPOUNDS.
381119	ANTIKNOCK PREPARATIONS, NESOI.
381121	ADDITIVES FOR LUBRICATING OILS CONTAINING PETROLEUM OILS OR OILS OBTAINED FROM BITUMINOUS MINERALS.
381129	ADDITIVES FOR LUBRICATING OILS, NESOI.
381190	PREPARED ADDITIVES FOR MINERAL OILS (INCLUDING GASOLINE) OR FOR OTHER LIQUIDS USED FOR THE SAME PURPOSE AS MINERAL OILS, NESOI.
381220	COMPOUND PLASTICIZERS FOR RUBBER OR PLASTICS.
381300	PREPARATIONS AND CHARGES FOR FIRE-EXTINGUISHERS; CHARGED FIRE-EXTINGUISHNG GRENADES.
381400	ORGANIC COMPOSITE SOLVENTS AND THINNERS, NESOI; PREPARED PAINT OR VARNISH REMOVERS.

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381511	SUPPORTED CATALYSTS WITH NICKEL OR NICKEL COMPOUNDS AS THE ACTIVE SUBSTANCE.
381512	SUPPORTED CATALYSTS WITH PRECIOUS METAL OR PRECIOUS METAL COMPOUNDS AS THE ACTIVE SUBSTANCE.
381519	SUPPORTED CATALYSTS, NESOI.
381590	REACTION INITIATORS, REACTION ACCELERATORS AND CATALYTIC PREPARATIONS, NESOI.
381600	REFRACTORY CEMENTS, MORTARS, CONCRETES, AND SIMILAR COMPOSITIONS (EXCEPT OF GRAPHITE OR OTHER CARBON PREPARATIONS), NESOI.
381700	MIXED ALKYLBENZENES AND MIXED ALKLNAPHTHALENES, OTHER THAN THOSE OF HEADING 2707 OR 2902.
381800	CHEMICAL ELEMENTS DOPED FOR USE IN ELECTRONICS, IN THE FORM OF DISCS, WAFERS OR SIMILAR FORMS; CHEMICAL COMPOUNDS DOPED FOR USE IN ELECTRONICS.
381900	HYDRAULIC BRAKE FLUIDS AND PREPARED LIQUIDS FOR HYDRAULIC TRANSMISSION, WITH LESS THAN 70% (IF ANY) BY WEIGHT OF PETROLEUM OR BITUMINOUS MINERAL OILS.
382000	ANTIFREEZING PREPARATIONS AND PREPARED DEICING FLUIDS.
382313	TALL OIL FATTY ACIDS.
382481	MIXTURES AND PREPARATIONS CONTAINING OXIRANE (ETHYLENE OXIDE).
382484	MIX AND PREPS CONTAINING ALDRIN, CAMPHECHLOR, CHLORDANE, CHLORDECONE, DDT, 1,1,1-TRICHLORO-2-2BIS(P-CHLOROPHENYL)ETHANES),DIELDRIN, ENDOSULFAN, ETC.
382499	CHEMICAL PRODUCTS AND PREPARATIONS OF THE CHEMICAL OR ALLIED INDUSTRIES, N.E.S.O.I.; RESIDUAL PRODUCTS OF THE CHEMICAL OR ALLIED INDUSTRIES, N.E.S.O.I.
382590	WASTE AS SPECIFIED IN CHAPTER 38 NOTES, NESOI.
382600	BIODIESEL AND MIXTURES THEREOF, NOT CONTAINING OR CONTAINING LESS THAN 70% BY WEIGHT OF PETROLEUM OILS OR OILS OBTAINED FROM BITUMINOUS MATERIALS.
382790	ACYCLIC PERHALOGENATED DERIVATIVES, NESOI.
390140	ETHYLENE-ALPHA-OLEFIN COPOLYMERS, HAVING A SPECIFIC GRAVITY OF LESS THAN 0.94.
390220	POLYISOBUTYLENE, IN PRIMARY FORMS.
390230	PROPYLENE COPOLYMERS, IN PRIMARY FORMS.
390290	POLYMERS OF PROPYLENE OR OTHER OLEFINS NESOI, IN PRIMARY FORMS.
390319	POLYSTYRENE NESOI, IN PRIMARY FORMS.
390390	POLYMERS OF STYRENE NESOI, IN PRIMARY FORMS.
390410	POLYVINYL CHLORIDE, NOT MIXED WITH ANY OTHER SUBSTANCES, IN PRIMARY FORMS.
390450	VINYLIDENE CHLORIDE POLYMERS, IN PRIMARY FORMS.
390512	POLYMERS OF VINYL ACETATE,IN AQUEOUS DISPERSION.
390519	POLYMERS OF VINYL ACETATE, NOT IN AQUEOUS DISPERSION, IN PRIMARY FORMS.
390521	VINYL ACETATE COPOLYMERS,IN AQUEOUS DISPERSION.
390529	VINYL ACETATE COPOLYMERS, NESOI.
390530	POLYVINYL ALCOHOLS, WHETHER OR NOT CONTAINING UNHYDROLYZED ACETATE GROUPS.
390591	COPOLYMERS OF VINYL ESTERS, IN PRIMARY FORMS, N.E.S.O.I.
390599	VINYL POLYMERS IN PRIMARY FORMS, N.E.S.O.I.
390610	POLYMETHYL METHACRYLATE, IN PRIMARY FORMS.
390690	ACRYLIC POLYMERS NESOI, IN PRIMARY FORMS.
390721	POLYETHERS NESOI, IN PRIMARY FORMS.
390740	POLYCARBONATES, IN PRIMARY FORMS.
390770	POLY(LACTIC) ACID, IN PRIMARY FORMS.
390791	POLYESTERS NESOI, UNSATURATED, IN PRIMARY FORMS.
390810	POLYAMIDE-6,-11,-12,-6,6,-6,9,-6,10 OR -6,12 (NYLON TYPE), IN PRIMARY FORMS.
390890	POLYAMIDES NESOI, IN PRIMARY FORMS.
390920	MELAMINE RESINS, IN PRIMARY FORMS.
390939	AMINO-RESINS, NESOI.
390940	PHENOLIC RESINS, IN PRIMARY FORMS.
390950	POLYURETHANES, IN PRIMARY FORMS.
391211	CELLULOSE ACETATES, NONPLASTICIZED, IN PRIMARY FORMS.

HTS–6 code	HTS description
391220	CELLULOSE NITRATES (INCLUDING COLLODIONS), IN PRIMARY FORMS.
391290	CELLULOSE AND ITS CHEMICAL DERIVATIVES NESOI, IN PRIMARY FORMS.
391520	WASTE, PARINGS AND SCRAP, OF POLYMERS OF STYRENE.
391710	ARTIFICIAL GUTS (SAUSAGE CASING), OF HARDENED PROTEIN OR OF CELLULOSIC PLASTIC MATERIALS.
391723	TUBES, PIPES AND HOSES, RIGID, OF POLYMERS OF VINYL CHLORIDE.
391731	FLEXIBLE TUBES, PIPES AND HOSES, HAVING A MINIMUM BURST PRESSURE OF 27.6 MPA, OF PLASTICS.
391732	TUBES, PIPES AND HOSES NESOI, NOT REINFORCED OR OTHERWISE COMBINED WITH OTHER MATERIALS, OF PLASTICS, WITHOUT FITTINGS.
391733	TUBES, PIPES AND HOSES NESOI, NOT REINFORCED OR OTHERWISE COMBINED WITH OTHER MATERIALS, OF PLASTICS, WITH FITTINGS.
392010	PLATES, SHEETS, FILM, FOIL AND STRIP OF PLASTICS, NOT SELF-ADHESIVE, NON-CELLULAR, NOT REINFORCED OR LAMINATED ETC., OF POLYMERS OF ETHYLENE.
392061	PLATES, SHEETS, FILM, FOIL AND STRIP OF PLASTICS, NOT SELF-ADHESIVE, NON-CELLULAR, NOT REINFORCED ETC., OF POLYCARBONATES.
392069	PLATES, SHEETS, FILM, FOIL AND STRIP OF PLASTICS, NOT SELF-ADHESIVE, NON-CELLULAR, NOT REINFORCED OR LAMINATED ETC., OF POLYESTERS NESOI.
392073	PLATES, SHEETS, FILM, FOIL AND STRIP OF PLASTICS, NOT SELF-ADHESIVE, NON-CELLULAR, NOT REINFORCED OR LAMINATED ETC., OF CELLULOSE ACETATE.
392091	PLATES, SHEETS, FILM, FOIL AND STRIP OF PLASTICS, NOT SELF-ADHESIVE, NON-CELLULAR, NOT REINFORCED OR LAMINATED ETC., OF POLYVINYL BUTYRAL.
392119	PLATES, SHEETS, FILM, FOIL AND STRIP OF PLASTICS NESOI, CELLULAR PLASTICS NESOI.
392290	BIDETS, LAVATORY PANS, FLUSHING CISTERNS AND SIMILAR SANITARY WARE, OF PLASTICS.
392520	DOORS, WINDOWS AND THEIR FRAMES AND THRESHOLDS FOR DOORS, OF PLASTICS.
400211	LATEX OF STYRENE-BUTADIENE RUBBER (SBR) OR CARBOXYLATED STYRENE-BUTADIENE RUBBER (XSBR).
400219	STYRENE-BUTADIENE RUBBER (SBR) OR CARBOXYLATED STYRENE-BUTADIENE RUBBER (XSBR) IN PRIMARY FORMS (EXCEPT LATEX) OR IN PLATES, SHEETS OR STRIP.
400220	BUTADIENE RUBBER (BR) IN PRIMARY FORMS OR IN PLATES, SHEETS OR STRIP.
400231	ISOBUTENE-ISOPRENE (BUTYL) RUBBER (IIR) IN PRIMARY FORMS OR IN PLATES, SHEETS OR STRIP.
400239	HALO-ISOBUTENE-ISOPRENE RUBBER (CIIR OR BIIR) IN PRIMARY FORMS OR IN PLATES, SHEETS OR STRIP.
400241	LATEX OF CHLOROPRENE (CHLOROBUTADIENE) RUBBER (CR).
400249	CHLOROPRENE (CHLOROBUTADIENE) RUBBER (CR) IN PRIMARY FORMS (EXCEPT LATEX) OR IN PLATES, SHEETS OR STRIP.
400251	LATEX OF ACRYLONITRILE-BUTADIENE RUBBER (NBR).
400259	ACRYLONITRILE-BUTADIENE RUBBER (NBR) IN PRIMARY FORMS (EXCEPT LATEX) OR IN PLATES, SHEETS OR STRIP.
400260	ISOPRENE RUBBER (IR) IN PRIMARY FORMS OR IN PLATES, SHEETS OR STRIP.
400270	ETHYLENE-PROPYLENE-NONCONJUGATED DIENE RUBBER (EPDM) IN PRIMARY FORMS OR IN PLATES, SHEETS OR STRIP.
400280	MIXTURES OF NATURAL RUBBER OR SIMILAR NATURAL GUMS WITH SYNTHETIC RUBBER AND FACTICE DERIVED FROM OILS, IN PRIMARY FORMS OR IN PLATES, SHEETS OR STRIP.
400291	LATEX OF SYNTHETIC RUBBER AND FACTICE DERIVED FROM OILS, NESOI.
400299	SYNTHETIC RUBBER AND FACTICE DERIVED FROM OILS, IN PRIMARY FORMS OR IN PLATES, SHEETS OR STRIP, NESOI.
400510	COMPOUNDED RUBBER, UNVULCANIZED, COMPOUNDED WITH CARBON BLACK OR SILICA, IN PRIMARY FORMS OR IN PLATES, SHEETS OR STRIP.

HTS–6 code	HTS description
400520	COMPOUNDED RUBBER, UNVULCANIZED, IN SOLUTION; DISPERSIONS OTHER THAN THOSE COMPOUNDED WITH CARBON BLACK OR SILICA.
400591	COMPOUNDED RUBBER, UNVULCANIZED, IN PLATES, SHEETS, AND STRIP, NESOI.
400599	COMPOUNDED RUBBER, UNVULCANIZED, IN PRIMARY FORMS, NESOI.
400610	CAMEL-BACK STRIPS FOR RETREADING RUBBER TIRES, OF UNVULCANIZED RUBBER.
400821	PLATES, SHEETS AND STRIP OF VULCANIZED RUBBER, EXCEPT HARD RUBBER, OF NONCELLULAR RUBBER.
400912	TUBES, PIPE, AND HOSES, OF VULCANIZED RUBBER, EXC HARD RUBBER, NOT REINFORCED OR OTHERWISE COMBINED WITH OTHER MATERIALS, WITH FITTINGS.
400941	TUBES, PIPES AND HOSES, OF VULCANIZED RUBBER, EXCEPT HARD RUBBER, REINFORCED OR OTHERWISE COMBINED WITH OTHER MATERIALS, NESOI, WITHOUT FITTINGS.
401011	CONVEYOR BELTS OR BELTING REINFORCED ONLY WITH METAL.
401012	CONVEYOR BELTS OR BELTING REINFORCED ONLY WITH TEXTILE MATERIALS.
401019	CONVEYOR BELTS OR BELTING OF VULCANIZED RUBBER, NESOI.
401031	ENDLESS TRANSMISSION BELTS OF TRAPEZOIDAL CROSS SECTION (V-BELTS), V-RIBBED, OF CIRCUMFERENCE EXCEEDING 60CM BUT NOT EXCEEDING 180 CM.
401032	ENDLESS TRANSMISSION BELTS OF TRAPEZOIDAL CROSS SECTION (V-BELTS), OF CIRCUMFERENCE EXCEEDING 60CM BUT NOT EXCEEDING 180 CM, NESOI.
401033	ENDLESS TRANSMISSION BELTS OF TRAPEZOIDAL CROSS SECTION (V-BELTS), V-RIBBED, OF CIRCUMFERENCE EXCEEDING 180CM BUT NOT EXCEEDING 240 CM.
401034	ENDLESS TRANSMISSION BELTS OF TRAPEZOIDAL CROSS SECTION (V-BELTS), OF CIRCUMFERENCE EXCEEDING 180CM BUT NOT EXCEEDING 240 CM, NESOI.
401035	ENDLESS SYNCHRONOUS BELTS OF A CIRCUMFERENCE EXCEEDING 60 CM BUT NOT EXCEEDING 150 CM.
401036	ENDLESS SYNCHRONOUS BELTS OF A CIRCUMFERENCE EXCEEDING 150 CM BUT NOT EXCEEDING 198 CM.
401039	TRANSMISSION BELTS OR BELTING, OF VULCANIZED RUBBER, NESOI.
401120	NEW PNEUMATIC TIRES, OF RUBBER, OF A KIND USED ON BUSES OR TRUCKS.
401130	NEW PNEUMATIC TIRES, OF RUBBER, OF A KIND USED ON AIRCRAFT.
401211	RETREADED TIRES OF RUBBER, OF A KIND USED ON MOTOR CARS (INCLUDING STATION WAGONS AND RACING CARS).
401212	RETREADED TIRES OF RUBBER, OF A KIND USED ON BUSES OR TRUCKS.
401213	RETREADED TIRES OF RUBBER, OF A KIND USED ON AIRCRAFT.
401219	RETREADED TIRES OF RUBBER, NESOI.
401220	USED PNEUMATIC TIRES, OF RUBBER.
401290	SOLID OR CUSHION TIRES, INTERCHANGEABLE TIRE TREADS AND TIRE FLAPS, OF RUBBER.
401693	GASKETS, WASHERS AND OTHER SEALS, OF VULCANIZED RUBBER OTHER THAN HARD RUBBER.
401699	ARTICLES OF VULCANIZED RUBBER OTHER THAN HARD RUBBER, NESOI.
440711	PINE WOOD SAWN OR CHIPPED LENGTHWISE, SLICED OR PEELED, OF A THICKNESS EXCEEDING 6MM.
440712	FIR WOOD SAWN OR CHIPPED LENGTHWISE, SLICED OR PEELED, OF A THICKNESS EXCEEDING 6MM.
440713	OTHER CONIFEROUS WOOD SAWN OR CHIPPED LENGTHWISE, SLICED OR PEELED, THICKNESS EXCEEDING 6MM.
440714	OTHER CONIFEROUS WOOD SAWN OR CHIPPED LENGTHWISE, SLICED OR PEELED, THICKNESS EXCEEDING 6MM.
440719	OTHER CONIFEROUS WOOD SAWN OR CHIPPED LENGTHWISE, SLICED OR PEELED, THICKNESS EXCEEDING 6MM.
440721	MAHOGANY (SWIETENIA SPP.), SAWN OR CHIPPED LENGTHWISE, SLICED OR PEELED.
440722	VIROLA, IMBUIA AND BALSA, SAWN OR CHIPPED LENGTHWISE, SLICED OR PEELED.

HTS–6 code	HTS description
440723	TROPICAL WOOD SAWN ETC., BABOEN, MAHOGANY (SWIETENIA SPP.), IMBUIA AND BALSA, SLICED OR PEELED, PLANED OR NOT ETC., OVER 6 MM (.236 IN.) THICK.
440725	DARK RED MERANTI, LIGHT RED MERANTI AND MERANTI BAKAU, WOOD SAWN OR CHIPPED LENGTHWISE,SLICED OR PEELED, WHETHER OR NOT PLANED, SANDED OR ETC.
440726	WHITE LAUAN, WHITE MERANTI, WHITE SERAYA, YELLOW MERANTI AND ALAN, LUMBER.
440727	SAPELLI, SAWN OR CHIPPED LENGTHWISE, SLICED OR PEELED.
440728	IROKO, SAWN OR CHIPPED LENGTHWISE, SLICED OR PEELED.
440729	OTHER TROPICAL WOOD SPECIFIED IN SUBHEADING NOTE 2 TO THIS CHAPTER, WOOD SAWN OR CHIPED LENGTHWISE, SLICED OR PEELED WHETHER OR NOT PLANED, SANDED ETC.
440791	OAK WOOD, SAWN OR CHIPPED LENGTHWISE, SLICED OR PEELED, WHETHER OR NOT PLANED ETC., OVER 6 MM (.236 IN.) THICK.
440792	BEECH WOOD SAWN OR CHIPPED LENGTHWISE, SLICED OR PEELED, WHETHER OR NOT PLANED ETC., OVER 6 MM (.236 IN.) THICK.
440793	MAPLE (ACER SPP.), SAWN OR CHIPPED LENGTHWISE, SLICED OR PEELED.
440794	CHERRY, SAWN OR CHIPPED LENGTHWISE, SLICED OR PEELED.
440795	ASH, SAWN OR CHIPPED LENGTHWISE, SLICED OR PEELED.
440796	BIRCH WOOD SAWN OR CHIPPED LENGTHWISE, SLICED OR PEELED, OF A THICKNESS EXCEEDING 6MM.
440797	POPLAR AND ASPEN WOOD SAWN OR CHIPPED LENGTHWISE, SLICED OR PEELED, OF A THICKNESS EXCEEDING 6 MM.
440799	NONCONIFEROUS WOOD NESOI, SAWN OR CHIPPED LENGTHWISE, SLICED OR PEELED, WHETHER OR NOT PLANED, ETC., OVER 6 MM (.236 IN.) THICK.
440810	VENEER SHEETS AND SHEETS FOR PLYWOOD, ETC. WHETHER OR NOT PLANED, ETC., NOT OVER 6 MM (.236 IN.) THICK, OF CONIFEROUS WOOD.
440890	VENEER SHEETS AND SHEETS FOR PLYWOOD, ETC. WHETHER OR NOT PLANED, ETC., NOT OVER 6 MM (.236 IN.) THICK, OF NONCONIFEROUS WOOD, NESOI.
441113	MEDIUM DENSITY FIBERBOARD (MDF), OF A THICKNESS EXCEEDING 5 MM BUT NOT EXCEEDING 9 MM.
441194	FIBERBOARD OF WOOD OR OTHER LIGNEOUS MATERIALS, OF A DENSITY NOT EXCEEDING 0.5 G/M3, NESOI.
441210	PLYWOOD, VENEERED PANELS AND SIMILAR LAMINATED WOOD, OF BAMBOO.
441231	PLYWOOD CONSISTING SOLELY OF SHEETS OF WOOD (EXC BAMBOO), EACH PLY NOT EXCEEDING 6 MM IN THICKNESS, TROP WD SPEC IN SUBHEAD NT 1.
441233	PLYWOOD, VENEERED PANELS, SIM LAMINATD WOOD, NES, AT LEAST ONE OUTER PLY OF NONCONIFEROUS WOOD OF THE SPECIES SPECIFIED IN THIS SUBHEADING.
441234	PLYWOOD CONSISTING SOLELY OF SHEETS OF WOOD, EACH PLY NOT GT 6MM THICKNESS AT LEAST ONE OUTER PLY OF NONCONIF WOOD NOT SPECIFIED UNDER 4412.33, NES.
441239	PLYWOOD CONSISTING SOLELY OF SHEETS OF WOOD (EXC BAMBOO), EACH PLY NOT EXCEEDING 6 MM IN THICKNESS, CONIFEROUS WD, NESOI.
441241	PLYWOOD, VENEERED PANELS AND SIMILAR LAMINATED WOOD, NESOI.
441242	PLYWOOD, VENEERED PANELS AND SIMILAR LAMINATED WOOD, NESOI.
441249	PLYWOOD, VENEERED PANELS AND SIMILAR LAMINATED WOOD, NESOI.
441251	BLOCKBOARD, LAMINBOARD AND BATTENBOARD, OTHER THAN OF BAMBOO.
441252	BLOCKBOARD, LAMINBOARD AND BATTENBOARD, OTHER THAN OF BAMBOO.
441259	BLOCKBOARD, LAMINBOARD AND BATTENBOARD, OTHER THAN OF BAMBOO.
441291	PLYWOOD, VENEERED PANELS AND SIMILAR LAMINATED WOOD, NESOI, CONTAINING AT LEAST ONE LAYER OF PARTICLE BOARD.

HTS–6 code	HTS description
441292	VENEERED PANELS AND SIMILAR LAMINATED WOOD, PLYWOOD NESOI, ALL WITH AT LEAST ONE PLY OF TROPICAL WOOD, N.E.S.O.I.
441299	PLYWOOD, VENEERED PANELS AND SIMILAR LAMINATED WOOD, NESOI.
441600	CASKS, BARRELS, VATS, TUBS AND OTHER COOPERS' PRODUCTS AND PARTS THEREOF, OF WOOD, INCLUDING STAVES.
441830	PARQUET PANELS, OF WOOD.
441840	FORMWORK (SHUTTERING) FOR CONCRETE CONSTRUCTIONAL WORK, OF WOOD.
441879	ASSEMBLED FLOORING PANELS, OF WOOD, NESOI.
450310	CORKS AND STOPPERS OF NATURAL CORK.
450390	ARTICLES OF NATURAL CORK, NESOI.
450410	BLOCKS, PLATES, SHEETS AND STRIP, TILES OF ANY SHAPE, SOLID CYLINDERS, INCLUDING DISKS, OF AGGLOMERATED CORK.
450490	AGGLOMERATED CORK (WITH OR WITHOUT BINDING SUBSTANCES) AND ARTICLES OF AGGLOMERATED CORK, NESOI.
470100	MECHANICAL WOODPULP.
470311	CHEMICAL WOODPULP, SODA OR SULFATE, OTHER THAN DISSOLVING GRADE, UNBLEACHED, CONIFEROUS.
470319	CHEMICAL WOODPULP, SODA OR SULFATE, OTHER THAN DISSOLVING GRADE, UNBLEACHED, NONCONIFEROUS.
470321	CHEMICAL WOODPULP, SODA OR SULFATE, OTHER THAN DISSOLVING GRADES, SEMIBLEACHED OR BLEACHED, CONIFEROUS.
470329	CHEMICAL WOODPULP, SODA OR SULFATE, OTHER THAN DISSOLVING GRADES, SEMIBLEACHED OR BLEACHED, NONCONIFEROUS.
470411	CHEMICAL WOODPULP, SULFITE, OTHER THAN DISSOLVING GRADE, UNBLEACHED, CONIFEROUS.
470419	CHEMICAL WOODPULP, SULFITE, OTHER THAN DISSOLVING GRADES, UNBLEACHED, NONCONIFEROUS.
470421	CHEMICAL WOODPULP, SULFITE, OTHER THAN DISSOLVING GRADES, SEMIBLEACHED OR BLEACHED, CONFIEROUS.
470429	CHEMICAL WOODPULP, SULFITE, OTHER THAN DISSOLVING GRADES, SEMIBLEACHED OR BLEACHED, NONCONIFEROUS.
470500	WOOD PULP OBTAINED BY A COMBINATION OF MECHANICAL AND CHEMICAL PULPING PROCESSES.
470610	COTTON LINTERS PULP.
470620	PULPS OF FIBERS DERIVED FROM RECOVERED (WASTE AND SCRAP) PAPER OR PAPERBOARD.
470630	PULPS OF FIBERS DERIVED OF OTHER FIBROUS CELLULOSIC MATERIAL, OTHER, OF BAMBOO.
470691	MECHANICAL PULPS OF FIBROUS CELLULOSIC MATERIAL (OTHER THAN WOOD), NESOI.
470692	CHEMICAL PULPS OF FIBROUS CELLULOSIC MATERIAL (OTHER THAN WOOD), NESOI.
470693	PULPS OF FIBROUS CELLULOSIC MATERIAL OBTAINED BY A COMBINATION OF MECHANICAL AND CHEMICAL PROCESSES, NESOI.
470710	WASTE AND SCRAP OF UNBLEACHED KRAFT PAPER OR PAPERBOARD OR OF CORRUGATED PAPER OR PAPERBOARD.
470720	RECOVERED (WASTE AND SCRAP) PAPER OR PAPERBOARD, MADE MAINLY OF BLEACHED CHEMICAL PULP, NOT COLORED IN THE MASS.
470730	RECOVERED (WASTE AND SCRAP) PAPER OR PAPERBOARD, MADE MAINLY OF MECHANICAL PULP (FOR EXAMPLE, NEWSPAPERS, JOURNALS AND SIMILAR PRINTED MATTER.
470790	WASTE AND SCRAP OF PAPER OR PAPERBOARD, NESOI, INCLUDING UNSORTED WASTE AND SCRAP.
480220	PAPER AND PAPERBOARD USED AS A BASE FOR PHOTO-SENSITIVE, HEAT-SENSITIVE OR ELECTRO-SENSITIVE PAPER OR PAPERBOARD, UNCOATED, IN ROLLS OR SHEETS.
480240	WALLPAPER BASE (HANGING PAPER), UNCOATED, IN ROLLS OR SHEETS.
480258	PAPER AND PAPERBOARD, NESOI, NOT OVER 10% (WT.) OF FIBERS (IF ANY) OBTAINED BY MECHANICAL PROCESS, WEIGHING OVER 150 G/M2, UNCOATED, ROLLS OR SHEETS.
480261	PAPER & PAPERBOARD, UNCOATED, OVER 10% BY WEIGHT MECHANICAL FIBERS, IN ROLLS.
480411	KRAFTLINER, UNCOATED, UNBLEACHED, IN ROLLS OR SHEETS.

HTS–6 code	HTS description
480419	KRAFTLINER, UNCOATED, BLEACHED, IN ROLLS OR SHEETS.
480421	SACK KRAFT PAPER, UNCOATED, UNBLEACHED, IN ROLLS OR SHEETS.
480429	SACK KRAFT PAPER, UNCOATED, BLEACHED, IN ROLLS OR SHEETS.
480431	KRAFT PAPER AND PAPERBOARD, NESOI, WEIGHING NOT OVER 150 G/M2, UNCOATED, UNBLEACHED, IN ROLLS OR SHEETS.
480439	KRAFT PAPER AND PAPERBOARD, NESOI, WEIGHING NOT OVER 150 G/M2, UNCOATED, BLEACHED, IN ROLLS OR SHEETS.
480441	KRAFT PAPER AND PAPERBOARD, NESOI, WEIGHING OVER 150 G/M2 BUT LESS THAN 225 G/M2, UNCOATED, UNBLEACHED, IN ROLLS OR SHEETS.
480442	KRAFT PAPER AND PAPERBOARD, NESOI, OVER 150 G/M2 BUT UNDER 225 G/M2, UNCOATED, BLEACHED, OVER 95% (WT.) WOOD FIBERS BY CHEMICAL PROCESS, IN ROLLS ETC.
480449	KRAFT PAPER AND PAPERBOARD, NESOI, WEIGHING OVER 150 G/M2 BUT UNDER 225 G/M2, UNCOATED, BLEACHED NESOI, IN ROLLS OR SHEETS.
480451	KRAFT PAPER AND PAPERBOARD, NESOI, WEIGHING 225 G/M2 OR OVER, UNCOATED, UNBLEACHED, IN ROLLS OR SHEETS.
480452	KRAFT PAPER AND PAPERBOARD, NESOI, WEIGHING 225 G/M2 OR OVER, UNCOATED, BLEACHED, OVER 95% (WT.) WOOD FIBERS BY CHEMICAL PROCESS, IN ROLLS OR SHEETS.
480459	KRAFT PAPER AND PAPERBOARD, NESOI, WEIGHING 225 G/M2 OR OVER, UNCOATED, BLEACHED NESOI, IN ROLLS OR SHEETS.
480511	SEMICHEMICAL FLUTING PAPER (CORRUGATING MEDIUM), UNCOATED, IN ROLLS OR SHEETS.
480512	STRAW FLUTING PAPER, UNCOATED, IN ROLLS/SHEETS, NOT FURTHER WORKED/PROCESSED THAN AS SPECIFIED IN NOTE 3 TO CHAPTER 48.
480519	FLUTING PAPER, UNCOATED, IN ROLLS/SHEETS, NOT FUTHER WORKED OR PROCESSED THAT AS SPECIFIED IN NOTE 3 TO CHAPTER 48, NESOI.
480524	TESTLINER (RECUCLED LINER BOARD),UNCOATED, IN ROLLS/SHEETS, NOT FURTHER WORKED THAN AS SPECIFIED IN NOTE 3 TO CHAPTER 48, WEIGHTING 150 G/M2 OR LESS.
480525	TESTLINER (RECYCLED LINER BOARD, UNCOATED, IN ROLLS/SHEETS, NOT FUTHER WORKED THAN AS SPECIFIED IN NOTE 3 TO CHAPTER 48, WEIGHING MORE THAN 150 G/M2.
480530	SULFITE WRAPPING PAPER, UNCOATED, IN ROLLS OR SHEETS.
480540	FILTER PAPER AND PAPERBOARD, UNCOATED, IN ROLLS OR SHEETS.
480550	FELT PAPER AND PAPERBOARD, UNCOATED, IN ROLLS OR SHEETS.
480591	PAPER & PAPERBOARD, UNCOATED, WEIGHING 150 G/M2 OR LESS, IN ROLLS OR SHEETS, NESOI.
480592	PAPER & PAPERBOARD, UNCOATED, IN ROLLS/SHEETS, WEIGHTING MORE THAN 150 BUT LESS THAN 225 G/M2, NESOI.
480593	PAPER & PAPERBOARD, UNCOATED, IN ROLLS/SHEETS, WEIGHING 225 G/M2 OR MORE, NESOI.
480610	VEGETABLE PARCHMENT PAPER, IN ROLLS OR SHEETS.
480620	GREASEPROOF PAPERS (AS MANUFACTURED), IN ROLLS OR SHEETS.
480630	TRACING PAPERS, IN ROLLS OR SHEETS.
480640	GLASSINE AND OTHER GLAZED TRANSPARENT OR TRANSLUCENT PAPERS, IN ROLLS OR SHEETS.
480700	COMPOSITE PAPER & PAPERBOARD (MADE BY STICKING FLAT LAYERS OF PAPER/PBRD TOGETHER W/AN ADHESIVE), NOT SURFACE-COATED OR IMPREGNATED, IN ROLLS/SHEETS.
480810	CORRUGATED PAPER AND PAPERBOARD, WHETHER OR NOT PERFORATED, NESOI, IN ROLLS OR SHEETS.
480840	KRAFT PAPER IN ROLLS OR SHEETS, CREPED OR CRINKLED, WHETHER OR NOT EMBOSSED OR PERFORATED, NESOI.
480890	PAPER AND PAPERBOARD, NESOI, CREPED, CRINKLED, EMBOSSED OR PERFORATED, IN ROLLS OR SHEETS.

HTS–6 code	HTS description
480920	SELF-COPY PAPER, IN ROLLS OVER 36 CM WIDE OR RECTANGULAR SHEETS WITH AT LEAST ONE SIDE OVER 36 CM IN UNFOLDED STATE.
480990	COPYING OR TRANSFER PAPERS, COATED OR IMPREGNATED, INCLUDING FOR DUPLICATOR STENCILS OR OFFSET PLATES, IN ROLLS OR RECTANGULAR SHEETS OVER 36CM WIDE.
481013	PAPER & PAPERBOARD,FOR WRITING/PRINTING/GRAPHIC PURPOSE, CLAY COATED, NOT OVER 10% MECH FIBERS,IN ROLLS.
481014	PAPER & PAPERBOARD,FOR WRITING/PRINTING/GRAPHIC PURPOSE,CLAY COATED, IN SHEETS 1 SIDE NOT EXCEEDING 435 MM OTHER <297MM, UNFOLDED.
481019	PAPER & PAPERBOARD, FOR WRITING/PRINTING/GRAPHIC PURPOSE, CLAY COATED, NOT OVER 10% MECH FIBERS, NESOI.
481022	PAPER, LIGHT-WEIGHT COATED, USED FOR WRITING, PRINTING OR OTHER GRAPHIC PURPOSES, OVER 10% (WT.) MECHANICAL FIBERS, IN ROLLS OR SHEETS.
481029	PAPER AND PAPERBOARD FOR WRITING, PRINTING OR OTHER GRAPHIC PURPOSES, OVER 10% (WT.) MECHANICAL FIBERS, CLAY COATED NESOI, IN ROLLS OR SHEETS.
481031	KRAFT PAPER AND PAPERBOARD (NOT FOR WRITING, ETC.), OVER 95% WOOD FIBER BY CHEMICAL PROCESS, NOT OVER 150 G/M2, CLAY COATED, BLEACHED, IN ROLLS ETC.
481032	KRAFT PAPER AND PAPERBOARD (NOT FOR WRITING, ETC.), OVER 95% WOOD FIBER BY CHEMICAL PROCESS, OVER 150 G/M2, CLAY COATED, BLEACHED, IN ROLLS OR SHEETS.
481039	KRAFT PAPER AND PAPERBOARD (NOT FOR WRITING, PRINTING OR OTHER GRAPHIC PURPOSES), CLAY COATED, UNBLEACHED, IN ROLLS OR SHEETS.
481092	PAPER AND PAPERBOARD (OTHER THAN KRAFT OR GRAPHIC), MULTI-PLY, CLAY COATED, IN ROLLS OR SHEETS.
481099	PAPER AND PAPERBOARD (OTHER THAN KRAFT OR GRAPHIC), NESOI, CLAY COATED, IN ROLLS OR SHEETS.
481110	PAPER AND PAPERBOARD COATED OR IMPREGNATED WITH TAR, BITUMEN OR ASPHALT, NESOI, IN ROLLS OR SHEETS.
481151	PAPER & PAPERBOARD, COATED, IMPREGNATED OR COVERED WITH PLASTICS (EXCLUDING ADHESIVES), BLEACHED, WEIGHING MORE THAN 150 G/M2.
481159	PAPER & PAPERBOARD, COATED IMPREGNATED OR COVERED WITH PLASTICS (EXCLUDING ADHESIVES), NESOI.
481160	PAPER & PAPERBOARD, COATED, IMPREGNATED OR COVERED WITH WAX, PARAFIN, STEAIN, OIL, OR GLYCEROL.
481190	PAPER, PAPERBOARD, CELLULOSE WADDING AND WEBS OF CELLULOSE FIBERS, COATED, IMPREGNATED, ETC. NESOI, IN ROLLS OR SHEETS.
481490	WALLPAPER AND SIMILAR WALLCOVERING, NESOI; WINDOW TRANSPARENCIES OF PAPER.
481920	FOLDING CARTONS, BOXES AND CASES, OF NON-CORRUGATED PAPER OR PAPERBOARD USED IN OFFICES, SHOPS, OR THE LIKE.
482210	BOBBINS, SPOOLS, COPS AND SIMILAR SUPPORTS OF PAPER PULP, PAPER OR PAPERBOARD OF A KIND USED FOR WINDING TEXTILE YARN.
482290	BOBBINS, SPOOLS, COPS AND SIMILAR SUPPORTS OF PAPER PULP, PAPER OR PAPERBOARD, NESOI.
482320	FILTER PAPER AND PAPERBOARD, CUT TO SIZE OR SHAPE.
482340	ROLLS, SHEETS AND DIALS, PRINTED FOR SELF-RECORDING APPARATUS, CUT TO SIZE OR SHAPE, OF PAPER OR PAPERBOARD.
482361	TRAYS, DISHES, PLATES, CUPS AND THE LIKE OF PAPER OR PAPERBOARD, OF BAMBOO.
482369	TRAYS, DISHES, PLATES, CUPS AND THE LIKE, OF PAPER OR PAPERBOARD, NES.
482370	MOLDED OR PRESSED ARTICLES OF PAPER PULP.
482390	ARTICLES OF PAPER PULP, PAPER, PAPERBOARD, CELLULOSE WADDING OR WEBS OF CELLULOSE FIBERS, NESOI.
490600	PLANS AND DRAWINGS FOR ARCHITECTURAL, ENGINEERING, INDUSTRIAL, COMMERCIAL, TOPOGRAPHICAL OR SIMILAR PURPOSES, ORIGINALS AND SPECIFIC REPRODUCTIONS.
510510	WOOL, CARDED.
510521	WOOL, COMBED, IN FRAGMENTS.

HTS–6 code	HTS description
510529	WOOL TOPS AND OTHER COMBED WOOL, NESOI.
510531	WOOL AND FINE ANIMAL HAIR, OF KASHMIR (CASHMERE) GOATS, CARDED OR COMBED (INCLUDING COMBED WOOL IN FRAGMENTS).
510539	FINE ANIMAL HAIR, CARDED OR COMBED, NESOI.
510540	COARSE ANIMAL HAIR, CARDED OR COMBED.
510610	YARN OF CARDED WOOL, NOT PUT UP FOR RETAIL SALE, CONTAINING 85% OR MORE BY WEIGHT OF WOOL.
510620	YARN OF CARDED WOOL, NOT PUT UP FOR RETAIL SALE, CONTAINING LESS THAN 85% BY WEIGHT OF WOOL.
510710	YARN OF COMBED WOOL, NOT PUT UP FOR RETAIL SALE, CONTAINING 85% OR MORE BY WEIGHT OF WOOL.
510720	YARN OF COMBED WOOL, NOT PUT UP FOR RETAIL SALE, CONTAINING LESS THAN 85% BY WEIGHT OF WOOL.
511211	WOVEN FABRICS CONTAINING 85% OR MORE BY WEIGHT OF COMBED WOOL OR FINE ANIMAL HAIR, NOT OVER 200 G/M2.
511219	WOVEN FABRICS CONTAINING 85% OR MORE BY WEIGHT OF COMBED WOOL OR FINE ANIMAL HAIR, NESOI.
511220	WOVEN FABRICS OF COMBED WOOL OR OF FINE ANIMAL HAIR, NESOI, MIXED MAINLY OR SOLELY WITH MANMADE FILAMENTS.
511230	WOVEN FABRICS OF COMBED WOOL OR OF FINE ANIMAL HAIR, NESOI, MIXED MAINLY OR SOLELY WITH MANMADE STAPLE FIBERS.
511290	WOVEN FABRICS OF COMBED WOOL OR FINE ANIMAL HAIR, NESOI.
520511	COTTON YARN NESOI, 85% OR MORE BY WEIGHT OF COTTON, NOT PUT UP FOR RETAIL SALE, SINGLE UNCOMBED YARN, NOT OVER 14 NM.
520512	COTTON YARN NESOI, 85% OR MORE BY WEIGHT OF COTTON, NOT PUT UP FOR RETAIL SALE, SINGLE UNCOMBED YARN, OVER 14 NM BUT NOT OVER 43 NM.
520513	COTTON YARN NESOI, 85% OR MORE BY WEIGHT OF COTTON, NOT PUT UP FOR RETAIL SALE, SINGLE UNCOMBED YARN, OVER 43 NM BUT NOT OVER 52 NM.
520514	COTTON YARN NESOI, 85% OR MORE BY WEIGHT OF COTTON, NOT PUT UP FOR RETAIL SALE, SINGLE UNCOMBED YARN, OVER 52 NM BUT NOT OVER 80 NM.
520515	COTTON YARN NESOI, 85% OR MORE BY WEIGHT OF COTTON, NOT PUT UP FOR RETAIL SALE, SINGLE UNCOMBED YARN, OVER 80 NM.
520521	COTTON YARN NESOI, 85% OR MORE BY WEIGHT OF COTTON, NOT PUT UP FOR RETAIL SALE, SINGLE COMBED YARN, NOT OVER 14 NM.
520522	COTTON YARN NESOI, 85% OR MORE BY WEIGHT OF COTTON, NOT PUT UP FOR RETAIL SALE, SINGLE COMBED YARN, OVER 14 NM BUT NOT OVER 43 NM.
520523	COTTON YARN NESOI, 85% OR MORE BY WEIGHT OF COTTON, NOT PUT UP FOR RETAIL SALE, SINGLE COMBED YARN, OVER 43 NM BUT NOT OVER 52 NM.
520524	COTTON YARN NESOI, 85% OR MORE BY WEIGHT OF COTTON, NOT PUT UP FOR RETAIL SALE, SINGLE COMBED YARN, OVER 52 NM BUT NOT OVER 80 NM.
520526	COTTON YARN (OTH THAN SEWING THREAD) 85% OR MORE BY WGT COTTON, NT FOR RETAIL SALE: SINGLE YARN OF COMBED FIBER > 80NM AND LESS THAN 94NM.
520527	COTTON YARN (OTH THAN SEWING THREAD) 85% OR MORE BY WGT COTTON, NT FOR RETAIL SALE: SINGLE YARN OF COMBED FIBER > 94NM BUT LESS THAN 120NM.
520528	COTTON YARN (OTH THAN SEWING THREAD) 85% OR MORE BY WGT COTTON, NT FOR RETAIL SALE: SINGLE YARN OF COMBED FIBER GREATER THAN 120NM.
520531	COTTON YARN NESOI, 85% OR MORE (WT.) COTTON, NOT FOR RETAIL SALE, MULTIPLE OR CABLED UNCOMBED YARN, NOT OVER 14 NM PER SINGLE YARN.
520532	COTTON YARN NESOI, 85% OR MORE (WT.) COTTON, NOT FOR RETAIL SALE, MULTIPLE OR CABLED UNCOMBED YARN, OVER 14 NM BUT NOT OVER 43 NM PER SINGLE YARN.
520533	COTTON YARN NESOI, 85% OR MORE (WT.) COTTON, NOT FOR RETAIL SALE, MULTIPLE OR CABLED UNCOMBED YARN, OVER 43 NM BUT NOT OVER 52 NM PER SINGLE YARN.

HTS–6 code	HTS description
520534	COTTON YARN NESOI, 85% OR MORE (WT.) COTTON, NOT FOR RETAIL SALE, MULTIPLE OR CABLED UNCOMBED YARN, OVER 52 NM BUT NOT OVER 80 NM PER SINGLE YARN.
520535	COTTON YARN NESOI, 85% OR MORE (WT.) COTTON, NOT FOR RETAIL SALE, MULTIPLE OR CABLED UNCOMBED YARN, OVER 80 NM PER SINGLE YARN.
520541	COTTON YARN NESOI, 85% OR MORE (WT.) COTTON, NOT FOR RETAIL SALE, MULTIPLE OR CABLED COMBED YARN, NOT OVER 14 NM PER SINGLE YARN.
520542	COTTON YARN NESOI, 85% OR MORE (WT.) COTTON, NOT FOR RETAIL SALE, MULTIPLE OR CABLED COMBED YARN, OVER 14 NM BUT NOT OVER 43 NM PER SINGLE YARN.
520543	COTTON YARN NESOI, 85% OR MORE (WT.) COTTON, NOT FOR RETAIL SALE, MULTIPLE OR CABLED COMBED YARN, OVER 43 NM BUT NOT OVER 52 NM PER SINGLE YARN.
520544	COTTON YARN NESOI, 85% OR MORE (WT.) COTTON, NOT FOR RETAIL SALE, MULTIPLE OR CABLED COMBED YARN, OVER 52 NM BUT NOT OVER 80 NM PER SINGLE YARN.
520546	COTTON YARN (NOT SEWING THREAD) 85% OR > BY WGT OF COTTON NT FOR RET AIL SALE: MULTI OR CBLD YRN OF COMBED FIBERS > 80NM BUT < 94NM.
520547	COTTON YARN (NOT SEWING THREAD) 85% OR > BY WGT OF COTTON NT FOR RET AIL SALE: MULTI OR CBLD YRN OF COMBED FIBERS > 94NM BUT < 120NM.
520548	COTTON YARN (NOT SEWING THREAD) 85% OR > BY WGT OF COTTON NT FOR RET AIL SALE: MULTI OR CBLD YRN OF COMBED FIBERS > 120NM.
520642	COTTON YARN NESOI, LESS THAN 85% (WT.) COTTON, NOT FOR RETAIL SALE, MULTIPLE OR CABLED COMBED YARN, OVER 14 NM BUT NOT OVER 43 NM PER SINGLE YARN.
520911	WOVEN FABRICS OF COTTON, 85% OR MORE COTTON BY WEIGHT, UNBLEACHED, PLAIN WEAVE, WEIGHING OVER 200 G/M2.
521111	WOVEN FABRICS OF COTTON, LESS THAN 85% COTTON BY WEIGHT, MIXED MAINLY WITH MANMADE FIBERS, UNBLEACHED, PLAIN WEAVE, WEIGHING OVER 200 G/M2.
521112	WOVEN FABRICS OF COTTON, UNDER 85% COTTON (WT.) MIXED MAINLY WITH MANMADE FIBERS, UNBLEACHED, 3-THREAD, 4-THREAD OR CROSS TWILL, OVER 200 G/M2.
521119	WOVEN FABRICS OF COTTON, LESS THAN 85% COTTON BY WEIGHT, MIXED MAINLY WITH MANMADE FIBERS, UNBLEACHED, EXCEPT PLAIN WEAVE, NESOI, OVER 200 G/M2.
521120	WOVEN FABRICS OF COTTON, CONTAINING LESS THAN 85% WT COTTON, MIXED W/MANMADE FIBERS, WEIGHING MORE THAN 200 G/M2, BLEACHED, PLAIN WEAVE.
521131	WOVEN FABRICS OF COTTON, LESS THAN 85% COTTON BY WEIGHT, MIXED MAINLY WITH MANMADE FIBERS, DYED, PLAIN WEAVE, WEIGHING OVER 200 G/M2.
521132	WOVEN FABRICS OF COTTON, UNDER 85% COTTON (WT.) MIXED MAINLY WITH MANMADE FIBERS, DYED, 3-THREAD, 4-THREAD OR CROSS TWILL, WEIGHING OVER 200 G/M2.
521139	WOVEN FABRICS OF COTTON, LESS THAN 85% COTTON BY WEIGHT, MIXED MAINLY WITH MANMADE FIBERS, DYED, EXCEPT PLAIN WEAVE, NESOI, WEIGHING OVER 200 G/M2.
521141	WOVEN FABRICS OF COTTON, LESS THAN 85% COTTON BY WEIGHT, MIXED MAINLY WITH MANMADE FIBERS, DIFFERENT COLORED YARNS, PLAIN WEAVE, OVER 200 G/M2.
521142	WOVEN FABRICS OF COTTON, LESS THAN 85% COTTON BY WEIGHT, MIXED MAINLY WITH MANMADE FIBERS, DENIM, WEIGHING OVER 200 G/M2.
521143	WOVEN FABRICS OF COTTON, UNDER 85% COTTON (WT.) MIXED MAINLY WITH MANMADE FIBERS, DIFFERENT COLORED YARNS, 3-, 4-THREAD OR CROSS TWILL, OVER 200 G/M2.
521149	WOVEN FABRICS OF COTTON, UNDER 85% COTTON (WT.) MIXED MAINLY WITH MANMADE FIBERS, DIFFERENT COLORED YARNS, EXCEPT PLAIN WEAVE, NESOI, OVER 200 G/M2.

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521151	WOVEN FABRICS OF COTTON, LESS THAN 85% COTTON BY WEIGHT, MIXED MAINLY WITH MANMADE FIBERS, PRINTED, PLAIN WEAVE, WEIGHING OVER 200 G/M2.
521152	WOVEN FABRICS OF COTTON, UNDER 85% COTTON (WT.) MIXED MAINLY WITH MANMADE FIBERS, PRINTED, 3-THREAD, 4-THREAD OR CROSS TWILL, WEIGHING OVER 200 G/M2.
521159	WOVEN FABRICS OF COTTON, LESS THAN 85% COTTON BY WEIGHT, MIXED MAINLY WITH MANMADE FIBERS, PRINTED, EXCEPT PLAIN WEAVE, NESOI, WEIGHING OVER 200 G/M2.
530810	YARN OF COCONUT TEXTILE FIBERS (COIR YARN).
530820	YARN OF TRUE HEMP TEXTILE FIBERS.
530890	YARN OF VEGETABLE TEXTILE FIBERS, NESOI.
540249	SYNTHETIC FILAMENT YARN EXCEPT SEWING THREAD, NOT FOR RETAIL SALE, SINGLE YARN NESOI, NOT OVER 50 TURNS PER METER IF TWISTED, OF YARNS NESOI.
540263	POLYPROPYLENE YARN, MUTIPLE (FOLEDED) OR CABLES, NOT FOR RETAIL SALE, NESOI.
540310	ARTIFICIAL FILAMENT YARN EXCEPT SEWING THREAD, NOT FOR RETAIL SALE, HIGH TENACITY YARN OF VISCOSE RAYON.
540331	ARTIFICIAL FILAMENT YARN EXCEPT SEWING THREAD, NOT FOR RETAIL SALE, SINGLE YARN NESOI, NOT OVER 120 TURNS PER METER IF TWISTED, OF VISCOSE RAYON.
540332	ARTIFICIAL FILAMENT YARN EXCEPT SEWING THREAD, NOT FOR RETAIL SALE, SINGLE YARN NESOI, TWISTED WITH OVER 120 TURNS PER METER, OF VISCOSE RAYON.
540333	ARTIFICIAL FILAMENT YARN EXCEPT SEWING THREAD, NOT FOR RETAIL SALE, SINGLE YARN NESOI, OF CELLULOSE ACETATE.
540339	ARTIFICIAL FILAMENT YARN EXCEPT SEWING THREAD, NOT FOR RETAIL SALE, SINGLE YARN NESOI, OF YARNS NESOI.
540341	ARTIFICIAL FILAMENT YARN EXCEPT SEWING THREAD, NOT FOR RETAIL SALE, YARN NESOI, MULTIPLE OR CABLED, OF VISCOSE RAYON.
540342	ARTIFICIAL FILAMENT YARN EXCEPT SEWING THREAD, NOT FOR RETAIL SALE, YARN NESOI, MULTIPLE OR CABLED, OF CELLULOSE ACETATE.
540349	ARTIFICIAL FILAMENT YARN EXCEPT SEWING THREAD, NOT FOR RETAIL SALE, YARN NESOI, MULTIPLE OF CABLED, OF YARNS NESOI.
540411	SYNTHETIC ELASTOMERIC MONOFILAMENT OF 67 DECITEX OR MORE AND OF WHICH NO CROSS-SECTIONAL DIMENSION EXCEEDS 1 MM, NESOI.
540412	POLYPROPYLENE MONOFILAMENT OF 67 DECITEX OR MORE AND OF WHICH NO CROSS-SECTIONAL DIMENSION EXCEEDS 1 MM, NESOI.
540419	SYNTHETIC MONOFILAMENT OF 67 DECITEX AND OF WHICH NO CROSS-SECTIONAL DIMENSION EXCEEDS 1 MM, NESOI.
540490	SYNTHETIC STRIP AND THE LIKE (FOR EXAMPLE, ARTIFICIAL STRAW) OF SYNTHETIC TEXTILE MATERIALS OF AN APPARENT WIDTH NOT OVER 5 MM.
540730	WOVEN FABRICS OF SYNTHETIC FILAMENT YARN SPECIFICALLY BONDED IN LAYERS.
550111	SYNTHETIC FILAMENT TOW OF NYLON OR OTHER POLYAMIDES.
550119	SYNTHETIC FILAMENT TOW OF NYLON OR OTHER POLYAMIDES.
550120	SYNTHETIC FILAMENT TOW OF POLYESTERS.
550130	SYNTHETIC FILAMENT TOW, ACRYLIC OR MODACRYLIC.
550140	SYNTHETIC FILAMENT TOW, OF POLYPROPYLENE.
550190	SYNTHETIC FILAMENT TOW, NESOI.
550210	ARTIFICIAL FILAMENT TOW OF CELLULOSE ACETATE.
550290	ARTIFICIAL FILAMENT TOW OTHER THEN OF CELLULOSE ACETATE.
550311	STAPLE FIBERS, OF ARAMIDS, NOT CARDED, COMBED OR OTHERWISE PROCESSED FOR SPINNING.
550319	STAPLE FIBERS, OF NYLONS OR OTHER POLYAMIDES, EXCLUDING ARAMIDS, NOT CARDED, COMBED OR OTHERWISE PROCESSED FOR SPINNING.
550320	SYNTHETIC STAPLE FIBERS, NOT CARDED, COMBED OR OTHERWISE PROCESSED FOR SPINNING, OF POLYESTERS.
550330	SYNTHETIC STAPLE FIBERS, NOT CARDED, COMBED OR OTHERWISE PROCESSED FOR SPINNING, ACRYLIC OR MODACRYLIC.

HTS–6 code	HTS description
550340	SYNTHETIC STAPLE FIBERS, NOT CARDED, COMBED OR OTHERWISE PROCESSED FOR SPINNING, POLYPROPYLENE.
550390	SYNTHETIC STAPLE FIBERS, NOT CARDED, COMBED OR OTHERWISE PROCESSED FOR SPINNING, NESOI.
550490	ARTIFICIAL STAPLE FIBERS, NOT CARDED, COMBED OR OTHERWISED PROCESSED FOR SPINNING, OTHER THAN VISCOSE RAYON.
550610	SYNTHETIC STAPLE FIBERS, CARDED, COMBED OR OTHERWISE PROCESSED FOR SPINNING, OF NYLON OR OTHER POLYAMIDES.
550620	SYNTHETIC STAPLE FIBERS, CARDED, COMBED OR OTHERWISE PROCESSED FOR SPINNING, OF POLYESTERS.
550630	SYNTHETIC STAPLE FIBERS, CARDED, COMBED OR OTHERWISE PROCESSED FOR SPINNING, ACRYLIC OR MODACRYLIC.
550640	SYNTHETIC STAPLE FIBERS, CARDED, COMBED OR OTHERWISE PROCESSED FOR SPINNING OF POLYPROPYLENE.
550690	SYNTHETIC STAPLE FIBERS, CARDED, COMBED OR OTHERWISE PROCESSED FOR SPINNING, NESOI.
550700	ARTIFICAL STAPLE FIBERS, CARDED, COMBED OR OTHERWISE PROCESSED FOR SPINNING.
551221	WOVEN FABRICS OF SYNTHETIC STAPLE FIBERS, CONTAINING 85% OR MORE BY WEIGHT OF ACRYLIC OR MODACRYLIC STAPLE FIBERS, UNBLEACHED OR BLEACHED.
551299	WOVEN FABRICS OF SYNTHETIC STAPLE FIBERS, CONTAINING 85% OR MORE BY WEIGHT OF SYNTHETIC STAPLE FIBERS NESOI, PRINTED, DYED OR COLORED.
551611	WOVEN FABRICS OF ARTIFICIAL STAPLE FIBERS, CONTAINING 85% OR MORE BY WEIGHT OF SUCH FIBERS, UNBLEACHED OR BLEACHED.
551612	WOVEN FABRICS OF ARTIFICIAL STAPLE FIBERS, CONTAINING 85% OR MORE BY WEIGHT OF SUCH FIBERS, DYED.
551613	WOVEN FABRICS OF ARTIFICIAL STAPLE FIBERS, CONTAINING 85% OR MORE BY WEIGHT OF SUCH FIBERS, OF DIFFERENT COLORED YARNS.
551614	WOVEN FABRICS OF ARTIFICIAL STAPLE FIBERS, CONTAINING 85% OR MORE BY WEIGHT OF SUCH FIBERS, PRINTED.
551621	WOVEN FABRICS OF ARTIFICIAL STAPLE FIBERS, CONTAINING UNDER 85% (WT.) OF SUCH FIBERS, MIXED WITH MANMADE FILAMENTS, UNBLEACHED OR BLEACHED.
551622	WOVEN FABRICS OF ARTIFICIAL STAPLE FIBERS, CONTAINING UNDER 85% (WT.) OF SUCH FIBERS, MIXED WITH MANMADE FILAMENTS, DYED.
551623	WOVEN FABRICS OF ARTIFICIAL STAPLE FIBERS, CONTAINING UNDER 85% (WT.) OF SUCH FIBERS, MIXED WITH MANMADE FILAMENTS, OF DIFFERENT COLORED YARNS.
551624	WOVEN FABRICS OF ARTIFICIAL STAPLE FIBERS, CONTAINING UNDER 85% (WT.) OF SUCH FIBERS, MIXED WITH MANMADE FILAMENTS, PRINTED.
551631	WOVEN FABRICS OF ARTIFICIAL STAPLE FIBERS, CONTAINING UNDER 85% (WT.) OF SUCH FIBERS, MIXED WITH WOOL OR FINE ANIMAL HAIR, UNBLEACHED OR BLEACHED.
551632	WOVEN FABRICS OF ARTIFICIAL STAPLE FIBERS, CONTAINING UNDER 85% (WT.) OF SUCH FIBERS, MIXED WITH WOOL OR FINE ANIMAL HAIR, DYED.
551633	WOVEN FABRICS OF ARTIFICIAL STAPLE FIBERS, CONTAINING UNDER 85% (WT.) OF SUCH FIBERS, MIXED WITH WOOL OR FINE ANIMAL HAIR, OF DIFFERENT COLORED YARNS.
551634	WOVEN FABRICS OF ARTIFICIAL STAPLE FIBERS, CONTAINING UNDER 85% (WT.) OF SUCH FIBERS, MIXED WITH WOOL OR FINE ANIMAL HAIR, PRINTED.
551641	WOVEN FABRICS OF ARTIFICIAL STAPLE FIBERS, CONTAINING UNDER 85% (WT.) OF SUCH FIBERS, MIXED WITH COTTON, UNBLEACHED OR BLEACHED.
551642	WOVEN FABRICS OF ARTIFICIAL STAPLE FIBERS, CONTAINING UNDER 85% (WT.) OF SUCH FIBERS, MIXED WITH COTTON, DYED.
551643	WOVEN FABRICS OF ARTIFICIAL STAPLE FIBERS, CONTAINING UNDER 85% (WT.) OF SUCH FIBERS, MIXED WITH COTTON, OF DIFFERENT COLORED YARNS.

HTS–6 code	HTS description
551644	WOVEN FABRICS OF ARTIFICIAL STAPLE FIBERS, CONTAINING UNDER 85% (WT.) OF SUCH FIBERS, MIXED WITH COTTON, PRINTED.
551691	WOVEN FABRICS OF ARTIFICIAL STAPLE FIBERS, CONTAINING UNDER 85% (WT.) OF SUCH FIBERS, MIXED WITH OTHER FIBERS NESOI, UNBLEACHED OR BLEACHED.
551692	WOVEN FABRICS OF ARTIFICIAL STAPLE FIBERS, CONTAINING UNDER 85% (WT.) OF SUCH FIBERS, MIXED WITH OTHER FIBERS NESOI, DYED.
551693	WOVEN FABRICS OF ARTIFICIAL STAPLE FIBERS, CONTAINING UNDER 85% (WT.) OF SUCH FIBERS, MIXED WITH OTHER FIBERS NESOI, OF DIFFERENT COLORED YARNS.
551694	WOVEN FABRICS OF ARTIFICIAL STAPLE FIBERS, CONTAINING UNDER 85% (WT.) OF SUCH FIBERS, MIXED WITH OTHER FIBERS NESOI, PRINTED.
560129	WADDING AND ARTICLES OF WADDING NESOI, OF TEXTILE MATERIALS OTHER THAN COTTON OR MANMADE FIBERS.
560130	TEXTILE FLOCK (TEXTILE FIBERS NOT EXCEEDING 5 MM IN LENGTH) AND DUST AND MILL NEPS.
560410	RUBBER THREAD AND CORD, TEXTILE COVERED.
560490	MANMADE TEXTILE YARN OF 67 DECITEX OR MORE, NO CROSS-SECTIONAL DIMENSION OVER 1 MM AND STRIP NOT OVER 5 MM WIDE, RUBBER OR PLASTICS COATED ETC., NESOI.
560500	METALLIZED MANMADE TEXTILE YARN OF 67 DECITEX OR MORE, NO CROSS-SECTION OVER 1 MM, GIMPED OR NOT, AND STRIP NOT OVER 5 MM WIDE COMBINED WITH METAL.
560741	BINDER OR BALER TWINE, WHETHER OR NOT PLAITED OR BRAIDED OR COATED ETC. WITH RUBBER OR PLASTICS, OF POLYETHYLENE OR POLYPROPYLENE.
580127	WARP PILE FABRICS OF COTTON.
580300	GAUZE, OTHER THAN NARROW FABRICS OF HEADING 5806.
580640	NARROW FABRICS CONSISTING OF WARP WITHOUT WEFT ASSEMBLED BY MEANS OF AN ADHESIVE (BOLDUCS).
590110	TEXTILE FABRICS COATED WITH GUM OR AMYLACEOUS SUBSTANCES, OF A KIND USED FOR THE OUTER COVERS OF BOOKS OR THE LIKE.
590190	TRACING CLOTH; PREPARED PAINTING CANVAS; BUCKRAM AND SIMILAR STIFFENED TEXTILE FABRICS OF A KIND USED FOR HAT FOUNDATIONS.
590500	TEXTILE WALL COVERINGS.
590800	TEXTILE WICKS FOR LAMPS, STOVES, LIGHTERS, CANDLES ETC; GAS MANTLES AND TUBULAR KNITTED GAS MANTLE FABRIC, WHETHER OR NOT IMPREGNATED.
591000	TRANSMISSION OR CONVEYOR BELTS OR BELTING, OF TEXTILE MATERIAL, WHETHER OR NOT REINFORCED WITH METAL OR OTHER MATERIAL OR COATED IMPREG WITH PLASTICS.
591110	TEXTILE FABRICS, FELT AND FELT-LINED WOVEN WITH LAYERS OF RUBBER, LEATHER, ETC. FOR CARD CLOTHING, AND SIMILAR FABRIC FOR OTHER TECHNICAL USES.
591131	TEXTILE FABRICS AND FELTS, ENDLESS OR FITTED WITH LINKING DEVICES, OF A KIND USED IN PAPERMAKING OR SIMILAR MACHINES, WEIGHING LESS THAN 650 G/M2.
591132	TEXTILE FABRICS AND FELTS, ENDLESS OR FITTED WITH LINKING DEVICES, OF A KIND USED IN PAPERMAKING OR SIMILAR MACHINES, WEIGHING 650 G/M2 OR MORE.
591140	TEXTILE STRAINING CLOTH OF A KIND USED IN OIL PRESSES OR THE LIKE, INCLUDING HUMAN HAIR.
591190	TEXTILE PRODUCTS AND ARTICLES FOR TECHNICAL USES NESOI.
600199	PILE FABRICS NESOI, KNITTED OR CROCHETED, OF TEXTILE MATERIALS NESOI.
600310	KNIT/CROCHETED FABRICS OF A WIDTH NOT EXCEEDING 30 CM, OTHER THAN OF HEADINGS 6001 OR 6002, OF WOOL OR FINE ANIMAL HAIR.
600320	KNIT/CROCHETED FABRICS OF A WIDTH NOT EXCEEDING 30 CM, OTHER THAN OF HEADINGS 6001 OR 6002, OF COTTON.

HTS–6 code	HTS description
600330	KNIT OR CROCHETED FABRICS OF A WIDTH NOT EXCEEDING 30CM, OF SYNTHETIC FIBERS, OTHER THAN THOSE OF HEADING 6001 OR 6002.
600340	KNIT OR CROCHETED FABRICS OF A WIDTH NOT EXCEEDING 30CM, OF ARTIFICIAL FIBERS, OTHER THAN THOSE OF HEADING 6001 OR 6002.
600390	KNIT/CROCHETED FABRICS OF A WIDTH NOT EXCEEDING 30CM, OTHER THAN THOSE OF HEADING 6001 OR 6002, NESOI.
600536	WARP KNIT FABRICS, OF SYNTHETIC FIBERS, OTHER, UNBLEACHED OR BLEACHED.
600544	WARP KNIT FABRICS (INCLUDING THOSE MADE ON GALLOON KNITTING MACHINES) OF PRINTED ARTIFICIAL FIBERS.
600610	KNITTED OR CROCHETED FABRICS NESOI, OF WOOL OR FINE ANIMAL HAIR.
630900	WORN CLOTHING AND OTHER WORN TEXTILE ARTICLES.
680292	WORKED MONUMENTAL OR BUILDING STONE NESOI, OF CALCAREOUS STONE NESOI.
680423	MILLSTONES, GRINDSTONES, GRINDING WHEELS AND THE LIKE NESOI, OF NATURAL STONE.
680520	ABRASIVE POWDER OR GRAIN, ON A BASE OF PAPER OR PAPERBOARD ONLY.
680610	SLAG WOOL, ROCK WOOL AND SIMILAR MINERAL WOOLS (INCLUDING INTERMIXTURES THEREOF), IN BULK, SHEETS OR ROLLS.
680620	EXFOLIATED VERMICULITE, EXPANDED CLAYS, FOAMED SLAG AND SIMILAR EXPANDED MINERAL MATERIALS (INCLUDING INTERMIXTURES THEREOF).
680690	MIXTURES AND ARTICLES OF HEAT-INSULATING, SOUND-INSULATING OR SOUND-ABSORBING MINERAL MATERIALS NESOI.
680710	ARTICLES OF ASPHALT OR OF SIMILAR MATERIAL (PETROLEUM BITUMEN OR COAL TAR PITCH ETC.), IN ROLLS.
680790	ARTICLES OF ASPHALT OR OF SIMILAR MATERIAL (PETROLEUM BITUMEN OR COAL TAR PITCH ETC.) NESOI.
680919	PANELS, SHEETS, TILES AND SIMILAR ARTICLES, NOT ORNAMENTED, OF PLASTER OR COMPOSITIONS BASED ON PLASTER, NESOI.
681091	PREFABRICATED STRUCTURAL COMPONENTS FOR BUILDING OR CIVIL ENGINEERING MADE OF CEMENT, CONCRETE OR ARTIFICIAL STONE, WHETHER OR NOT REINFORCED.
681140	ARTICLES OF ASBESTOS-CEMENT, OF CELLULOSE FIBER-CEMENT OR THE LIKE, CONTAINING ASBESTOS.
681181	CORRUGATED SHEETS, OF CELLULOSE FIBER-CEMENT OR THE LIKE, NOT CONTAINING ASBESTOS.
681182	SHEETS, PANELS, TILES AND SIMILAR ARTICLES, OF CELLULOSE FIBER-CEMENT OR THE LIKE, NOT CONTAINING ASBESTOS, EXCLUDING CORRUGATED SHEETS.
681189	ARTICLES OF CELLULOSE FIBER-CEMENT OR THE LIKE, NOT CONTAINING ASBESTOS, NESOI.
681299	ARTICLES OF FABRICATED ASBESTOS FIBERS AND ARTICLES OF ASBESTOS MIXTURES, NESOI.
681320	FRICTION MATERIAL AND ARTICLES THEREOF, UNMOUNTED, WITH A BASIS OF ASBESTOS.
681381	BRAKE LININGS AND PADS NOT OF ASBESTOS, OTHER MINERAL SUBSTANCES OR CELLULOSE.
681389	FRICTION MATERIAL AND ARTICLES THEREOF (EXCEPT BRAKE LININGS OR PADS), UNMOUNTED, NOT CONTAINING ASBESTOS, OTHER MINERALSUBSTANCES OR OF CELLULOSE, NES.
681490	WORKED MICA AND ARTICLES OF MICA, NESOI.
681511	NONELECTRICAL ARTICLES OF GRAPHITE OR CARBON, NESOI.
690100	BRICKS, BLOCKS, TILES AND OTHER CERAMIC GOODS OF SILICEOUS FOSSIL MEALS (INCLUDING KIESELGUHR, TRIPOLITE OR DIATOMITE) OR SIMILAR SILICEOUS EARTHS.
690410	CERAMIC BUILDING BRICKS.
690510	CERAMIC ROOFING TILES.
690590	CERAMIC CHIMNEY POTS, COWLS, CHIMNEY LINERS, ARCHITECTURAL ORNAMENTS AND OTHER CERAMIC CONSTRUCTIONAL GOODS NESOI.
690600	CERAMIC PIPES, CONDUITS, GUTTERING AND PIPE FITTINGS.
690722	CERAMIC FLAGS AND PAVING, HEARTH OR WALL TILES, OF A WATER ABSORPTION COEFFICIENT BY WEIGHT EXCEEDING 0.5 BUT NOT EXCEEDING 10%.
690740	FINISHING CERAMICS.

HTS–6 code	HTS description
690919	CERAMIC WARES FOR LABORATORY, CHEMICAL OR OTHER TECHNICAL USES, OF OTHER THAN PORCELAIN OR CHINA, NESOI.
690990	CERAMIC TROUGHS, TUBS ETC. USED IN AGRICULTURE; CERAMIC POTS, JARS AND SIMILAR ARTICLES FOR THE CONVEYANCE OR PACKING OF GOODS.
700210	GLASS BALLS (EXCEPT MICROSHERES NOT OVER 1 MM IN DIAMETER), UNWORKED.
700220	GLASS RODS, UNWORKED.
700231	TUBES OF FUSED QUARTZ OR OTHER FUSED SILICA, UNWORKED.
700232	GLASS NESOI, HAVING A LINEAR COEFFICIENT OF EXPANSION NOT OVER 5X10-6 PER KELVIN WITHIN A TEMPERATURE RANGE OF 0 TO 300 DEGREES C, UNWORKED.
700239	TUBES OF GLASS NESOI, UNWORKED.
700312	CAST AND ROLLED GLASS, NONWIRED SHEETS, COLORED THROUGHOUT THE MASS, OPACIFIED, FLASHED, WITH AN ABSORBENT, REFLECTING OR NONREFLECTING LAYER.
700319	CAST GLASS AND ROLLED GLASS, IN NONWIRED SHEETS NESOI (NOT BODY TINTED, OPACIFIED OR FLASHED AND WITHOUT AN ABSORBENT OR REFLECTING LAYER), UNWORKED.
700320	CAST GLASS AND ROLLED GLASS, IN WIRED SHEETS, WHETHER OR NOT HAVING AN ABSORBENT OR REFLECTING LAYER, BUT NOT OTHERWISE WORKED.
700330	CAST GLASS AND ROLLED GLASS, IN PROFILES, WHETHER OR NOT HAVING AN ABSORBENT OR REFLECTING LAYER, BUT NOT OTHERWISE WORKED.
700420	GLASS, COLORED THROUGHOUT THE MASS, OPACIFIED, FLASHED OR AN ABSORBENT, REFLECTING OR NONREFLECTING LAYER, DRAWN OR BLOWN, SHEETS NOT OTHERWISE WORKED.
700490	DRAWN GLASS AND BLOWN GLASS, IN SHEETS, WHETHER OR NOT HAVING AN ABSORBENT OR REFLECTING LAYER, BUT NOT OTHERWISE WORKED, NESOI.
700510	FLOAT GLASS AND SURFACE GROUND OR POLISHED GLASS, IN SHEETS, NONWIRED, WITH AN ABSORBENT, REFLECTING OR NONREFLECTING LAYER, BUT NOT OTHERWISE WORKED.
700521	FLOAT AND OTHER GLASS, IN NONWIRED SHEETS, COLORED THROUGHOUT THE MASS, OPACIFIED, FLASHED OR SURFACE GROUND, WITHOUT AN ABSORBENT OR REFLECTING LAYER.
700529	FLOAT GLASS AND SURFACE GROUND OR POLISHED GLASS, IN NONWIRED SHEETS, NESOI.
700530	FLOAT GLASS AND SURFACE GROUND OR POLISHED GLASS, IN WIRED SHEETS, WHETHER OR NOT HAVING AN ABSORBENT OR REFLECTING LAYER, BUT NOT OTHERWISE WORKED.
700711	TOUGHENED (TEMPERED) SAFETY GLASS, OF SIZE AND SHAPE SUITABLE FOR INCORPORATION IN VEHICLES, AIRCRAFT, SPACECRAFT OR VESSELS.
700729	LAMINATED SAFETY GLASS, NOT SUITABLE FOR INCORPORATION IN VEHICLES, AIRCRAFT, SPACECRAFT OR VESSELS.
701110	GLASS ENVELOPES, OPEN, AND GLASS PARTS THEREOF, WITHOUT FITTINGS, FOR ELECTRIC LIGHTING.
701911	CHOPPED STRANDS OF GLASS FIBERS NOT OVER 50 MM LONG.
701912	GLASS FIBER ROVINGS.
701913	GLASS FIBERS (INCLUDING GLASS WOOL) AND ARTICLES THEREOF (FOR EXAMPLE, YARN, WOVEN FABRICS), N.E.S.O.I.
701990	GLASS FIBERS AND ARTICLES THEREOF NESOI.
720110	NONALLOY PIG IRON CONTAINING 0.5% (WT.) OR LESS PHOSPHORUS, IN PRIMARY FORMS.
720120	NONALLOY PIG IRON CONTAINING MORE THAN 0.5% (WT.) PHOSPHORUS, IN PRIMARY FORMS.
720150	ALLOY PIG IRON; SPIEGELEISEN, IN PRIMARY FORMS.
720211	FERROMANGANESE, CONTAINING MORE THAN 2% (WT.) CARBON.
720219	FERROMANGANESE, CONTAINING 2% (WT.) OR LESS CARBON.
720221	FERROSILICON, CONTAINING MORE THAN 55% (WT.) SILICON.
720229	FERROSILICON, CONTAINING 55% (WT.) OR LESS SILICON.
720230	FERROSILICON MANGANESE.
720241	FERROCHROMIUM, CONTAINING MORE THAN 4% (WT.) CARBON.
720249	FERROCHROMIUM, CONTAINING 4% (WT.) OR LESS CARBON.
720250	FERROSILICON CHROMIUM.
720260	FERRONICKEL.
720270	FERROMOLYBDENUM.

HTS–6 code	HTS description
720280	FERROTUNGSTEN AND FERROSILICON TUNGSTEN.
720291	FERROTITANIUM AND FERROSILICON TITANIUM.
720292	FERROVANADIUM.
720293	FERRONIOBIUM.
720299	FERROALLOYS, NESOI.
720310	FERROUS PRODUCTS OBTAINED BY DIRECT REDUCTION OF IRON ORE.
720390	SPONGY FERROUS PRODUCTS NESOI, IN LUMPS, PELLETS OR SIMILAR FORMS; IRON WITH MINIMUM PURITY OF 99.94% (WT.), IN LUMPS, PELLETS OR SIMILAR FORMS.
720410	CAST IRON WASTE AND SCRAP.
720421	STAINLESS STEEL WASTE AND SCRAP.
720429	ALLOY STEEL WASTE AND SCRAP, OTHER THAN STAINLESS.
720430	TINNED IRON OR STEEL WASTE AND SCRAP.
720441	FERROUS WASTE AND SCRAP NESOI, TURNINGS, SHAVINGS, CHIPS, MILLING WASTE, SAWDUST, FILINGS, TRIMMINGS AND STAMPINGS, WHETHER OR NOT IN BUNDLES.
720449	FERROUS WASTE AND SCRAP, NESOI.
720450	REMELTING SCRAP INGOTS OF IRON OR STEEL.
720510	IRON OR STEEL GRANULES.
720521	ALLOY STEEL POWDERS.
720529	IRON OR NONALLOY STEEL POWDERS.
720610	IRON AND NONALLOY STEEL INGOTS.
720690	IRON AND NONALLOY STEEL IN PRIMARY FORMS, OTHER THAN INGOTS.
720711	SEMIFINISHED PRODUCTS OF IRON OR NONALLOY STEEL, UNDER 0.25% (WT.) CARBON, RECTANGULAR OR SQUARE CROSS SECTION, WIDTH LESS THAN TWICE THE THICKNESS.
720712	SEMIFINISHED PRODUCTS OF IRON OR NONALLOY STEEL, UNDER 0.25% (WT.) CARBON, RECTANGULAR CROSS SECTION, WIDTH NOT LESS THAN TWICE THE THICKNESS.
720719	SEMIFINISHED PRODUCTS OF IRON OR NONALLOY STEEL, UNDER 0.25% (WT.) CARBON, CROSS SECTION OTHER THAN RECTANGULAR, NESOI.
720720	SEMIFINISHED PRODUCTS OF IRON OR NONALLOY STEEL, CONTAINING 0.25% (WT.) OR MORE OF CARBON.
720810	FLAT-ROLLED PRODUCTS OF IRON OR NONALLOY STEEL, OF A WIDTH OF 600 MM OR MORE, IN COILS, NOT FURTHER WORKED THAN HOT-ROLLED, WITH PATTERNS IN RELIEF.
720825	FLAT-ROLLED PRODUCTS OF IRON OR NONALLOY STEEL, OF A WIDTH OF 600 MM OR MORE, COILS, HOT-ROLLED WORKED ONLY, PICKLED, THICKNESS 4.75 MM OR MORE, NESOI.
720826	FLAT-ROLLED PRODUCTS OF IRON OR NONALLOY STEEL, OF A WIDTH OF 600 MM OR MORE, COILS, HOT-ROLLED WORKED ONLY, PICKLED, 3 MM BUT <4.75 MM THICK, N.E.S.O.I.
720827	FLAT-ROLLED PRODUCTS OF IRON OR NONALLOY STEEL, WIDTH OF 600 MM OR MORE, IN COILS, HOT-ROLLED WORKED ONLY, PICKLED, LESS THAN 3 MM THICK, N.E.S.O.I.
720836	FLAT-ROLLED PRODUCTS OF IRON OR NONALLOY STEEL, WIDTH OF 600 MM OR MORE IN COILS, HOT-ROLLED WORKED ONLY, OF A THICKNESS EXCEEDING 10 MM, N.E.S.O.I.
720837	FLAT-ROLLED PRODUCTS OF IRN OR NONALLOY STEEL, WIDTH OF 600 MM OR MORE, IN COILS, HOT-ROLLED WORKED ONLY, OF A THICKNESS 4.75 MM BUT NOT OVER 10 MM NESOI.
720838	FLAT-ROLLED PRODUCTS OF IRON OR NONALLOY STEEL, WIDTH 600 MM OR MORE, IN COILS,HOT-ROLLED WORKED ONLY, OF A THICKNESS 3 MM OR MORE BUT UNDER 4.75 MM, NESOI.
720839	FLAT-ROLLED PRODUCTS OF IRON OR NONALLOY STEEL, WIDTH 600 MM OR MORE, IN COILS,HOT-ROLLED WORKED ONLY, OF A THICKNESS OF LESS THAN 3 MM, N.E.S.O.I.
720840	FLAT-ROLLED IRON OR NONALLOY STEEL, 600 MM OR MORE WIDE, HOT-ROLLED, NOT CLAD, PLATED OR COILS, PATTERNS IN RELIEF.
720851	FLAT-ROLLED PRODUCTS OF IRON OR NONALLOY STEEL, WIDTH 600 MM OR MORE, NOT IN COILS, HOT-ROLLED WORKED ONLY, OF A THICKNESS EXCEEDING 10 MM, N.E.S.O.I.
720852	FLAT-ROLLED IRON OR NONALLOY STEEL, 600 MM OR MORE WIDE, HOT-ROLLED, NOT CLAD, PLATED, COATED OR COILS, 4.75 MM TO 10 MM THICK.

HTS–6 code	HTS description
720853	FLAT-ROLLED IRON OR NONALLOY STEEL, 600 MM OR MORE WIDE, HOT-ROLLED, NOT CLAD, PLATED, COATED OR COILS, 3 MM TO UNDER 4.75 MM THICK.
720854	FLAT-ROLLED IRON OR NONALLOY STEEL, 600 MM OR MORE WIDE, HOT-ROLLED, NOT CLAD, PLATED, COATED OR COILS, LESS THAN 3 MM THICK.
720890	FLAT-ROLLED IRON OR NONALLOY STEEL PRODUCTS, 600 MM OR MORE WIDE, HOT-ROLLED, NOT CLAD, PLATED OR COATED, NESOI.
720915	FLAT-ROLLED PRODUCTS OF IRON OR NONALLOY STEEL, WIDTH 600 MM OR MORE, IN COILS, COLD-ROLLED WORKED ONLY, OF A THICKNESS OF 3 MM OR MORE.
720916	FLAT-ROLLED PRODUCTS OF IRON OR NONALLOY STEEL, WIDTH 600 MM OR MORE, IN COILS, COLD-ROLLED WORKED ONLY, OF A THICKNESS OVER ONE MM BUT LESS THAN 3 MM.
720917	FLAT-ROLLED PRODUCTS OF IRON OR NONALLOY STEEL, WIDTH 600 MM OR MORE, IN COILS, COLD-ROLLED WORKED ONLY, OF A THICKNESS 0.5 MM OR MORE BUT NOT OVER 1 MM.
720918	FLAT-ROLLED PRODUCTS OF IRON OR NONALLOY STEEL, WIDTH 600 MM OR MORE, IN COILS, COLD-ROLLED WORKED ONLY, OF A THICKNESS OF LESS THAN 0.5 MM.
720925	FLAT-ROLLED PRODUCTS OF IRON OR NONALLOY STEEL, WIDTH 600 MM OR MORE, NOT IN COILS, COLD-ROLLED WORKED ONLY, OF A THICKNESS OF 3 MM OR MORE.
720926	FLAT-ROLLED PRODUCTS OF IRON OR NONALLOY STEEL, WIDTH 600 MM OR MORE, NOT IN COILS, COLD-ROLLED WORKED ONLY, OF A THICKNESS OVER 1 MM BUT LESS THAN 3 MM.
720927	FLAT-ROLLED PRODUCTS OF IRON OR NONALLOY STEEL, WIDTH 600 MM OR MORE, NOT IN COILS, COLD-ROLLED WORKED ONLY, OF A THICKNESS 0.5 MM OR MORE BUT N/O 1 MM.
720928	FLAT-ROLLED PRODUCTS OF IRON OR NONALLOY STEEL, WIDTH 600 MM OR MORE, NOT IN COILS, COLD-ROLLED WORKED ONLY, OF A THICKNESS OF LESS THAN 0.5 MM.
720990	FLAT-ROLLED IRON OR NONALLOY STEEL PRODUCTS, 600 MM OR MORE WIDE, COLD-ROLLED, NOT CLAD, PLATED OR COATED, NESOI.
721011	FLAT-ROLLED IRON OR NONALLOY STEEL PRODUCTS, 600 MM OR MORE WIDE, PLATED OR COATED WITH TIN, 0.5 MM OR MORE THICK.
721012	FLAT-ROLLED IRON OR NONALLOY STEEL PRODUCTS, 600 MM OR MORE WIDE, PLATED OR COATED WITH TIN, UNDER 0.5 MM THICK.
721020	FLAT-ROLLED IRON OR NONALLOY STEEL PRODUCTS, 600 MM OR MORE WIDE, PLATED OR COATED WITH LEAD, INCLUDING TERNE-PLATE.
721030	FLAT-ROLLED PRODUCTS OF IRON OR NONALLOY STEEL, WIDTH OF 600 MM OR MORE, ELECTRO-LYTICALLY PLATED OR COATED WITH ZINC.
721041	FLAT-ROLLED IRON OR NONALLOY STEEL PRODUCTS, COR-RUGATED, 600 MM OR MORE WIDE, PLATED OR COATED WITH ZINC OTHER THAN ELECTRO-LYTICALLY.
721049	FLAT-ROLLED IRON OR NONALLOY STEEL PRODUCTS, NOT COR-RUGATED, 600 MM OR MORE WIDE, PLATED OR COATED WITH ZINC OTHER THAN ELECTRO-LYTICALLY.
721050	FLAT-ROLLED IRON OR NONALLOY STEEL PRODUCTS, 600 MM OR MORE WIDE, PLATED OR COATED WITH CHROMIUM OXIDES OR WITH CHROMIUM AND CHROMIUM OXIDES.
721061	FLAT-ROLLED IRON OR NONALLOY STEEL 600 MM OR MORE, PLATED OR COATED WITH ALUMINUM-ZINC ALLOYS.
721069	FLAT-ROLLED IRON OR NONALLOY STEEL 600 MM OR MORE, PLATED OR COATED WITH OTHER ALU-MINUM.
721070	FLAT-ROLLED IRON OR NONALLOY STEEL PRODUCTS, 600 MM OR MORE WIDE, PAINTED, VAR-NISHED OR COATED WITH PLAS-TICS.
721090	FLAT-ROLLED IRON OR NONALLOY STEEL PRODUCTS, 600 MM OR MORE WIDE, CLAD, PLATED OR COATED, NESOI.

HTS–6 code	HTS description
721113	FLAT-ROLLED HIGH-STRNGTH IRON OR NONALLOY STEEL UNDER 600MM WIDE HOT-ROLLED, NOT CLAD, COATED OR PLATED, UNIVERSAL MILLPLATE.
721114	FLAT-ROLLD HIGH-STRNGTH IRON OR NONALLOY STEEL UNDER 600MM WIDE HOT-ROLLD, NOT CLAD, COATED OR PLATED 4.75MM THICK OR MORE.
721119	FLAT-ROLLED HIGH-STRENGTH NONALLLOY STEEL PRODUCTS NESOI, UNDER 600 MM WIDE, HOT-ROLLED, NOT CLAD, PLATED OR COATED, UNDER 4.75 MM THICK.
721123	FLAT-ROLLED PRODUCTS OF IRON OR NONALLOY STEEL, WIDTH LESS THAN 600 MM, NOT FURTHER WORKED THAN COLD-ROLLED, NOT CLAD, PLATED OR COATED, <0.25% CARBON.
721129	FLAT-ROLLED IRON OR NONALLOY STEEL PRODUCTS UNDER 600 MM WIDE, COLD-ROLLED, NOT CLAD, PLATED OR COATED, NESOI.
721190	FLAT-ROLLED IRON OR NONALLOY STEEL PRODUCTS, UNDER 600 MM WIDE, NOT CLAD, PLATED OR COATED, NESOI.
721210	FLAT-ROLLED IRON OR NONALLOY STEEL PRODUCTS, UNDER 600 MM WIDE, PLATED OR COATED WITH TIN.
721220	FLAT-ROLLED PRODUCTS OF IRON OR NONALLOY STEEL, WIDTH OF LESS THAN 600 MM, ELECTROLYTICALLY PLATED OR COATED WITH ZINC.
721230	FLAT-ROLLED IRON OR NONALLOY STEEL PRODUCTS, UNDER 600 MM WIDE, PLATED OR COATED WITH ZINC OTHER THAN ELECTROLYTICALLY.
721240	FLAT-ROLLED IRON OR NONALLOY STEEL PRODUCTS, UNDER 600 MM WIDE, PAINTED, VARNISHED OR COATED WITH PLASTICS.
721250	FLAT-ROLLED IRON OR NONALLOY STEEL PRODUCTS, UNDER 600 MM WIDE, PLATED OR COATED, NESOI.
721260	FLAT-ROLLED IRON OR NONALLOY STEEL PRODUCTS, UNDER 600 MM WIDE, CLAD.
721310	BARS AND RODS OF IRON OR NONALLOY STEEL, HOT-ROLLED, IN IRREGULLARLY WOUND COILS, CONCRETE REINFORCING.
721320	BARS AND RODS OF FREE-CUTTING NONALLOY STEEL, HOT-ROLLED, IN IRREGULARLY WOUND COILS.
721391	BARS AND RODS,HOT-ROLLED, IN IRREGULARLY WOUND COILS, OF IRON OR NONALLOY STEEL, OF CIRCULAR CROSS-SECTION MEASURING LESS THAN 14MM IN DIAMETER, NESOI.
721399	BARS AND RODS, HOT-ROLLED, IN IRREGULARLY WOUND COILS, OF IRON OR NONALLOY STEEL, N.E.S.O.I.
721410	BARS AND RODS OF IRON OR NONALLOY STEEL, FORGED.
721420	BARS AND RODS OF IRON OR NONALLOY STEEL, HOT-WORKED NESOI, CONCRETE REINFORCING.
721430	BARS AND RODS OF FREE-CUTTING NONALLOY STEEL, HOT-WORKED NESOI.
721491	BARS AND RODS OF IRON OR NONALLOY STEEL, NOT FURTHER WORKED THAN HOT-ROLLED, HOT-DRAWN OR HOT-EXTRUDED BUT INCL TWISTED, RECTANGULAR CROSS SECTN, NESOI.
721499	BARS AND RODS OF IRON OR NONALLOY STEEL, NOT FURTHER WORKED THAN HOT-ROLLED, HOT-DRAWN OR HOT-EXTRUDED, BUT INCLUDING TWISTED AFTER ROLLING, N.E.S.O.I.
721510	BARS AND RODS OF FREE-CUTTING NONALLOY STEEL, COLD-FORMED OR COLD-FINISHED.
721550	BARS AND RODS OF IRON OR NONALLOY STEEL, NOT FURTHER WORKED THAN COLD-FORMED OR COLD-FINISHED, N.E.S.O.I.
721590	BARS AND RODS OF IRON OR NONALLOY STEEL, NESOI.
721610	U, I OR H SECTIONS OF IRON OR NONALLOY STEEL, HOT-WORKED, LESS THAN 80 MM HIGH.
721621	L SECTIONS OF IRON OR NONALLOY STEEL, HOT-WORKED, LESS THAN 80 MM HIGH.
721622	T SECTIONS OF IRON OR NONALLOY STEEL, HOT-WORKED, LESS THAN 80 MM HIGH.
721631	U SECTIONS OF IRON OR NONALLOY STEEL, HOT-WORKED, 80 MM OR MORE HIGH.
721632	I SECTIONS OF IRON OR NONALLOY STEEL, HOT-WORKED, 80 MM OR MORE HIGH (STANDARD BEAMS).
721633	H SECTIONS OF IRON OR NONALLOY STEEL, HOT-WORKED, 80 MM OR MORE HIGH.
721640	L OR T SECTIONS OF IRON OR NONALLOY STEEL, HOT-WORKED, 80 MM OR MORE HIGH.
721650	ANGLES, SHAPES AND SECTIONS NESOI OF IRON OR NONALLOY STEEL, HOT-WORKED.

HTS–6 code	HTS description
721661	ANGLES, SHAPES AND SECTIONS, IRON OR NONALLOY STEEL, NOT FURTHER WORKED THAN COLD-FORMED OR COLD-FINISHED, OBTAINED FROM FLAT-ROLLED PRODUCTS.
721669	ANGLES, SHAPES AND SECTIONS, IRON OR NONALLOY STEEL, NOT FURTHER WORKED THAN COLD-FORMED OR COLD-FINISHED, NOT OBTAINED FROM FLAT-ROLLED PRODUCTS.
721691	ANGLES, SHAPES AND SECTIONS, IRON OR NONALLOY STEEL, OTHER COLD-FORMED OR COLD-FINISHED FROM FLAT-ROLLED PRODUCTS.
721699	ANGLES, SHAPES AND SECTIONS IRON OR NONALLOY STEEL NESOI.
721710	WIRE OF IRON OR NONALLLOY STEEL, NOT PLATED OR COATED, WHETHER OR NOT POLISHED.
721720	WIRE OF IRON OR NONALLOY STEEL, PLATED OR COATED WITH ZINC.
721730	WIRE OF IRON OR NONALLOY STEEL, PLATED OR COATED WITH BASE METAL OTHER THAN ZINC.
721790	WIRE OF IRON OR NONALLOY STEEL LESS THAN 0.25 PERCENT CARBON, NESOI.
721810	STAINLESS STEEL INGOTS AND OTHER PRIMARY FORMS.
721891	SEMIFINISHED PRODUCTS OF STAINLESS STEEL, RECTANGULAR (OTHER THAN SQUARE) CROSS-SECTION.
721899	OTHER SEMIFINISHED PRODUCTS OF STAINLESS STEEL.
721911	FLAT-ROLLED STAINLESS STEEL IN COILS, 600 MM OR MORE WIDE, HOT-ROLLED, OVER 10 MM THICK.
721912	FLAT-ROLLED STAINLESS STEEL IN COILS, 600 MM OR MORE WIDE, HOT-ROLLED, 4.75 MM BUT NOT OVER 10 MM THICK.
721913	FLAT-ROLLED STAINLESS STEEL IN COILS, 600 MM OR MORE WIDE, HOT-ROLLED, 3 MM BUT UNDER 4.75 MM THICK.
721914	FLAT-ROLLED STAINLESS STEEL IN COILS, 600 MM OR MORE WIDE, HOT-ROLLED, UNDER 3 MM THICK.
721921	FLAT-ROLLED STAINLESS STEEL NOT IN COILS, 600 MM OR MORE WIDE, HOT-ROLLED, OVER 10 MM THICK.
721922	FLAT-ROLLED STAINLESS STEEL NOT IN COILS, 600 MM OR MORE WIDE, HOT-ROLLED, 4.75 MM BUT NOT OVER 10 MM THICK.
721923	FLAT-ROLLED STAINLESS STEEL NOT IN COILS, 600 MM OR MORE WIDE, HOT-ROLLED, 3 MM BUT UNDER 4.75 MM THICK.
721924	FLAT-ROLLED STAINLESS STEEL NOT IN COILS, 600 MM OR MORE WIDE, HOT-ROLLED, UNDER 3 MM THICK.
721931	FLAT-ROLLED STAINLESS STEEL PRODUCTS, 600 MM OR MORE WIDE, COLD-ROLLED, 4.75 MM OR MORE THICK.
721932	FLAT-ROLLED STAINLESS STEEL PRODUCTS, 600 MM OR MORE WIDE, COLD-ROLLED, 3 MM BUT UNDER 4.75 MM THICK.
721933	FLAT-ROLLED STAINLESS STEEL PRODUCTS, 600 MM OR MORE WIDE, COLD-ROLLED, OVER 1 MM BUT UNDER 3 MM THICK.
721934	FLAT-ROLLED STAINLESS STEEL PRODUCTS, 600 MM OR MORE WIDE, COLD-ROLLED, 0.5 MM BUT NOT OVER 1 MM THICK.
721935	FLAT-ROLLED STAINLESS STEEL PRODUCTS, 600 MM OR MORE WIDE, COLD-ROLLED, UNDER 0.5 MM THICK.
721990	FLAT-ROLLED STAINLESS STEEL PRODUCTS, 600 MM OR MORE WIDE, NESOI.
722011	FLAT-ROLLED STAINLESS STEEL PRODUCTS, UNDER 600 MM WIDE, HOT-ROLLED, 4.75 MM OR MORE THICK.
722012	FLAT-ROLLED STAINLESS STEEL PRODUCTS, UNDER 600 MM WIDE, HOT-ROLLED, UNDER 4.75 MM THICK.
722020	FLAT-ROLLED STAINLESS STEEL PRODUCTS, UNDER 600 MM WIDE, COLD-ROLLED.
722090	FLAT-ROLLED STAINLESS STEEL PRODUCTS, UNDER 600 MM WIDE, NESOI.
722100	BARS AND RODS OF STAINLESS STEEL, HOT-ROLLED, IN IRREGULARLY WOUND COILS.
722211	OTHER BARS AND RODS OF STAINLESS STEEL, HOT-ROLLED, CIRCULAR CROSS-SECTION.
722219	OTHER BARS AND RODS OF STAINLESS STEEL, HOT-ROLLED, OTHER THAN CIRCULAR CROSS-SECTION.
722220	BARS AND RODS OF STAINLESS STEEL, COLD-FORMED OR COLD-FINISHED.
722230	BARS AND RODS OF STAINLESS STEEL, NESOI.
722240	ANGLES, SHAPES AND SECTIONS OF STAINLESS STEEL.
722300	WIRE OF STAINLESS STEEL.

HTS–6 code	HTS description
722410	INGOTS AND OTHER PRIMARY FORMS OF ALLOY STEEL (OTHER THAN STAINLESS) NESOI.
722490	SEMIFINISHED PRODUCTS OF ALLOY STEEL (OTHER THAN STAINLESS) NESOI.
722511	FLAT-ROLLED SILICON ELECTRICAL STEEL 600 MM OR MORE WIDE, GRAIN-ORIENTED.
722519	FLAT-ROLLED SILICON ELECTRICAL STEEL 600MM OR MORE WIDE, NOT GRAIN-ORIENTED.
722530	FLAT-ROLLED ALLOY STEEL (OTHER THAN STAINLESS) IN COILS, 600 MM OR MORE WIDE, HOT-ROLLED, NESOI.
722540	FLAT-ROLLED ALLOY STEEL (OTHER THAN STAINLESS) NOT IN COILS, 600 MM OR MORE WIDE, HOT-ROLLED, NESOI.
722550	FLAT-ROLLED ALLOY STEEL (OTHER THAN STAINLESS) PRODUCTS, 600 MM OR MORE WIDE, COLD-ROLLED, NESOI.
722591	FLAT-ROLLED ALLOY STEEL NESOI, 600 MM OR MORE WIDE, ELECTROLYTICALLY PLATED OR COATED WITH ZINC.
722592	FLAT-ROLLED ALLOY STEEL NESOI 600 MM OR MORE WIDE PLATED OR COATED WITH ZINC, NOT ELECTROLYTICALLY.
722599	FLAT-ROLLED ALLOY STEEL NOT STAINLESS, 600 MM OR MORE WIDE, NESOI.
722611	FLAT-ROLLED SILICON ELECTRICAL STEEL UNDER 600 MM WIDE, GRAIN-ORIENTED.
722619	FLAT-ROLLED SILICON ELECTRICAL STEEL UNDER 600 MM WIDE, NOT GRAIN-ORIENTED.
722620	FLAT-ROLLED HIGH-SPEED STEEL PRODUCTS, UNDER 600 MM WIDE.
722691	FLAT-ROLLED ALLOY STEEL (OTHER THAN STAINLESS) PRODUCTS, UNDER 600 MM WIDE, HOT-ROLLED, NESOI.
722692	FLAT-ROLLED ALLOY STEEL (OTHER THAN STAINLESS) PRODUCTS, UNDER 600 MM WIDE, COLD-ROLLED, NESOI.
722699	FLAT-ROLLED ALLOY STEEL (OTHER THAN STAINLESS) PRODUCTS, UNDER 600 MM WIDE, NESOI.
722710	BARS AND RODS OF HIGH-SPEED STEEL, HOT-ROLLED, IN IRREGULARLY WOUND COILS.
722720	BARS AND RODS OF SILICO-MANGANESE STEEL, HOT-ROLLED, IN IRREGULARLY WOUND COILS.
722790	BARS AND RODS OF ALLOY STEEL (OTHER THAN STAINLESS), HOT-ROLLED, IN IRREGULARLY WOUND COILS, NESOI.
722810	BARS AND RODS OF HIGH-SPEED STEEL NESOI.
722820	BARS AND RODS OF SILICO-MANGANESE STEEL NESOI.
722830	BARS AND RODS OF ALLOY STEEL (OTHER THAN STAINLESS), HOT-WORKED, NESOI.
722840	BARS AND RODS OF ALLOY STEEL (OTHER THAN STAINLESS), FORGED, NESOI.
722850	BARS AND RODS OF ALLOY STEEL (OTHER THAN STAINLESS), COLD-FORMED OR COLD-FINISHED, NESOI.
722860	BARS AND RODS OF ALLOY STEEL (OTHER THAN STAINLESS), NESOI.
722870	ANGLES, SHAPES AND SECTIONS OF ALLOY STEEL (OTHER THAN STAINLESS), NESOI.
722880	HOLLOW DRILL BARS AND RODS OF ALLOY OR NONALLOY STEEL.
722920	WIRE OF SILICO-MANGANESE STEEL.
722990	WIRE OF ALLOY STEEL NESOI.
730110	SHEET PILING OF IRON OR STEEL, WHETHER OR NOT DRILLED, PUNCHED OR MADE FROM ASSEMBLED ELEMENTS.
730120	WELDED ANGLES, SHAPES AND SECTIONS OF IRON OR STEEL.
730210	RAILWAY OR TRAMWAY RAILS OF IRON OR STEEL.
730230	RAILWAY OR TRAMWAY TRACK SWITCH BLADES, CROSSING FROGS, POINT RODS AND OTHER CROSSING PIECES OF IRON OR STEEL.
730240	RAILWAY OR TRAMWAY TRACK FISH-PLATES AND SOLE PLATES OF IRON OR STEEL.
730290	RAILWAY OR TRAMWAY TRACK CONSTRUCTION MATERIAL OF IRON OR STEEL NESOI.
730300	TUBES, PIPES AND HOLLOW PROFILES OF CAST IRON.
730424	CASING & TUBING USED IN DRILLING FOR OIL OR GAS, OTHER OF STAINLESS STEEL.
730431	TUBES, PIPES AND HOLLOW PROFILES, SEAMLESS NESOI, OF CIRCULAR CROSS SECTION OF IRON OR NONALLOY STEEL, COLD-DRAWN OR COLD-ROLLED.
730439	TUBES, PIPES AND HOLLOW PROFILES, SEAMLESS NESOI, OF CIRCULAR CROSS SECTION OF IRON OR NONALLOY STEEL, NOT COLD-DRAWN OR COLD-ROLLED.

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730441	TUBES, PIPES AND HOLLOW PROFILES, SEAMLESS NESOI, OF CIRCULAR CROSS SECTION OF STAINLESS STEEL, COLD-DRAWN OR COLD-ROLLED.
730449	TUBES, PIPES AND HOLLOW PROFILES, SEAMLESS NESOI, OF CIRCULAR CROSS SECTION OF STAINLESS STEEL, NOT COLD-DRAWN OR COLD-ROLLED.
730451	TUBES, PIPES AND HOLLOW PROFILES, SEAMLESS NESOI, OF CIRCULAR CROSS SECTION OF ALLOY STEEL (OTHER THAN STAINLESS), COLD-DRAWN OR COLD-ROLLED.
730459	TUBES, PIPES AND HOLLOW PROFILES, SEAMLESS NESOI, OF CIRCULAR CROSS SECTION OF ALLOY STEEL (OTHER THAN STAINLESS), NOT COLD-DRAWN OR COLD-ROLLED.
730490	TUBES, PIPES AND HOLLOW PROFILES, SEAMLESS NESOI, OF IRON (OTHER THAN CAST IRON) OR STEEL.
730531	PIPES AND TUBES NESOI, EXTERNAL DIAMETER OVER 406.4 MM (16 IN.), OF IRON OR STEEL, LONGITUDINALLY WELDED.
730539	PIPES AND TUBES NESOI, EXTERNAL DIAMETER OVER 406.4 MM (16 IN.), OF IRON OR STEEL, WELDED NESOI.
730590	PIPES AND TUBES NESOI, EXTERNAL DIAMETER OVER 406.4 MM (16 IN.), OF IRON OR STEEL, RIVETED OR SIMILARLY CLOSED NESOI.
730621	CASING OR TUBING FOR OIL OR GAS DRILLING, WELDED OF STAINLESS STEEL, NESOI.
730629	CASING OR TUBING FOR OIL OR GAS DRILLING, OF IRON OR STEEL, NESOI.
730630	PIPES, TUBES AND HOLLOW PROFILES NESOI, WELDED, OF CIRCULAR CROSS SECTION, OF IRON OR NONALLOY STEEL.
730640	PIPES, TUBES AND HOLLOW PROFILES NESOI, WELDED, OF CIRCULAR CROSS SECTION, OF STAINLESS STEEL.
730650	PIPES, TUBES AND HOLLOW PROFILES NESOI, WELDED, OF CIRCULAR CROSS SECTION, OF ALLOY STEEL (OTHER THAN STAINLESS) NESOI.
730661	TUBES, PIPES AND HOLLOW PROFILES, OF IRON OR STEEL, WELDED, OF A SQUARE OR RECTANGULAR CROSS-SECTION, NESOI.
730669	TUBES, PIPES AND HOLLOW PROFILES, OF IRON OR STEEL, WELDED, OF NON-CIRCULAR CROSS-SECTION, NESOI.
730690	PIPES, TUBES AND HOLLOW PROFILES NESOI, OF IRON OR STEEL, RIVETED OR SIMILARLY CLOSED.
730711	PIPE OR TUBE FITTINGS, CAST, OF NONMALLEABLE IRON.
730719	PIPE OR TUBE FITTINGS, CAST, OF IRON NESOI OR STEEL.
730721	PIPE OR TUBE FITTINGS, NESOI, STAINLESS STEEL FLANGES.
730722	PIPE OR TUBE FITTINGS, NESOI, STAINLESS STEEL THREADED ELBOWS, BENDS AND SLEEVES.
730723	PIPE OR TUBE FITTINGS, NESOI, STAINLESS STEEL BUTT WELDING FITTINGS.
730729	PIPE OR TUBE FITTINGS, NESOI, STAINLESS STEEL FITTINGS NESOI.
730791	PIPE OR TUBE FITTINGS, NESOI, IRON OR NONSTAINLESS STEEL FLANGES.
730792	PIPE OR TUBE FITTINGS, NESOI, IRON OR NONSTAINLESS STEEL THREADED ELBOWS, BENDS AND SLEEVES.
730793	PIPE OR TUBE FITTINGS, NESOI, IRON OR NONSTAINLESS STEEL BUTT WELDING FITTINGS.
730799	PIPE OR TUBE FITTINGS, NESOI, IRON OR NONSTAINLESS STEEL FITTINGS NESOI.
730810	BRIDGES AND BRIDGE SECTIONS OF IRON OR STEEL.
730820	TOWERS AND LATTICE MASTS OF IRON OR STEEL.
730830	DOORS, WINDOWS AND FRAMES AND THRESHOLDS FOR DOORS, OF IRON OR STEEL.
730840	EQUIPMENT FOR SCAFFOLDING, SHUTTERING PROPPING OR PITPROPPING, OF IRON OR STEEL.
730890	STRUCTURES AND PARTS OF STRUCTURES NESOI, OF IRON OR STEEL.
730900	RESERVOIRS, TANKS, CASKS, VATS AND SIMILAR CONTAINERS NESOI, OF A CAPACITY OF MORE THAN 300 LITERS (79.25 GAL.), OF IRON OR STEEL.
731010	TANKS, DRUMS, CANS, AND SIMILAR PLAIN CONTAINERS, A CAPACITY OF 50 LITERS (13.21 GAL.) OR MORE, BUT NOT OVER 300 LITERS (79.25 GAL.), OF IRON OR STEEL.
731021	CANS, PLAIN, UNFITTED, OF A CAPACITY OF LESS THAN 50 LITERS (13.21 GAL.), WHICH WILL BE CLOSED BY SOLDERING OR CRIMPING, OF IRON OR STEEL.

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731029	TANKS, CASKS, DRUMS, CANS, BOXES AND SIMILAR PLAIN, UNFITTED CONTAINERS NESOI, OF A CAPACITY OF LESS THAN 50 LITERS (13.21 GAL.), OF IRON OR STEEL.
731100	CONTAINERS FOR COMPRESSED OR LIQUEFIED GAS, OF IRON OR STEEL.
731210	STRANDED WIRE, ROPES AND CABLES, NOT ELECTRICALLY INSULATED, OF IRON OR STEEL.
731290	PLAITED BANDS, SLINGS AND THE LIKE (OTHER THAN STRANDED WIRE, ROPES OR CABLES), NOT ELECTRICALLY INSULATED, OF IRON OR STEEL.
731300	BARBED WIRE, TWISTED HOOP OR SINGLE FLAT WIRE, BARBED OR NOT, AND LOOSELY TWISTED DOUBLE WIRE, OF A KIND USED FOR FENCING, OF IRON OR STEEL.
731412	ENDLESS BANDS OF STAINLESS STEEL.
731414	OTHER PRODUCTS OF WOVEN STAINLESS STEEL CLOTH.
731419	WOVEN PRODUCTS OF IRON OR STEEL, NESOI.
731420	GRILL, NETTING AND FENCING OF IRON OR STEEL WIRE, WELDED AT THE INTERSECTION, MAXIMUM CROSS-SECTION OF 3 MM OR MORE AND MESH SIZE OF 100 CM2 OR MORE.
731431	OTHER GRILL, NETTING AND FENCING WELDED AT THE INTERSECTION OF GALVANIZED STEEL.
731439	OTHER GRILL, NETTING AND FENCING WELDED AT THE INTERSECTION OF IRON OR STEEL OTHER THAN GALVANIZED STEEL.
731441	GRILL, NETTING AND FENCING OF IRON OR STEEL WIRE NESOI, PLATED OR COATED WITH ZINC.
731442	GRILL, NETTING AND FENCING OF IRON OR STEEL WIRE NESOI, COATED WITH PLASTICS.
731449	GRILL, NETTING AND FENCING OF IRON OR STEEL WIRE NESOI.
731450	EXPANDED METAL OF IRON OR STEEL.
731511	ROLLER CHAIN OF IRON OR STEEL.
731512	ARTICULATED LINK CHAIN OTHER THAN ROLLER CHAIN, OF IRON OR STEEL.
731519	PARTS OF ARTICULATED LINK CHAIN OF IRON OR STEEL.
731520	SKID CHAIN OF IRON OR STEEL.
731581	STUD LINK CHAIN OF IRON OR STEEL.
731582	CHAIN NESOI, WELDED LINK OF IRON OR STEEL.
731589	CHAIN OF IRON OR STEEL, NESOI.
731590	PARTS OF CHAIN NESOI, OF IRON OR STEEL.
731600	ANCHORS, GRAPNELS AND PARTS THEREOF, OF IRON OR STEEL.
731700	NAILS, TACKS, DRAWING PINS, STAPLES (OTHER THAN IN STRIPS), AND SIMILAR ARTICLES, OF IRON OR STEEL, EXCLUDING SUCH ARTICLES WITH HEADS OF COPPER.
731811	COACH SCREWS, THREADED, OF IRON OR STEEL.
731812	WOOD SCREWS OTHER THAN COACH SCREWS, THREADED, OF IRON OR STEEL.
731813	SCREW HOOKS AND SCREW RINGS, THREADED, OF IRON OR STEEL.
731814	SELF-TAPPING SCREWS, THREADED, OF IRON OR STEEL.
731815	THREADED SCREWS AND BOLTS NESOI, WITH OR WITHOUT THEIR NUTS OR WASHERS, OF IRON OR STEEL.
731816	NUTS, THREADED, OF IRON OR STEEL.
731819	THREADED ARTICLES OF IRON OR STEEL NESOI.
731821	SPRING WASHERS AND OTHER LOCK WASHERS, OF IRON OR STEEL.
731822	WASHERS, OTHER THAN LOCK WASHERS, OF IRON OR STEEL.
731823	RIVETS OF IRON OR STEEL.
731824	COTTERS AND COTTER PINS, OF IRON OR STEEL.
731829	NONTHREADED ARTICLES (FASTENERS) NESOI, OF IRON OR STEEL.
731940	SAFETY PINS AND OTHER PINS OF IRON OR STEEL.
731990	KNITTING NEEDLES, BODKINS, CROCHET HOOKS, EMBROIDERY STILETTOS AND SIMILAR ARTICLES FOR USE IN THE HAND, OF IRON OR STEEL, NESOI.
732010	LEAF SPRINGS AND LEAVES THEREFOR, OF IRON OR STEEL.
732020	HELICAL SPRINGS OF IRON OR STEEL.
732090	SPRINGS NESOI, OF IRON OR STEEL.
732111	COOKING APPLIANCES AND PLATE WARMERS, FOR GAS FUEL OR FOR BOTH GAS AND OTHER FUELS, OF IRON OR STEEL.
732112	COOKING APPLIANCES AND PLATE WARMERS FOR LIQUID FUEL, OF IRON OR STEEL.
732119	COOKING APPLIANCES AND PLATE WARMERS, NONELECTRIC, OF IRON OR STEEL, NESOI.

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732181	NONELECTRIC DOMESTIC APPLIANCES NESOI, FOR GAS FUEL OR BOTH GAS AND OTHER FUELS, OF IRON OR STEEL.
732182	NONELECTRIC DOMESTIC APPLIANCES NESOI, FOR LIQUID FUEL, OF IRON OR STEEL.
732189	NONELECTRIC DOMESTIC APPLIANCES, OF IRON OR STEEL, NESOI.
732190	PARTS OF NONELECTRIC DOMESTIC COOKING APPLIANCES AND PLATE WARMERS AND SIMILAR NONELECTRIC DOMESTIC APPLIANCES, OF IRON OR STEEL.
732211	RADIATORS FOR CENTRAL HEATING AND PARTS THEREOF, OF CAST IRON.
732219	RADIATORS FOR CENTRAL HEATING AND PARTS THEREOF, OF IRON OR STEEL, EXCEPT CAST IRON.
732290	AIR HEATERS AND HOT AIR DISTRIBUTORS, NOT ELECTRICALLY HEATED, INCORPORATING A MOTOR-DRIVEN FAN OR BLOWER, AND PARTS THEREOF, OF IRON OR STEEL.
732310	IRON OR STEEL WOOL; POT SCOURERS AND SCOURING OR POLISHING PADS, GLOVES AND THE LIKE, OF IRON OR STEEL.
732391	TABLE, KITCHEN OR OTHER HOUSEHOLD ARTICLES AND PARTS THEREOF, OF CAST IRON, NOT ENAMELED.
732392	TABLE, KITCHEN OR OTHER HOUSEHOLD ARTICLES AND PARTS THEREOF, OF CAST IRON, ENAMELED.
732393	TABLE, KITCHEN OR OTHER HOUSEHOLD ARTICLES AND PARTS THEREOF, OF STAINLESS STEEL.
732394	TABLE, KITCHEN OR OTHER HOUSEHOLD ARTICLES AND PARTS THEREOF, OF IRON (NOT CAST) AND STEEL (NOT STAINLESS), ENAMELED.
732399	TABLE, KITCHEN OR OTHER HOUSEHOLD ARTICLES AND PARTS THEREOF, OF IRON (NOT CAST) AND STEEL (NOT STAINLESS), NOT ENAMELED.
732410	SINKS AND WASH BASINS OF STAINLESS STEEL.
732421	BATHS OF CAST IRON, WHETHER OR NOT ENAMELED.
732429	BATHS OF IRON OR STEEL, OTHER THAN CAST IRON.
732490	SANITARY WARE AND PARTS THEREOF NESOI, OF IRON OR STEEL (OTHER THAN STAINLESS STEEL SINKS OR WASH BASINS AND BATHS OF IRON OR STEEL).
732510	ARTICLES NESOI, OF NONMALLEABLE CAST IRON.
732591	GRINDING BALLS AND SIMILAR ARTICLES FOR MILLS, CAST, OF IRON OR STEEL, OTHER THAN NONMALLEABLE CAST IRON.
732599	CAST ARTICLES NESOI, OF IRON OR STEEL.
732611	GRINDING BALLS AND SIMILAR ARTICLES FOR MILLS, FORGED OR STAMPED, BUT NOT FURTHER WORKED, OF IRON OR STEEL.
732619	ARTICLES NESOI, FORGED OR STAMPED, BUT NOT FURTHER WORKED, OF IRON OR STEEL.
732620	ARTICLES OF IRON OR STEEL WIRE, NESOI.
740100	COPPER MATTES; CEMENT COPPER (PRECIPITATED COPPER).
740200	UNREFINED COPPER; COPPER ANODES FOR ELECTROLYTIC REFINING.
740311	REFINED COPPER CATHODES AND SECTIONS OF CATHODES.
740312	REFINED COPPER WIRE BARS, UNWROUGHT.
740313	REFINED COPPER BILLETS, UNWROUGHT.
740319	REFINED COPPER, UNWROUGHT, NESOI.
740321	COPPER-ZINC BASE ALLOYS (BRASS), UNWROUGHT.
740322	COPPER-TIN BASE ALLOYS (BRONZE), UNWROUGHT.
740329	COPPER ALLOYS, UNWROUGHT, NESOI.
740400	COPPER WASTE AND SCRAP.
740500	MASTER ALLOYS OF COPPER.
740610	COPPER POWDERS OF NON-LAMELLAR STRUCTURE.
740620	COPPER POWDERS OF LAMELLAR STRUCTURE; FLAKES.
740710	BARS, RODS AND PROFILES OF REFINED COPPER.
740721	BARS, RODS AND PROFILES OF COPPER-ZINC BASE ALLOYS (BRASS).
740729	BARS, RODS AND PROFILES OF COPPER ALLOYS, NESOI.
740811	WIRE OF REFINED COPPER, WITH A MAXIMUM CROSS SECTIONAL DIMENSION OVER 6 MM (.23 IN.).
740819	WIRE OF REFINED COPPER, WITH A MAXIMUM CROSS SECTIONAL DIMENSION NOT OVER 6 MM (.23 IN.).
740821	WIRE OF COPPER-ZINC BASE ALLOYS (BRASS).
740822	WIRE OF COPPER-NICKEL BASE ALLOYS (CUPRO-NICKEL) OR COPPER-NICKEL-ZINC BASE ALLOYS (NICKEL-SILVER).
740829	WIRE OF COPPER ALLOYS, NESOI.

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740911	PLATES, SHEETS AND STRIP OF REFINED COPPER, OVER 0.15 MM THICK, IN COILS.
740919	PLATES, SHEETS AND STRIP OF REFINED COPPER, OVER 0.15 MM THICK, NOT IN COILS.
740921	PLATES, SHEETS AND STRIP OF COPPER-ZINC BASE ALLOYS (BRASS), OVER 0.15 MM THICK, IN COILS.
740929	PLATES, SHEETS AND STRIP OF COPPER-ZINC BASE ALLOYS (BRASS), OVER 0.15 MM THICK, NOT IN COILS.
740931	PLATES, SHEETS AND STRIP OF COPPER-TIN BASE ALLOYS (BRONZE), OVER 0.15 MM THICK, IN COILS.
740939	PLATES, SHEETS AND STRIP OF COPPER-TIN BASE ALLOYS (BRONZE), OVER 0.15 MM THICK, NOT IN COILS.
740940	PLATES, SHEETS AND STRIP OF COPPER-NICKEL BASE ALLOYS (CUPRO-NICKEL) OR COPPER-NICKEL-ZINC BASE ALLOYS (NICKEL SILVER), OVER 0.15 MM THICK.
740990	PLATES, SHEETS AND STRIP OF COPPER ALLOYS NESOI, OVER 0.15 MM THICK.
741011	COPPER FOIL, NOT BACKED, OF REFINED COPPER, NOT OVER 0.15 MM THICK.
741012	COPPER ALLOY FOIL, NOT BACKED, NOT OVER 0.15 MM THICK.
741021	COPPER FOIL, BACKED, OF REFINED COPPER, NOT OVER 0.15 MM THICK.
741022	COPPER FOIL, BACKED, OF COPPER ALLOYS, NOT OVER 0.15 MM THICK.
741110	TUBES AND PIPES OF REFINED COPPER.
741121	TUBES AND PIPES OF COPPER-ZINC BASE ALLOYS (BRASS).
741122	TUBES AND PIPES OF COPPER-NICKEL BASE ALLOYS (CUPRO-NICKEL) OR COPPER-NICKEL-ZINC BASE ALLOYS (NICKEL-SILVER).
741129	TUBES AND PIPES OF COPPER ALLOYS NESOI.
741210	TUBE OR PIPE FITTINGS OF REFINED COPPER.
741220	TUBE OR PIPE FITTINGS OF COPPER ALLOYS.
741300	STRANDED WIRE, CABLES, PLAITED BANDS AND SIMILAR ARTICLES, OF COPPER, NOT ELECTRICALLY INSULATED.
741510	NAILS, TACKS, DRAWING PINS, STAPLES (OTHER THAN IN STRIPS) AND SIMILAR ARTICLES OF COPPER OR OF IRON OR STEEL WITH HEADS OF COPPER.
741521	WASHERS, INCLUDING SPRING WASHERS, OF COPPER.
741529	RIVETS, COTTERS, COTTER PINS AND SIMILAR ARTICLES OF COPPER (NOT THREADED), NESOI.
741533	THREADED SCREWS, BOLTS, AND NUTS OF COPPER OR IRON OR STEEL WITH HEADS OF COPPER.
741539	THREADED FASTENERS NESOI, OF COPPER.
741810	COPPER TABLE, KITCHEN OR OTHER HOUSEHOLD ARTICLES AND PARTS THEREOF; POT SCOURERS OR POLISHING PADS, GLOVES AND THE LIKE, OF COPPER.
741820	SANITARY WARE AND PARTS THEREOF, OF COPPER.
741920	ARTICLES OF COPPER, NESOI, CAST, MOLDED, STAMPED OR FORGED, BUT NOT FURTHER WORKED.
741980	ARTICLES OF COPPER, NESOI.
750110	NICKEL MATTES.
750120	NICKEL OXIDE SINTERS AND OTHER INTERMEDIATE PRODUCTS OF NICKEL METALLURGY.
750210	NICKEL, NOT ALLOYED, UNWROUGHT.
750220	NICKLE ALLOYS, UNWROUGHT.
750300	NICKEL WASTE AND SCRAP.
750400	NICKLE POWDERS AND FLAKES.
750511	NICKEL BARS, RODS AND PROFILES, NOT ALLOYED.
750512	NICKLE BARS, RODS AND PROFILES, OF NICKLE ALLOYS.
750521	NICKLE WIRE, NOT ALLOYED.
750522	NICKLE WIRE, OF NICKLE ALLOYS.
750610	NICKEL PLATES, SHEETS, STRIP AND FOIL, NOT ALLOYED.
750620	NICKEL PLATES, SHEETS, STRIP AND FOIL, OF NICKLE ALLOYS.
750711	NICKLE TUBES AND PIPES, NOT ALLOYED.
750712	NICKLE TUBES AND PIPES, OF NICKLE ALLOYS.
750720	NICKLE TUBE OR PIPE FITTINGS.
750810	CLOTH, GRILL AND NETTING OF NICKEL WIRE.
750890	OTHER ARTICLES OF NICKEL, NESOI.
760110	ALUMINUM, NOT ALLOYED, UNWROUGHT.
760120	ALUMINUM ALLOYS, UNWROUGHT.
760200	ALUMINUM WASTE AND SCRAP.
760310	ALUMINUM POWDERS OF NONLAMELLAR STRUCTURE.
760320	ALUMINUM POWDERS OF LAMELLAR STRUCTURE; FLAKES.

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760410	ALUMINUM BARS, RODS AND PROFILES, NOT ALLOYED.
760421	ALUMINUM ALLOY HOLLOW PROFILES.
760429	ALUMINUM ALLOY BARS, RODS AND PROFILES, OTHER THAN HOLLOW PROFILES.
760511	ALUMINUM WIRE OF NONALLOYED ALUMINUM, WITH A MAXIMUM CROSS SECTIONAL DIMENSION OF OVER 7 MM.
760519	ALUMINUM WIRE OF NONALLOYED ALUMINUM, WITH A MAXIMUM CROSS SECTIONAL DIMENSION OF 7 MM OR LESS.
760521	ALUMINUM ALLOY WIRE, WITH A MAXIMUM CROSS SECTIONAL DIMENSION OF OVER 7 MM.
760529	ALUMINUM ALLOY WIRE, WITH A MAXIMUM CROSS SECTIONAL DIMENSION OF 7 MM OR LESS.
760611	ALUMINUM NONALLOYED RECTANGULAR (INCLUDING SQUARE) PLATES, SHEETS AND STRIP, OVER 0.2 MM THICK.
760612	ALUMINUM ALLOY RECTANGULAR (INCLUDING SQUARE) PLATES, SHEETS AND STRIP, OVER 0.2 MM THICK.
760691	ALUMINUM NONALLOYED PLATES, SHEETS OR STRIP, OVER 0.2 MM THICK, NESOI (OTHER THAN RECTANGULAR OR SQUARE SHAPES).
760692	ALUMINUM ALLOY PLATES, SHEETS OR STRIP, OVER 0.2 MM THICK, NESOI (OTHER THAN RECTANGULAR SQUARE SHAPES).
760711	ALUMINUM FOIL, NOT OVER 0.2 MM THICK, NOT BACKED, ROLLED BUT NOT FURTHER WORKED.
760719	ALUMINUM FOIL, NOT OVER 0.2 MM THICK, NOT BACKED, NESOI.
760720	ALUMINUM FOIL, NOT OVER 0.2 MM THICK, BACKED.
760810	ALUMINUM TUBES AND PIPES, NOT ALLOYED.
760820	ALUMINUM ALLOY TUBES AND PIPES.
760900	ALUMINUM TUBE OR PIPE FITTINGS (INCLUDING COUPLINGS, ELBOWS, AND SLEEVES).
761010	ALUMINUM DOORS, WINDOWS AND THEIR FRAMES AND THRESHOLDS FOR DOORS.
761090	ALUMINUM STRUCTURES AND PARTS OF STRUCTURES, NESOI.
761100	ALUMINUM TANKS, VATS AND SIMILAR PLAIN, UNFITTED CONTAINERS, OF A CAPACITY OVER 300 LITERS (79.30 GAL.).
761210	ALUMINUM COLLAPSIBLE TUBULAR CONTAINERS, OF A CAPACITY NOT OVER 300 LITERS (79.30 GAL.).
761290	ALUMINUM CASKS, DRUMS, CANS, BOXES AND SIMILAR PLAIN, UNFITTED CONTAINERS, OF A CAPACITY NOT OVER 300 LITERS (79.30 GAL.).
761300	ALUMINUM CONTAINERS FOR COMPRESSED OR LIQUEFID GAS.
761410	STRANDED WIRE, CABLES, PLAITED BANDS AND SIMILAR ARTICLES OF ALUMINUM, NOT ELECTRICALLY INSULATED, WITH A STEEL CORE.
761490	STRANDED WIRE, CABLES, PLAITED BANDS AND SIMILAR ARTICLES OF ALUMINUM, NOT ELECTRICALLY INSULATED, NESOI.
761510	ALUMINUM TABLE, KITCHEN OR OTHER HOUSEHOLD ARTICLES AND PARTS THEREOF; POT SCOURERS, SCOURING OR POLISHING PADS, GLOVES AND THE LIKE, OF ALUMINUM ETC.
761520	ALUMINUM SANITARY WARE AND PARTS THEREOF.
761610	NAILS, TACKS, STAPLES (OTHER THAN IN STRIPS), SCREWS, BOLTS, NUTS, SCREW HOOKS, RIVETS AND SIMILAR ARTICLES, OF ALUMINUM.
761691	CLOTH, GRILL, NETTING AND FENCING OF ALUMINUM WIRE.
761699	ARTICLES OF ALUMINUM, N.E.S.O.I.
780110	REFINED LEAD, UNWROUGHT.
780191	LEAD, OTHER THAN REFINED, CONTAINING ANTIMONY BY WEIGHT AS THE PRINCIPAL OTHER ELEMENT, UNWROUGHT.
780199	LEAD, OTHER THAN REFINED, NESOI, UNWROUGHT.
780200	LEAD WASTE AND SCRAP.
780411	LEAD SHEETS, STRIP AND FOIL NOT OVER 0.2 MM THICK.
780419	LEAD PLATES, SHEETS, STRIP AND FOIL OVER 0.2 MM THICK.
780420	LEAD POWDERS AND FLAKES.
780600	ARTICLES OF LEAD, NESOI.
790111	ZINC, NOT ALLOYED, CONTAINING 99.9% OR MORE BY WEIGHT OF ZINC, UNWROUGHT.
790112	ZINC, NOT ALLOYED, CONTAINING UNDER 99.99% ZINC BY WEIGHT, UNWROUGHT.
790120	ZINC ALLOYS, UNWROUGHT.
790200	ZINC WASTE AND SCRAP.
790310	ZINC DUST.
790390	ZINC POWDERS AND FLAKES.
790400	ZINC BARS, RODS, PROFILES AND WIRE.

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790500	ZINC PLATES, SHEETS, STRIP AND FOIL.
790700	ARTICLES OF ZINC, N.E.S.O.I.
800110	TIN, NOT ALLOYED, UNWROUGHT.
800120	TIN ALLOYS, UNWROUGHT.
800200	TIN WASTE AND SCRAP.
800300	TIN BARS, RODS, PROFILES AND WIRE.
800700	ARTICLES OF TIN, NESOI.
810110	TUNGSTEN (WOLFRAM) POWDERS.
810194	TUNGSTEN, UNWROUGHT, INCLUDING BARS AND RODS OBTAINED SIMPLY BY SINTERING.
810196	TUNGSTEN WIRE.
810197	TUNGSTEN WASTE AND SCRAP.
810199	TUNGSTEN, WROUGHT, NESOI.
810210	MOLYBDENUM POWDERS.
810294	MOLYBDENUM, UNWROUGHT, INCLUDING BARS AND RODS OBTAINED SIMPLY BY SINTERING.
810295	MOLYBDENUM BARS AND RODS, OTHER THAN THOSE OBTAINED SIMPLY BY SINTERING; MOLYBDENUM PROFILES, PLATES, SHEETS, STRIP AND FOIL.
810296	MOLYBDENUM WIRE.
810297	MOLYBDENUM WASTE AND SCRAP.
810299	MOLYBDENUM AND ARTICLES THEREOF, NESOI.
810320	UNWROUGHT TANTALUM, INCLUDING BARS AND RODS OBTAINED SIMPLY BY SINTERING; POWDERS.
810330	TANTALUM WASTE AND SCRAP.
810391	TANTALUM AND ARTICLES THEREOF, NESOI.
810399	TANTALUM AND ARTICLES THEREOF, NESOI.
810411	MAGNESIUM, CONTAINING 99.8% OR MORE MAGNESIUM BY WEIGHT, UNWROUGHT.
810419	MAGNESIUM, CONTAINING UNDER 99.8% MAGNESIUM BY WEIGHT, UNWROUGHT.
810420	MAGNESIUM WASTE AND SCRAP.
810430	MAGNESIUM RASPINGS, TURNINGS AND GRANULES, GRADED ACCORDING TO SIZE; MAGNESIUM POWDERS.
810490	MAGNESIUM AND ARTICLES THEREOF, NESOI.
810520	COBALT MATTES AND OTHER INTERMEDIATE PRODUCTS OF COBALT METALLURGY; COBALT, UNWROUGHT; COBALT POWDERS.
810530	COBALT WASTE AND SCRAP.
810590	COBALT AND ARTICLES THEREOF, NESOI.
810610	BISMUTH AND ARTICLES THEREOF, INCLUDING WASTE AND SCRAP.
810690	BISMUTH AND ARTICLES THEREOF, INCLUDING WASTE AND SCRAP.
810820	UNWROUGHT TITANIUM; POWDERS.
810830	TITANIUM WASTE AND SCRAP.
810890	TITANIUM AND ARTICLES THEREOF, NESOI.
810921	UNWROUGHT ZIRCONIUM; POWDERS.
810929	UNWROUGHT ZIRCONIUM; POWDERS.
810931	ZIRCONIUM WASTE AND SCRAP.
810939	ZIRCONIUM WASTE AND SCRAP.
810991	ZIRCONIUM AND ARTICLES THEREOF, NESOI.
810999	ZIRCONIUM AND ARTICLES THEREOF, NESOI.
811010	UNWROUGHT ANTIMONY; POWDERS.
811020	ANTIMONY WASTE AND SCRAP.
811090	ANTIMONY AND ARTICLES THEREOF, NESOI.
811100	MANGANESE AND ARTICLES THEREOF, INCLUDING WASTE AND SCRAP.
811212	UNWROUGHT BERYLLIUM; BERYLLIUM POWDERS, NESOI.
811213	BERYLLIUM WASTE AND SCRAP.
811219	BERYLLIUM AND ARTICLES THEREOF, NESOI.
811221	UNWROUGHT CHROMIUM; POWDERS.
811222	CHROMIUM WASTE AND SCRAP.
811229	CHROMIUM AND ARTICLES THEREOF, NESOI.
811231	GALLIUM, HAFNIUM, INDIUM, NIOBIUM (COLUMBIUM), RHENIUM & ARTICLES OF THESE METALS, INCLUDING WASTE & SCRAP.
811239	GALLIUM, HAFNIUM, INDIUM, NIOBIUM (COLUMBIUM), RHENIUM AND THALLIUM AND ARTICLES THEREOF, NESOI.
811241	GALLIUM, HAFNIUM, INDIUM, NIOBIUM (COLUMBIUM), RHENIUM & ARTICLES OF THESE METALS, INCLUDING WASTE & SCRAP.
811249	GALLIUM, HAFNIUM, INDIUM, NIOBIUM (COLUMBIUM), RHENIUM AND THALLIUM AND ARTICLES THEREOF, NESOI.
811251	UNWROUGHT THALLIUM; POWDERS.
811252	THALLIUM WASTE AND SCRAP.
811259	THALLIUM AND ARTICLES THEREOF, NESOI.
811261	UNWROUGHT CADMIUM; WASTE AND SCRAP.
811269	UNWROUGHT CADMIUM; POWDERS.
811292	GALLIUM, HAFNIUM, INDIUM, NIOBIUM (COLUMBIUM), RHENIUM & ARTICLES OF THESE METALS, INCLUDING WASTE & SCRAP.
811299	GALLIUM, HAFNIUM, INDIUM, NIOBIUM (COLUMBIUM), RHENIUM AND THALLIUM AND ARTICLES THEREOF, NESOI.
811300	CERMETS AND ARTICLES THEREOF, INCLUDING WASTE AND SCRAP.

HTS–6 code	HTS description
820110	SPADES AND SHOVELS AND PARTS THEREOF, OF BASE METAL.
820130	MATTOCKS, PICKS, HOES AND RAKES, AND PARTS THEREOF OF BASE METAL.
820140	AXES, BILL HOOKS AND SIMILAR HEWING TOOLS, AND PARTS THEREOF, OF BASE METAL.
820150	ONE-HANDED SECATEURS AND SIMILAR ONE-HANDED PRUNERS AND SHEARS (INCLUDING POULTRY SHEARS), AND PARTS THEREOF, OF BASE METAL.
820160	HEDGE SHEARS, TWO-HANDED PRUNING SHEARS AND SIMILAR TWO-HANDED SHEARS, AND PARTS THEREOF, OF BASE METAL.
820190	HANDTOOLS NESOI, OF A KIND USED IN AGRICULTURE, HORTICULTURE OR FORESTRY, AND PARTS THEREOF, OF BASE METAL.
820210	HANDSAWS AND PARTS THEREOF (EXCEPT BLADES) OF BASE METAL.
820220	BANDSAW BLADES, AND BASE METAL PARTS THEREOF.
820231	CIRCULAR SAW BLADES OF BASE METAL, WITH WORKING PART OF STEEL, AND PARTS THEREOF.
820239	CIRCULAR SAW BLADES OF BASE METAL WITH WORKING PART OF MATERIAL OTHER THAN STEEL, AND PARTS.
820240	CHAIN SAW BLADES (LENGTHS OR CUT TO SIZE), AND PARTS THEREOF, OF BASE METAL.
820291	STRAIGHT SAW BLADES FOR WORKING METAL, OF BASE METAL.
820299	SAW BLADES NESOI, AND PARTS OF SAW BLADES NESOI, OF BASE METAL.
820310	FILES, RASPS AND SIMILAR TOOLS, OF BASE METAL.
820320	PLIERS (INCLUDING CUTTING PLIERS), PINCERS, TWEEZERS, AND SIMILAR TOOLS, AND PARTS THEREOF, OF BASE METAL.
820330	METAL CUTTING SHEARS AND SIMILAR TOOLS, AND PARTS THEREOF, OF BASE METAL.
820340	PIPE CUTTERS, BOLT CUTTERS, PERFORATING PUNCHES AND SIMILAR TOOLS, AND PARTS THEREOF, OF BASE METAL.
820411	SPANNERS AND WRENCHES, HAND-OPERATED, NON-ADJUSTABLE, AND PARTS THEREOF, OF BASE METAL.
820412	SPANNERS AND WRENCHES, HAND-OPERATED, ADJUSTABLE, AND PARTS THEREOF, OF BASE METAL.
820420	SOCKET WRENCHES WITH OR WITHOUT HANDLES, DRIVES AND EXTENSIONS, AND PARTS THEREOF, OF BASE METAL.
820510	DRILLING, THREADING OR TAPPING TOOLS, AND PARTS THEREOF, OF BASE METAL.
820520	HAMMERS AND SLEDGE HAMMERS AND PARTS THEREOF, OF BASE METAL.
820530	PLANES, CHISELS, GOUGES AND SIMILAR CUTTING TOOLS FOR WOOD WORKING, AND PARTS THEREOF, OF BASE METAL.
820540	SCREWDRIVERS, AND PARTS THEREOF, OF BASE METAL.
820551	HOUSEHOLD HANDTOOLS NESOI, AND PARTS THEREOF, OF BASE METAL.
820559	HANDTOOLS NESOI, AND PARTS THEREOF, OF BASE METAL.
820560	BLOW TORCHES AND SIMILAR SELF-CONTAINED TORCHES, AND PARTS THEREOF, OF BASE METAL.
820570	VISES, CLAMPS AND THE LIKE, AND PARTS THEREOF, OF BASE METAL.
820590	HANDTOOLS, INCLUDING SETS OF ARTICLES OF TWO OR MORE SUBHEADINGS OF 8205, NESOI.
820600	TOOLS OF TWO OR MORE OF THE HEADINGS 8202 TO 8205 (SAWS, FILES, PLIERS, WRENCHES ETC. AND HANDTOOLS ETC. NESOI) PUT UP IN SETS FOR RETAIL SALE.
820720	DIES FOR DRAWING OR EXTRUDING METAL, AND PARTS THEREOF, OF BASE METAL.
820730	TOOLS FOR PRESSING, STAMPING OR PUNCHING, AND PARTS THEREOF, OF BASE METAL.
820740	TOOLS FOR TAPPING OR THREADING, AND PARTS THEREOF, OF BASE METAL.
820750	TOOLS FOR DRILLING, OTHER THAN ROCK DRILLING, AND PARTS THEREOF, OF BASE METAL.
820760	TOOLS FOR BORING OR BROACHING, AND PARTS THEREOF, OF BASE METAL.
820770	TOOLS FOR MILLING, AND PARTS THEREOF, OF BASE METAL.
820780	TOOLS FOR TURNING, OF BASE METAL.
820790	INTERCHANGEABLE TOOLS NESOI, AND PARTS THEREOF, OF BASE METAL.

HTS–6 code	HTS description
820810	KNIVES AND CUTTING BLADES FOR METAL WORKING, AND PARTS THEREOF, OF BASE METAL.
820820	KNIVES AND CUTTING BLADES FOR WOOD WORKING, AND PARTS THEREOF, OF BASE METAL.
820830	KNIVES AND CUTTING BLADES FOR KITCHEN APPLIANCES OR FOR MACHINES USED BY THE FOOD INDUSTRY, AND PARTS THEREOF, OF BASE METAL.
820840	KNIVES AND CUTTING BLADES FOR AGRICULTURAL OR FORESTRY MACHINES, AND PARTS THEREOF, OF BASE METAL.
820890	KNIVES AND CUTTING BLADES FOR MACHINES OR MECHANICAL APPLIANCES NESOI, AND PARTS THEREOF, OF BASE METAL.
820900	PLATES, STICKS, TIPS AND THE LIKE FOR TOOLS, UNMOUNTED, OF CERMETS.
821000	HAND-OPERATED MECHANICAL APPLIANCES, WEIGHING NOT OVER 10 KG, FOR PREPARING, CONDITIONING OR SERVING FOOD OR DRINK, AND BASE METAL PARTS THEREOF.
821110	SETS OF ASSORTED KNIVES AND BLADES, OTHER THAN KNIVES FOR MACHINES OR MECHANICAL APPLIANCES AND BLADES THEREFOR OF HEADING 8208.
821191	TABLE KNIVES HAVING FIXED BLADES, AND PARTS THEREOF, OF BASE METAL.
821192	KNIVES, OTHER THAN TABLE KNIVES, HAVING FIXED BLADES, AND PARTS THEREOF, OF BASE METAL.
821193	KNIVES HAVING OTHER THAN FIXED BLADES, AND PARTS THEREOF (EXCEPT BLADES), OF BASE METAL.
821194	BLADES FOR KNIVES, NESOI.
821195	HANDLES OF BASE METAL FOR KNIVES WITH CUTTING BLADES, OTHER THAN THOSE OF 8208.
821210	RAZORS.
821220	SAFETY RAZOR BLADES, INCLUDING BLADE BLANKS IN STRIPS.
821290	PARTS FOR RAZORS NESOI, OF BASE METAL.
821300	SCISSORS, TAILORS' SHEARS AND SIMILAR SHEARS, AND BLADES AND OTHER BASE METAL PARTS THEREOF.
821410	PAPER KNIVES, LETTER OPENERS, ERASING KNIVES, PENCIL SHARPENERS (NONMECHANICAL), BLADES, AND PARTS THEREOF, OF BASE METAL.
821420	MANICURE OR PEDICURE SETS AND INSTRUMENTS (INCLUDING NAIL FILES) AND BASE METAL PARTS THEREOF.
821490	ARTICLES OF CUTLERY NESOI, AND PARTS THEREOF, OF BASE METAL.
821510	SETS OF ASSORTED KITCHENWARE OR TABLEWARE OF BASE METAL, CONTAINING AT LEAST ONE ARTICLE PLATED WITH PRECIOUS METAL.
821520	SETS OF ASSORTED KITCHENWARE OR TABLEWARE OF BASE METAL, CONTAINING NO ARTICLES PLATED WITH PRECIOUS METAL.
821591	SPOONS, FORKS, LADLES, CAKE-SERVERS, SUGAR TONGS AND LIKE KITCHEN OR TABLEWARE OF BASE METAL (NO SETS), AND PARTS THEREOF, PLATED WITH PRECIOUS METAL.
821599	SPOONS, FORKS, LADLES, CAKE-SERVERS, SUGAR TONGS AND LIKE KITCHEN OR TABLEWARE OF UNPLATED BASE METAL (NO SETS), AND PARTS THEREOF, NESOI.
830110	PADLOCKS OF BASE METAL.
830120	LOCKS OF A KIND USED ON MOTOR VEHICLES, OF BASE METAL.
830130	LOCKS OF A KIND USED FOR FURNITURE, OF BASE METAL.
830140	LOCKS (KEY, COMBINATION OR ELECTRICALLY OPERATED), EXCEPT FOR MOTOR VEHICLES OR FURNITURE, OF BASE METAL.
830150	CLASPS AND FRAMES WITH CLASPS, INCORPORATING LOCKS, OF BASE METAL.
830160	PARTS OF LOCKS, OF BASE METAL.
830170	KEYS PRESENTED SEPARATELY FOR PADLOCKS OR LOCKS, OF BASE METAL.
830210	HINGES, AND PARTS THEREOF, OF BASE METAL.
830220	CASTORS, AND PARTS THEREOF, OF BASE METAL.
830230	MOUNTINGS, FITTINGS AND SIMILAR ARTICLES NESOI (EXCEPT HINGES), AND PARTS THEREOF, SUITABLE FOR MOTOR VEHICLES, OF BASE METAL.
830241	MOUNTINGS, FITTINGS AND SIMILAR ARTICLES NESOI (EXCEPT HINGES AND CASTORS), AND PARTS THEREOF, SUITABLE FOR BUILDINGS, OF BASE METAL.
830242	MOUNTINGS, FITTINGS AND SIMILAR ARTICLES NESOI (EXCEPT HINGES AND CASTORS), AND PARTS THEREOF, SUITABLE FOR FURNITURE, OF BASE METAL.

HTS–6 code	HTS description
830249	MOUNTINGS, FITTINGS AND SIMILAR ARTICLES, AND PARTS THEREOF, NESOI, OF BASE METAL.
830250	HAT-RACKS, HAT PEGS, BRACKETS AND SIMILAR FIXTURES, AND PARTS THEREOF, OF BASE METAL.
830260	AUTOMATIC DOOR CLOSURES, AND PARTS THEREOF, OF BASE METAL.
830300	ARMORED OR REINFORCED SAFES, STRONG-BOXES, DOORS AND SAFE DEPOSIT LOCKERS FOR STRONG-ROOMS, CASH OR DEED BOXES ETC., AND PARTS THEREOF, OF BASE METAL.
830400	DESK-TOP FILING OR CARD-INDEX CABINETS, PAPER TRAYS, PAPER RESTS, PEN TRAYS AND SIMILAR DESK ETC. ITEMS (NO FURNITURE) AND THEIR PARTS, OF BASE METAL.
830510	FITTINGS FOR LOOSELEAF BINDERS OR FILES, OF BASE METAL.
830520	STAPLES IN STRIPS, OF BASE METAL.
830590	LETTER CLIPS, LETTER CORNERS, PAPER CLIPS, INDEXING TAGS AND SIMILAR OFFICE ARTICLES, AND PARTS THEREOF, OF BASE METAL.
830610	BELLS, GONGS AND THE LIKE, AND PARTS THEREOF, OF BASE METAL.
830630	PHOTOGRAPH, PICTURE OR SIMILAR FRAMES AND MIRRORS, AND PARTS THEREOF, OF BASE METAL.
830710	FLEXIBLE TUBING, OF IRON OR STEEL.
830790	FLEXIBLE TUBING, OF BASE METAL, OTHER THAN IRON OR STEEL.
830810	HOOKS, EYES AND EYELETS, OF BASE METAL.
830820	TUBULAR OR BIFURCATED RIVETS, OF BASE METAL.
830890	CLASPS, FRAMES WITH CLASPS, BUCKLES, BUCKLE CLASPS, AND PARTS THEREOF, NESOI, OF BASE METAL.
830910	CROWN CORKS (INCLUDING CROWN SEALS AND CAPS), AND PARTS THEREOF, OF BASE METAL.
830990	STOPPERS, CAPS AND LIDS NESOI (NOT CROWN), CAPSULES FOR BOTTLES, BUNGS, SEALS AND OTHER PACKING ACCESSORIES, AND PARTS THEREOF, OF BASE METAL.
831000	SIGN PLATES, NAME PLATES, ADDRESS PLATES AND SIMILAR PLATES, NUMBERS, LETTERS AND OTHER SYMBOLS (NOT ILLUMINATED), AND PARTS THEREOF, OF BASE METAL.
831110	COATED ELECTRODES OF BASE METAL, FOR ELECTRIC ARC-WELDING.
831120	CORED WIRE OF BASE METAL, FOR ELECTRIC ARC-WELDING.
831130	COATED RODS AND CORED WIRE, OF BASE METAL, FOR SOLDERING, BRAZING OR WELDING BY FLAME.
831190	TUBES, PLATES ETC. OF BASE METAL OR METAL CARBIDES WITH FLUX MATERIAL FOR WELDING ETC.; WIRE AND RODS OF AGGLOMERATED BASE METAL POWDER; PARTS THEREOF.
840110	NUCLEAR REACTORS.
840120	ISOTOPIC SEPARATION MACHINERY AND APPARATUS, AND PARTS THEREOF.
840130	FUEL ELEMENTS (CARTRIDGES), NON-IRRADIATED, FOR NUCLEAR REACTORS, AND PARTS THEREOF.
840140	PARTS OF NUCLEAR REACTORS.
840211	WATERTUBE BOILERS WITH A STEAM PRODUCTION EXCEEDING 45 T PER HOUR.
840212	WATERTUBE BOILERS WITH A STEAM PRODUCTION NOT EXCEEDING 45 T PER HOUR.
840219	VAPOR GENERATING BOILERS, NESOI, INCLUDING HYBRID BOILERS.
840220	SUPER-HEATED WATER BOILERS.
840290	PARTS FOR SUPER-HEATED WATER BOILERS AND STEAM OR OTHER VAPOR GENERATION BOILERS (OTHER THAN CENTRAL HEATING HOT WATER BOILERS).
840310	CENTRAL HEATING BOILERS.
840390	PARTS FOR CENTRAL HEATING BOILERS.
840410	AUXILIARY PLANT FOR USE WITH STEAM OR OTHER VAPOR GENERATING BOILERS, SUPER-HEATED WATER BOILERS AND CENTRAL HEATING BOILERS.
840420	CONDENSERS FOR STEAM OR OTHER VAPOR POWER UNITS.
840490	PARTS FOR AUXILIARY PLANT FOR USE WITH STEAM OR OTHER VAPOR GENERATING BOILERS AND CONDENSER POWER UNITS, SUPER-HEATED AND CENTRAL HEATING BOILERS.

HTS–6 code	HTS description
840510	PRODUCER GAS AND WATER GAS GENERATORS, ACTYLENE GAS AND SIMILAR WATER PROCESS GAS GENERATORS, WITH OR WITHOUT THEIR PURIFIERS.
840590	PARTS FOR PRODUCER GAS AND WATER GAS GENERATORS, ACTYLENE GAS AND SIMILAR PROCESS GAS GENERATORS.
840610	TURBINES, STEAM AND OTHER VAPOR TYPES, FOR MARINE PROPULSION.
840681	TURBINES, STEAM AND OTHER VAPOR TYPES, OF AN OUTPUT EXCEEDING 40 MW, EXCEPT FOR MARINE PROPULSION.
840682	TURBINES, STEAM AND OTHER VAPOR TYPES, OF AN OUTPUT NOT EXCEEDING 40 MW, EXCEPT FOR MARINE PROPULSION.
840690	PARTS FOR STEAM AND OTHER VAPOR TURBINES.
840710	AIRCRAFT SPARK-IGNITION RECIPROCATING OR ROTARY INTERNAL COMBUSTION PISTON ENGINES.
840721	OUTBOARD ENGINES FOR MARINE PROPULSION.
840729	INBOARD ENGINES FOR MARINE PROPULSION.
840731	SPARK-IGNITION RECIPROCATING PISTON ENGINES FOR PROPULSION OF VEHICLES EXCEPT RAILWAY OR TRAMWAY STOCK, NOT OVER 50 CC CYLINDER CAPACITY.
840732	SPARK-IGNITION RECIPROCATING PISTON ENGINES FOR PROPULSION OF VEHICLES EXCEPT RAILWAY OR TRAMWAY STOCK, OVER 50 BUT NOT OVER 250 CC CYLINDER CAPACITY.
840733	SPARK-IGNITION RECIPROCATING PISTON ENGINES FOR PROPULSION OF VEHICLES EXCEPT RAIL OR TRAMWAY STOCK, OVER 250 BUT NOT OVER 1,000 CC CYLINDER CAPACITY.
840734	SPARK-IGNITION RECIPROCATING PISTON ENGINES FOR PROPULSION OF VEHICLES EXCEPT RAILWAY OR TRAMWAY STOCK, OVER 1,000 CC CYLINDER CAPACITY.
840790	SPARK-IGNITION RECIPROCATING OR ROTARY INTERNAL COMBUSTION PISTON ENGINES, NESOI.
840810	MARINE COMPRESSION-IGNITION INTERNAL COMBUSTION PISTON ENGINES (DIESEL OR SEMI-DIESEL ENGINES).
840820	COMPRESSION-IGNITION INTERNAL COMBUSTION PISTON ENGINES (DIESEL OR SEMI-DIESEL), FOR THE PROPULSION OF VEHICLES EXCEPT RAILWAY OR TRAMWAY STOCK.
840890	COMPRESSION-IGNITION INTERNAL COMBUSTION PISTON ENGINES (DIESEL OR SEMI-DIESEL ENGINES), NESOI.
840910	PARTS FOR SPARK-IGNITION OR ROTARY INTERNAL COMBUSTION PISTON ENGINES OR COMPRESSION-IGNITION INTERNAL COMBUSTION PISTON ENGINES, FOR AIRCRAFT.
840991	PARTS FOR USE WITH SPARK-IGNITION INTERNAL COMBUSTION PISTON ENGINES (INCLUDING ROTARY ENGINES), NESOI.
840999	PARTS FOR USE WITH COMPRESSION-IGNITION INTERNAL COMBUSTION PISTON ENGINES, NESOI.
841011	HYDRAULIC TURBINES AND WATER WHEELS, OF A POWER NOT EXCEEDING 1,000 KW.
841012	HYDRAULIC TURBINES AND WATER WHEELS, OF A POWER EXCEEDING 1,000 KW BUT NOT EXCEEDING 10,000 KW.
841013	HYDRAULIC TURBINES AND WATER WHEELS, OF A POWER EXCEEDING 10,000 KW.
841090	PARTS, INCLUDING REGULATORS, FOR HYDRAULIC TURBINES AND WATER WHEELS.
841111	TURBOJETS OF A THRUST NOT EXCEEDING 25 KN.
841112	TURBOJETS OF A THRUST EXCEEDING 25 KN.
841121	TURBOPROPELLERS OF A POWER NOT EXCEEDING 1,100 KW.
841122	TURBOPROPELLERS OF A POWER EXCEEDING 1,100 KW.
841181	GAS TURBINES, EXCEPT TURBOJETS AND TURBOPROPELLERS, OF A POWER NOT EXCEEDING 5,000 KW.
841182	GAS TURBINES, EXCEPT TURBOJETS AND TURBOPROPELLERS, OF A POWER EXCEEDING 5,000 KW.
841191	PARTS OF TURBOJETS OR TURBOPROPELLERS.
841199	PARTS OF GAS TURBINES, NESOI (OTHER THAN PARTS FOR TURBOJETS OR TURBOPROPELLERS).
841210	REACTION ENGINES OTHER THAN TURBOJETS.
841221	HYDRAULIC POWER ENGINES AND MOTORS, LINEAR ACTING (CYLINDERS).

HTS–6 code	HTS description
841229	HYDRAULIC POWER ENGINES AND MOTORS, EXCEPT LINEAR ACTING (CYLINDERS).
841231	PNEUMATIC POWER ENGINES AND MOTORS, LINEAR ACTING (CYLINDERS).
841239	PNEUMATIC POWER ENGINES AND MOTORS, EXCEPT LINEAR ACTING (CYLINDERS).
841280	ENGINES AND MOTORS, NESOI.
841290	PARTS FOR ENGINES AND MOTORS, NESOI.
841311	PUMPS FOR DISPENSING FUEL OR LUBRICANTS, OF A TYPE USED IN FILLING-STATIONS OR GARAGES.
841319	PUMPS FITTED OR DESIGNED TO BE FITTED WITH A MEASURING DEVISE, NESOI.
841320	HAND PUMPS, OTHER THAN PUMPS FITTED OR DESIGNED TO BE FITTED WITH A MEASURING DEVICE.
841330	FUEL, LUBRICATING OR COOLING MEDIUM PUMPS FOR INTERNAL COMBUSTION PISTON ENGINES.
841340	CONCRETE PUMPS.
841350	RECIPROCATING POSITIVE DISPLACEMENT PUMPS, NESOI.
841360	ROTARY POSITIVE DISPLACEMENT PUMPS, NESOI.
841370	CENTRIFUGAL PUMPS, NESOI.
841381	PUMPS FOR LIQUIDS, NESOI.
841382	LIQUID ELEVATORS.
841391	PARTS OF PUMPS FOR LIQUIDS.
841392	PARTS OF LIQUID ELEVATORS.
841410	VACUUM PUMPS.
841420	HAND- OR FOOT-OPERATED AIR PUMPS.
841430	COMPRESSORS USED IN REFRIGERATING EQUIPMENT (INCLUDING AIR CONDITIONING).
841440	AIR COMPRESSORS MOUNTED ON A WHEELED CHASSIS FOR TOWING.
841451	FANS, TABLE, FLOOR, WALL, WINDOW, CEILING OR ROOF, WITH SELF-CONTAINED ELECTRIC MOTOR OF AN OUTPUT NOT EXCEEDING 125 W.
841459	FANS, NESOI.
841460	VENTILATING OR RECYCLING HOODS INCORPORATING A FAN, HAVING A MAXIMUM HORIZINTAL SIDE NOT EXCEEDING 120 CM.
841470	FILTERING OR PURIFYING MACHINERY AND APPARATUS FOR GASES, NESOI.
841480	AIR PUMPS AND AIR OR OTHER GAS COMPRESSORS, NESOI; VENTILATING OR RECYCLING HOODS INCORPORATING A FAN, NESOI.
841490	PARTS FOR AIR OR VACUUM PUMPS, AIR OR OTHER GAS COMPRESSORS AND FANS; PARTS OF VENTILATING OR RECYCLING HOODS INCORPORATING A FAN, NESOI.
841510	AIR CONDITIONING MACHINES, WINDOW OR WALL TYPES, SELF-CONTAINED OR ''SPLIT-SYSTEM''.
841520	AUTOMOTIVE AIR CONDITIONERS.
841581	AIR CONDITIONING MACHINES NESOI, INCORPORATING A REFRIGERATING UNIT AND VALVE FOR REVERSAL OF THE COOLING/HEAT CYCLE (REVERSIBLE HEAT PUMPS).
841582	AIR CONDITIONING MACHINES NESOI, INCORPORATING A REFRIGERATING UNIT, NESOI.
841583	AIR CONDITIONING MACHINES NESOI, NOT INCORPORATING A REFRIGERATING UNIT.
841590	PARTS, NESOI, OF AIR CONDITIONING MACHINES.
841610	FURNACE BURNERS FOR LIQUID FUEL.
841620	FURNACE BURNERS FOR PULVERIZED SOLID FUEL OR FOR GAS, INCLUDING COMBINATION BURNERS.
841630	MECHANICAL STOKERS INCLUDING THEIR MECHANICAL GRATES, MECHANICAL ASH DISCHARGERS AND SIMILAR APPLIANCES.
841690	PARTS OF FURNACE BURNERS FOR LIQUID FUEL, PULVERIZED SOLID FUEL OR GAS; PARTS OF MECHANICAL STOKERS, GRATES, ASH DISCHARGERS AND SIMILAR APPLIANCES.
841710	INDUSTRIAL OR LABORATORY FURNACES AND OVENS, FOR THE HEAT TREATMENT OF ORES, PYRITES OR METALS, NONELECTRIC.
841720	BAKERY OVENS, INCLUDING BISCUIT OVENS, NONELECTRIC.
841780	INDUSTRIAL OR LABORATORY FURNACES AND OVENS, INCLUDING INCINERATORS, NONELECTRIC, NESOI.
841790	PARTS OF INDUSTRIAL OR LABORATORY FURNACES AND OVENS, INCLUDING PARTS OF INCINERATORS, NONELECTRIC.
841810	COMBINED REFRIGERATOR-FREEZERS FITTED WITH SEPARATE EXTERNAL DOORS.
841821	REFRIGERATORS, HOUSEHOLD, COMPRESSION TYPE.
841829	REFRIGERATORS, HOUSEHOLD TYPE, NESOI.

HTS–6 code	HTS description
841830	FREEZERS, CHEST TYPE, CAPACITY NOT EXCEEDING 800 LITERS.
841840	FREEZERS, UPRIGHT TYPE, CAPACITY NOT EXCEEDING 900 LITERS.
841850	REFRIGERATING OR FREEZING CHESTS, DISPLAY COUNTERS, CABINETS, SHOWCASES AND SIMILAR EQUIPMENT, NESOI.
841861	COMPRESSION TYPE HEAT PUMP UNITS WHOSE CONDENSERS ARE HEAT EXCHANGERS (EXCLUDING REVERSIBLE HEAT PUMPS CAPABLE OF CHANGING TEMPERATURE AND HUMIDITY).
841869	REFRIGERATING OR FREEZING EQUIPMENT, NESOI.
841891	FURNITURE DESIGNED TO RECEIVE REFRIGERATING OR FREEZING EQUIPMENT.
841899	PARTS OF REFRIGERATION OR FREEZING EQUIPMENT AND HEAT PUMPS, NESOI.
841911	INSTANTANEOUS GAS WATER HEATERS.
841912	INSTANTANEOUS OR STORAGE WATER HEATERS, EXCEPT INSTANTANEOUS GAS WATER HEATERS, NONELECTRIC.
841919	INSTANTANEOUS OR STORAGE WATER HEATERS, EXCEPT INSTANTANEOUS GAS WATER HEATERS, NONELECTRIC.
841920	MEDICAL, SURGICAL OR LABORATORY STERILIZERS.
841933	DRYERS FOR AGRICULTURAL PRODUCTS.
841934	DRYERS FOR AGRICULTURAL PRODUCTS.
841935	DRYERS FOR WOOD, PAPER PULP, PAPER OR PAPERBOARD.
841939	DRYERS, NESOI.
841940	DISTILLING OR RECTIFYING PLANT.
841950	HEAT EXCHANGE UNITS, INDUSTRIAL TYPE.
841960	MACHINERY FOR LIQUEFYING AIR OR OTHER GASES.
841981	MACHINERY, PLANT OR EQUIPMENT FOR MAKING HOT DRINKS OR FOR COOKING OR HEATING FOOD.
841989	MACHINERY, PLANT OR LABORATORY EQUIPMENT FOR THE TREATMENT OF MATERIAL INVOLVING TEMPERATURE CHANGE (EXCEPT DOMESTIC MACHINERY), NESOI.
841990	PARTS FOR MACHINERY, PLANT OR LABORATORY EQUIPMENT FOR THE TREATMENT OF MATERIAL INVOLVING TEMPERATURE CHANGE (EXCEPT DOMESTIC MACHINERY), NESOI.
842010	CALENDERING OR OTHER ROLLING MACHINES, OTHER THAN FOR METALS OR GLASS.
842091	CYLINDERS FOR CALENDERING OR OTHER ROLLING MACHINES, OTHER THAN FOR METALS OR GLASS.
842099	PARTS, EXCEPT CYLINDERS, FOR CALENDERING OR OTHER ROLLING MACHINES, OTHER THAN FOR METALS OR GLASS.
842111	CREAM SEPARATORS, CENTRIFUGAL.
842112	CLOTHES-DRYERS, CENTRIFUGAL.
842119	CENTRIFUGES, INCLUDING CENTRIFUGAL DRYERS (OTHER THAN CLOTHES DRYERS), NESOI.
842121	WATER FILTERING OR PURIFYING MACHINERY AND APPARATUS.
842122	BEVERAGE FILTERING OR PURIFYING MACHINERY AND APPARATUS, OTHER THAN WATER.
842123	OIL OR FUEL FILTERS FOR INTERNAL COMBUSTION ENGINES.
842129	FILTERING OR PURIFYING MACHINERY AND APPARATUS FOR LIQUIDS, NESOI.
842131	INTAKE AIR FILTERS FOR INTERNAL COMBUSTION ENGINES.
842132	FILTERING OR PURIFYING MACHINERY AND APPARATUS FOR GASES, NESOI.
842139	FILTERING OR PURIFYING MACHINERY AND APPARATUS FOR GASES, NESOI.
842191	PARTS OF CENTRIFUGES, INCLUDING CENTRIFUGAL DRYERS.
842199	PARTS FOR FILTERING OR PURIFYING MACHINERY AND APPARATUS FOR LIQUIDS OR GASES.
842211	DISHWASHING MACHINES, HOUSEHOLD TYPE.
842219	DISHWASHING MACHINES, EXCEPT HOUSEHOLD TYPE.
842220	MACHINERY FOR CLEANING OR DRYING BOTTLES OR OTHER CONTAINERS.
842230	MACHINERY FOR FILLING, CLOSING, SEALING, CAPSULING OR LABELING BOTTLES, CANS, BOXES OR OTHER CONTAINERS; MACHINERY FOR AERATING BEVERAGES.
842240	PACKING OR WRAPPING MACHINERY (INCLUDING HEAT-SHRINK WRAPPING MACHINERY), NESOI.
842290	PARTS FOR MACHINES FOR DISHWASHING, FOR CLEANING, FILLING ETC. CONTAINERS AND FOR PACKING AND WRAPPING; PARTS OF MACHINES FOR AERATING BEVERAGES.

HTS–6 code	HTS description
842310	PERSONAL WEIGHING MACHINES, INCLUDING BABY SCALES; HOUSEHOLD SCALES.
842320	SCALES FOR CONTINUOUS WEIGHING OF GOODS ON CONVEYORS.
842330	CONSTANT-WEIGHT SCALES AND SCALES FOR DISCHARGING A PREDETERMINED WEIGHT OF MATERIAL INTO A BAG OR CONTAINER, INCLUDING HOPPER SCALES.
842381	WEIGHING MACHINERY, NESOI, HAVING A MAXIMUM WEIGHING CAPACITY NOT EXCEEDING 30 KG.
842382	WEIGHING MACHINERY, NESOI, HAVING A MAXIMUM WEIGHING CAPACITY EXCEEDING 30 KG BUT NOT EXCEEDING 5,000 KG.
842389	WEIGHING MACHINERY, NESOI, HAVING A MAXIMUM WEIGHING CAPACITY EXCEEDING 5,000 KG.
842390	WEIGHING MACHINE WEIGHTS OF ALL KINDS; PARTS OF WEIGHING MACHINERY.
842410	FIRE EXTINGUISHERS, WHETHER OR NOT CHARGED.
842420	SPRAY GUNS AND SIMILAR APPLIANCES.
842430	STEAM OR SAND BLASTING MACHINES AND SIMILAR JET PROJECTING MACHINES.
842441	PORTABLE AGRICULTURAL OR HORTICULTURAL SPRAYERS, FOR PROJECTING, DISPERSING OR SPRAYING LIQUID OR POWDERS.
842449	AGRICULTURAL OR HORTICULTURAL SPRAYERS, OTHER THAN PORTABLE SPRAYERS.
842482	MECHANICAL APPLINACES FOR AGRICULTURAL OR HORTICULTURAL USE FOR PROJECTING, DISPERSING OR SPRAYING LIQUIDS OR POWEDERS, NESOI.
842489	MECHANICAL APPLIANCES FOR PROJECTING, DISPERSING OR SPRAYING LIQUIDS OR POWDERS, NESOI.
842490	PARTS FOR MECHANICAL APPLIANCES FOR PROJECTING, DISPERSING OR SPRAYING, FIRE EXTINGUISHERS, SPRAY GUNS, AND STEAM OR SAND BLASTING MACHINES.
842511	PULLEY TACKLE AND HOISTS, OTHER THAN SKIP HOISTS OR HOISTS OF A KIND USED FOR RAISING VEHICLES, POWERED BY ELECTRIC MOTOR.
842519	PULLEY TACKLE AND HOISTS, OTHER THAN SKIP HOISTS OR HOISTS OF A KIND USED FOR RAISING VEHICLES, NOT POWERED BY ELECTRIC MOTOR.
842531	WINCHES AND CAPSTANS POWERED BY ELECTRIC MOTORS.
842539	WINCHES AND CAPSTANS, NOT POWERED BY ELECTRIC MOTORS.
842541	BUILT-IN JACKING SYSTEMS OF A TYPE USED IN GARAGES.
842542	JACKS AND HOISTS, HYDRAULIC, EXCEPT BUILT-IN JACKING SYSTEMS USED IN GARAGES.
842549	JACKS, NESOI; HOISTS OF A KIND USED FOR RAISING VEHICLES, NESOI.
842611	OVERHEAD TRAVELING CRANES ON FIXED SUPPORT.
842612	MOBILE LIFTING FRAMES ON TIRES AND STRADDLE CARRIERS.
842619	OVERHEAD TRAVELING CRANES, TRANSPORTER CRANES, GANTRY AND BRIDGE CRANES, MOBILE LIFTING FRAMES AND STRADDLE CARRIES, NESOI.
842620	TOWER CRANES.
842630	PORTAL OR PEDESTAL JIB CRANES.
842641	DERRICKS, CRANES, NESOI AND WORKS TRUCKS FITTED WITH A CRANE, SELF-PROPELLED, ON TIRES.
842649	DERRICKS, CRANES, NESOI AND WORKS TRUCKS FITTED WITH A CRANE, SELF-PROPELLED, NOT ON TIRES.
842691	LIFTING OR HANDLING MACHINERY DESIGNED FOR MOUNTING ON ROAD VEHICLES.
842699	LIFTING OR HANDLING MACHINERY, NESOI.
842710	SELF-PROPELLED LIFTING OR HANDLING TRUCKS POWERED BY AN ELECTRIC MOTOR.
842720	SELF-PROPELLED LIFTING OR HANDLING TRUCKS POWERED BY OTHER THAN AN ELECTRIC MOTOR.
842790	FORK-LIFT AND OTHER WORKS TRUCKS FITTED WITH LIFTING OR HANDLING EQUIPMENT, OTHER THAN SELF-PROPELLED, NESOI.
842810	PASSENGER OR FREIGHT ELEVATORS OTHER THAN CONTINUOUS ACTION; SKIP HOISTS.
842820	PNEUMATIC ELEVATORS AND CONVEYORS.
842831	CONTINUOUS-ACTION ELEVATORS AND CONVEYORS, FOR GOODS OR MATERIALS, SPECIALLY DESIGNED FOR UNDERGROUND USE.

HTS–6 code	HTS description
842832	CONTINUOUS-ACTION ELEVATORS AND CONVEYORS, FOR GOODS OR MATERIALS, OTHER THAN FOR UNDERGROUND USE, BUCKET TYPE.
842833	CONTINUOUS-ACTION ELEVATORS AND CONVEYORS, FOR GOODS OR MATERIALS, OTHER THAN FOR UNDERGROUND USE, BELT TYPE.
842839	CONTINUOUS-ACTION ELEVATORS AND CONVEYORS, FOR GOODS OR MATERIALS, OTHER THAN FOR UNDERGROUND USE, NESOI.
842840	ESCALATORS AND MOVING WALKWAYS.
842860	TELEFERICS, CHAIR LIFTS, SKI DRAGLINES; TRACTION MECHANISMS FOR FUNICULARS.
842870	LIFTING, HANDLING, LOADING OR UNLOADING MACHINERY NESOI.
842890	LIFTING, HANDLING, LOADING OR UNLOADING MACHINERY NESOI.
842911	BULLDOZERS AND ANGLEDOZERS, SELF-PROPELLED, TRACK LAYING.
842919	BULLDOZERS AND ANGLEDOZERS, SELF-PROPELLED, OTHER THAN TRACK LAYING.
842920	GRADERS AND LEVELERS, SELF-PROPELLED.
842930	SCRAPERS, SELF-PROPELLED.
842940	TAMPING MACHINES AND ROAD ROLLERS, SELF-PROPELLED.
842951	MECHANICAL FRONT-END SHOVEL LOADERS, SELF-PROPELLED.
842952	MECHANICAL SHOVELS, EXCAVATORS AND SHOVEL LOADERS WITH 360 DEGREE REVOLVING SUPERSTRUCTURE, SELF-PROPELLED.
842959	MECHANICAL SHOVELS, EXCAVATORS AND SHOVEL LOADERS NESOI, SELF-PROPELLED.
843010	PILE-DRIVERS AND PILE-EXTRACTORS.
843020	SNOWPLOWS AND SNOWBLOWERS.
843031	COAL OR ROCK CUTTERS AND TUNNELING MACHINERY, SELF-PROPELLED.
843039	COAL OR ROCK CUTTERS AND TUNNELING MACHINERY, OTHER THAN SELF-PROPELLED.
843041	BORING OR SINKING MACHINERY, NESOI, SELF-PROPELLED.
843049	BORING OR SINKING MACHINERY, NESOI, OTHER THAN SELF-PROPELLED.
843050	MOVING, GRADING, LEVELING, SCRAPING, EXCAVATING, TAMPING, COMPACTING OR EXTRACTING MACHINERY FOR EARTH, MINERALS OR ORES, NESOI, SELF-PROPELLED.
843061	TAMPING OR COMPACTING MACHINERY, NOT SELF-PROPELLED.
843069	MOVING, GRADING, LEVELING, EXCAVATING, EXTRACTING MACHINERY FOR EARTH, MINERALS OR ORES, NESOI, NOT SELF-PROPELLED.
843110	PARTS FOR PULLEY TACKLE AND HOISTS (OTHER THAN SKIP HOISTS), WINCHES, CAPSTANS AND JACKS.
843120	PARTS FOR FORK-LIFT TRUCKS AND OTHER WORKS TRUCKS FITTED WITH LIFTING OR HANDLING EQUIPMENT.
843131	PARTS FOR PASSENGER OR FREIGHT ELEVATORS OTHER THAN CONTINUOUS ACTION, SKIP HOISTS OR ESCALATORS.
843139	PARTS FOR LIFTING, HANDLING, LOADING OR UNLOADING MACHINERY, NESOI.
843141	BUCKETS, SHOVELS, GRABS AND GRIPS FOR DERRICKS, CRANES, BULLDOZERS, ANGLEDOZERS, GRADERS, SCRAPERS, BORERS, EXTRACTING, ETC. MACHINERY.
843142	BULLDOZER OR ANGLEDOZER BLADES.
843143	PARTS FOR BORING OR SINKING MACHINERY, NESOI.
843149	PARTS AND ATTACHMENTS, NESOI, FOR DERRICKS, CRANES, SELF-PROPELLED BULLDOZERS, GRADERS ETC. AND OTHER GRADING, SCRAPING, ETC. MACHINERY.
843210	PLOWS FOR SOIL PREPARATION OR CULTIVATION.
843221	DISC HARROWS.
843229	HARROWS (EXCEPT DISC), SCARIFIERS, CULTIVATORS, WEEDERS AND HOES.
843231	NO-TILL DIRECT SEEDERS, PLANTERS AND TRANSPLANTERS.
843239	SEEDERS, PLANTERS AND TRANSPLANTERS, NESOI.
843241	MANURE SPREADERS.
843242	FERTILIZER DISTRIBUTORS.
843280	AGRICULTURAL, HORTICULTURAL OR FORESTRY MACHINERY FOR SOIL PREPARATION OR CULTIVATION, NESOI; LAWN OR SPORTS GROUND ROLLERS.

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843290	PARTS FOR AGRICULTURAL, HORTICULTURAL OR FORESTRY MACHINERY (FOR SOIL PREPARATION OR CULTIVATION) AND PARTS FOR LAWN OR GROUND ROLLERS.
843311	MOWERS FOR LAWNS, PARKS OR SPORTS GROUNDS, POWERED WITH THE CUTTING DEVICE ROTATING IN A HORIZONTAL PLANE.
843319	MOWERS FOR LAWNS, PARKS OR SPORTS GROUNDS, EXCEPT POWERED WITH THE CUTTING DEVICE ROTATING IN A HORIZONTAL PLANE.
843320	MOWERS, NESOI, INCLUDING CUTTER BARS FOR TRACTOR MOUNTING.
843330	HAYING MACHINES, OTHER THAN MOWERS.
843340	STRAW OR FODDER BALERS, INCLUDING PICK-UP BALERS.
843351	COMBINE HARVESTER-THRESHERS.
843352	THRESHING MACHINERY, EXCEPT COMBINE HARVESTER-THRESHERS.
843353	ROOT OR TUBER HARVESTING MACHINES.
843359	HARVESTING MACHINERY, NESOI.
843360	MACHINES FOR CLEANING, SORTING OR GRADING EGGS, FRUIT OR OTHER AGRICULTURAL PRODUCE.
843390	PARTS FOR HARVESTING OR THRESHING MACHINERY, MOWERS, BALERS AND MACHINES FOR CLEANING, SORTING OR GRADING EGGS, FRUIT OR OTHER AGRICULTURAL PRODUCE.
843410	MILKING MACHINES.
843420	DAIRY MACHINERY.
843490	PARTS OF MILKING MACHINES AND DAIRY MACHINERY.
843510	PRESSES, CRUSHERS AND SIMILAR MACHINERY USED IN THE MANUFACTURE OF WINES, CIDER, FRUIT JUICES OR SIMILAR BEVERAGES.
843590	PARTS OF PRESSES, CRUSHERS AND SIMILAR MACHINERY, USED IN THE MANUFACTURE OF WINE, CIDER, FRUIT JUICES OR SIMILAR BEVERAGES.
843610	MACHINERY FOR PREPARING ANIMAL FEEDS.
843621	POULTRY INCUBATORS AND BROODERS.
843629	POULTRY-KEEPING MACHINERY (OTHER THAN INCUBATORS AND BROODERS).
843680	AGRICULTURAL, HORTICULTURAL, FORESTRY, BEE-KEEPING MACHINERY, INCLUDING GERMINATION PLANT FITTED WITH MECHANICAL OR THERMAL EQUIPMENT, NESOI.
843691	PARTS OF POULTRY-KEEPING MACHINERY OR POULTRY INCUBATORS AND BROODERS.
843699	PARTS OF AGRICULTURAL, HORTICULTURAL, FORESTRY, BEE-KEEPING MACHINERY, INCLUDING GERMINATION PLANT FITTED WITH MECHANICAL OR THERMAL EQUIPMENT, NESOI.
843710	MACHINES FOR CLEANING, SORTING OR GRADING SEED, GRAIN OR DRIED LEGUMINOUS VEGETABLES.
843780	MACHINERY USED IN THE MILLING INDUSTRY OR FOR THE WORKING OF CEREALS OR DRIED LEGUMINOUS VEGETABLES, OTHER THAN FARM TYPE MACHINERY.
843790	PARTS OF MACHINES (NONFARM) USED TO CLEAN, SORT OR GRADE SEED, GRAIN OR DRIED LEGUMINOUS VEGETABLES OR TO WORK CEREALS OR DRIED LEGUMINOUS VEGETABLES.
843810	BAKERY MACHINERY AND MACHINERY FOR THE MANUFACTURE OF MACARONI, SPAGHETTI OR SIMILAR PRODUCTS.
843820	MACHINERY FOR THE MANUFACTURE OF CONFECTIONERY, COCOA OR CHOCOLATE.
843830	MACHINERY FOR SUGAR MANUFACTURE.
843840	BREWERY MACHINERY.
843850	MACHINERY FOR THE PREPARATION OF MEAT OR POULTRY.
843860	MACHINERY FOR THE PREPARATION OF FRUITS, NUTS OR VEGETABLES.
843880	MACHINERY FOR THE INDUSTRIAL PREPARATION OR MANUFACTURE OF FOOD OR DRINK (NOT FOR THE EXTRACTION ETC. OF ANIMAL OR FIXED VEGETABLE FATS OR OILS) NESOI.
843890	PARTS OF MACHINERY FOR THE INDUSTRIAL PREPARATION OR MANUFACTURE OF FOOD OR DRINK, NESOI.
843910	MACHINERY FOR MAKING PULP OF FIBROUS CELLULOSIC MATERIAL.
843920	MACHINERY FOR MAKING PAPER OR PAPERBOARD.
843930	MACHINERY FOR FINISHING PAPER OR PAPERBOARD.

HTS–6 code	HTS description
843991	PARTS OF MACHINERY FOR MAKING PULP OF FIBROUS CELLULOSIC MATERIAL.
843999	PARTS FOR MACHINERY MAKING OR FINISHING PAPER OR PAPERBOARD.
844010	BOOKBINDING MACHINERY, INCLUDING BOOK-SEWING MACHINES.
844090	PARTS FOR BOOKBINDING MACHINERY, INCLUDING PARTS FOR BOOK-SEWING MACHINES.
844110	CUTTING MACHINES FOR PAPER AND PAPERBOARD.
844120	MACHINES FOR MAKING PAPER BAGS, SACKS OR ENVELOPES.
844130	MACHINES FOR MAKING PAPER CARTONS, BOXES, CASES, DRUMS AND SIMILAR CONTAINERS, OTHER THAN BY MOLDING.
844140	MACHINES FOR MOLDING ARTICLES IN PAPER PULP, PAPER OR PAPERBOARD.
844180	MACHINERY FOR MAKING UP PAPER PULP, PAPER OR PAPERBOARD, NESOI.
844190	PARTS OF MACHINERY FOR MAKING UP PAPER PULP, PAPER OR PAPERBOARD, INCLUDING PARTS OF CUTTING MACHINES.
844230	MACHINERY, APPARATUS AND EQUIPMENT, NESOI, FOR PREPARING OR MAKING PRINTING BLOCKS, PLATES, CYLINDERS OR OTHER PRINTING COMPONENTS.
844240	PARTS OF MACHINERY, APPARATUS AND EQUIPMENT, NESOI, FOR TYPESETTING ETC. AND PREPARING OR MAKING PRINTING BLOCKS OR OTHER PRINTING COMPONENTS.
844250	PRINTING TYPE, BLOCKS, PLATES, CYLINDERS AND OTHER PRINTING COMPONENTS; BLOCKS, PLATES, CYLINDERS AND LITHOGRAPHIC STONES, PREPARED FOR PRINT PURPOSES.
844311	OFFSET PRINTING MACHINERY, REEL-FED.
844312	OFFSET PRINTING MACHINERY, SHEET-FED, OFFICE TYPE (SHEET SIZE NOT EXCEEDING 22X36 CM).
844313	OFFSET PRINTING MACHINERY, NESOI.
844314	LETTERPRESS PRINTING MACHINERY, REEL FED, EXCLUDING FLEXOGRAPHIC PRINTING.
844315	LETTERPRESS PRINTING MACHINERY, OTHER THAN REEL FED, EXCLUDING FLEXOGRAPHIC PRINTING.
844316	FLEXOGRAPHIC PRINTING MACHINERY.
844317	GRAVURE PRINTING MACHINERY.
844319	OFFSET PRINTING MACHINERY, NESOI.
844331	MACHINES WHICH PERFORM TWO OR MORE OF THE FUNCTIONS OF PRINTING, COPYING OR FAX TRANSMISSION, CAPABLE OF CONNECTING TO AN ADP MACHINE OR TO A NETWORK.
844332	PRINTERS, COPYING MACHINES AND FACSIMILE MACHINES, NOT COMBINED, CAPABLE OF CONNECTING TO AN AUTOMATIC DATA PROCESSING MACHINE OR TO A NETWORK.
844339	PRINTERS, COPYING MACHINES AND FACSIMILE MACHINES, NOT COMBINED, NESOI.
844391	PARTS AND ACCESSORIES OF PRINTING MACHINERY USED FOR PRINTING BY MEANS OF PLATES, CYLINDERS AND OTHER PRINTING COMPONENTS OF HEAD. 8442.
844399	PARTS AND ACCESSORIES OF PRINTERS, COPYING MACHINES AND FACSIMILE MACHINES, NESOI.
844400	MACHINES FOR EXTRUDING, DRAWING, TEXTURING OR CUTTING MANMADE TEXTILE MATERIALS.
844511	CARDING MACHINES FOR PREPARING TEXTILE FIBERS.
844512	COMBING MACHINES FOR PREPARING TEXTILE FIBERS.
844513	DRAWING OR ROVING MACHINES FOR PREPARING TEXTILE FIBERS.
844519	MACHINES FOR PREPARING TEXTILE FIBERS, NESOI.
844520	TEXTILE SPINNING MACHINES.
844530	TEXTILE DOUBLING OR TWISTING MACHINES.
844540	TEXTILE WINDING (INCLUDING WEFT WINDING) OR REELING MACHINES.
844590	MACHINERY FOR PRODUCING TEXTILE YARNS NESOI; MACHINES FOR PREPARING TEXTILE YARNS FOR WEAVING MACHINES (LOOMS), KNITTING AND STICHBONDING MACHINES.
844610	WEAVING MACHINES (LOOMS) FOR WEAVING FABRICS OF A WIDTH NOT EXCEEDING 30 CM.
844621	POWER LOOMS FOR WEAVING FABRICS OF A WIDTH EXCEEDING 30 CM, SHUTTLE TYPE.
844629	WEAVING MACHINES (LOOMS) FOR WEAVING FABRICS OF A WIDTH EXCEEDING 30 CM, SHUTTLE TYPE, NESOI.

HTS–6 code	HTS description
844630	WEAVING MACHINES (LOOMS) FOR WEAVING FABRICS OF A WIDTH EXCEEDING 30 CM, SHUTTLELESS TYPE.
844711	CIRCULAR KNITTING MACHINES WITH CYLINDER DIAMETER NOT EXCEEDING 165 MM.
844712	CIRCULAR KNITTING MACHINES WITH CYLINDER DIAMETER EXCEEDING 165 MM.
844720	FLAT KNITTING MACHINES; STITCH-BONDING MACHINES.
844790	KNITTING MACHINES, NESOI, AND MACHINES FOR MAKING GIMPED YARN, TULLE, LACE, EMBROIDERY, TRIMMINGS, BRAID OR NET AND MACHINES FOR TUFTING.
844811	AUXILIARY MACHINERY FOR TEXTILE MACHINES (HEADINGS 8444 TO 8447), DOBBIES AND JACQUARDS, CARD REDUCING, COPYING, PUNCHING OR ASSEMBLING MACHINES.
844819	AUXILIARY MACHINERY FOR TEXTILE MACHINES (HEADINGS 8444 TO 8447), NESOI.
844820	PARTS AND ACCESSORIES FOR MACHINES FOR EXTRUDING, DRAWING, TEXTURING OR CUTTING MANMADE TEXTILE MATERIALS, OR OF THEIR AUXILIARY MACHINERY.
844831	CARD CLOTHING.
844832	PARTS OF MACHINES FOR PREPARING TEXTILE FIBERS, OTHER THAN CARD CLOTHING.
844833	SPINDLES, SPINDLE FLYERS, SPINNING RINGS AND RING TRAVELLERS, FOR MACHINERY USED FOR PREPARING OR PRODUCING TEXTILE YARNS, ETC.
844839	PARTS AND ACCESSORIES FOR TEXTILE SPINNING, DOUBLING OR TWISTING, WINDING OR REELING AND YARN PRODUCING MACHINES, ETC., NESOI.
844842	REEDS FOR LOOMS, HEALDS AND HEALD-FRAMES.
844849	PARTS AND ACCESSORIES OF WEAVING MACHINES (LOOMS) OR OF THEIR AUXILIARY MACHINERY, NESOI.
844851	SINKERS, NEEDLES AND OTHER ARTICLES USED IN FORMING STITCHES FOR KNITTING MACHINES, STITCH-BONDING AND GIMPED YARN ETC. MACHINES.
844859	PARTS AND ACCESSORIES NESOI FOR MACHINES FOR KNITTING, STITCH-BONDING, MAKING GIMPED YARN, TULLE, LACE, EMBROIDERY, TRIMMING, BRAID, NET OR TUFTING.
844900	MACHINERY FOR THE MANUFACTURE OR FINISHING OF FELT OR NONWOVENS IN THE PIECE OR IN SHAPES, OR FOR MAKING OR BLOCKING FELT HATS; PARTS THEREOF.
845011	HOUSEHOLD- OR LAUNDRY-TYPE WASHING MACHINES, FULLY AUTOMATIC, WITH A DRY LINEN CAPACITY NOT EXCEEDING 10 KG.
845012	HOUSEHOLD- OR LAUNDRY-TYPE WASHING MACHINES, NOT FULLY AUTOMATIC, WITH A BUILT-IN CENTRIFUGAL DRYER, WITH A DRY LINEN CAPACITY NOT EXCEEDING 10 KG.
845019	HOUSEHOLD- OR LAUNDRY-TYPE WASHING MACHINES, WITH A DRY LINEN CAPACITY NOT EXCEEDING 10 KG, NESOI.
845020	HOUSEHOLD- OR LAUNDRY-TYPE WASHING MACHINES, WITH A DRY LINEN CAPACITY EXCEEDING 10 KG.
845090	PARTS OF HOUSEHOLD- OR LAUNDRY-TYPE WASHING MACHINES, INCLUDING PARTS OF MACHINES WHICH BOTH WASH AND DRY.
845110	DRY-CLEANING MACHINES FOR TEXTILES YARNS, FABRICS OR MADE UP TEXTILE ARTICLES.
845121	DRYING MACHINES (EXCEPT CENTRIFUGAL TYPE) FOR TEXTILE YARNS, FABRICS OR MADE UP TEXTILE ARTICLES, WITH A DRY LINEN CAPACITY NOT EXCEEDING 10 KG.
845129	DRYING MACHINES (EXCEPT CENTRIFUGAL TYPE) FOR TEXTILE YARNS, FABRICS OR MADE UP TEXTILE ARTICLES, WITH A DRY LINEN CAPACITY EXCEEDING 10 KG.
845130	IRONING MACHINES AND PRESSES (INCLUDING FUSING PRESSES) FOR TEXTILE YARNS, FABRICS OR MADE UP TEXTILE ARTICLES.
845140	WASHING, BLEACHING OR DYEING MACHINES FOR TEXTILES YARNS, FABRICS OR MADE UP TEXTILES ARTICLES.
845150	MACHINES FOR REELING, UNREELING, FOLDING, CUTTING OR PINKING TEXTILE FABRICS.
845180	MACHINERY FOR FINISHING, COATING OR IMPREGNATING TEXTILES YARNS, FABRICS OR MADE UP TEXTILE ARTICLES; MACHINES FOR APPLYING PASTE TO BASE FABRICS ETC.

HTS–6 code	HTS description
845190	PARTS FOR MACHINERY FOR WASHING, CLEANING, WRINGING ETC. TEXTILE YARNS AND FABRICS, APPLYING PASTE TO BASE FABRIC ETC. AND REELING ETC. TEXTILE FABRIC.
845210	SEWING MACHINES OF THE HOUSEHOLD TYPE.
845221	SEWING MACHINES OTHER THAN OF THE HOUSEHOLD TYPE, AUTOMATIC UNITS.
845229	SEWING MACHINES OTHER THAN OF THE HOUSEHOLD OR AUTOMATIC TYPES.
845230	SEWING MACHINE NEEDLES.
845290	PARTS FOR SEWING MACHINES, NESOI.
845310	MACHINES FOR PREPARING, TANNING OR WORKING HIDES, SKINS OR LEATHER.
845320	MACHINERY FOR MAKING OR REPAIRING FOOTWEAR.
845380	MACHINERY (OTHER THAN SEWING MACHINES), FOR MAKING OR REPAIRING ARTICLES OF HIDES, SKINS OR LEATHER, EXCEPT FOOTWEAR.
845390	PARTS OF MACHINERY (EXCEPT SEWING MACHINES) FOR TANNING ETC. HIDES, SKINS OR LEATHER OR FOR MAKING OR REPAIRING ARTICLES OF HIDES, SKINS OR LEATHER.
845410	CONVERTERS USED IN METALLURGY OR METAL FOUNDRIES.
845420	INGOT MOLDS AND LADLES USED IN METALLURGY OR METAL FOUNDRIES.
845430	CASTING MACHINES USED IN METALLURGY OR METAL FOUNDRIES.
845490	PARTS FOR CONVERTERS, LADLES, INGOT MOLDS AND CASTING MACHINES USED IN METALLURGY OR METAL FOUNDRIES.
845510	METAL-ROLLING TUBE MILLS.
845521	METAL-ROLLING HOT OR COMBINATION HOT AND COLD ROLLING MILLS, EXCEPT TUBE MILLS.
845522	COLD METAL-ROLLING MILLS, EXCEPT TUBE MILLS.
845530	ROLLS FOR METAL-ROLLING MILLS.
845590	PARTS FOR METAL-ROLLING MILLS, EXCEPT ROLLS FOR ROLLING MILLS.
845611	MACHINE TOOLS FOR WORKING ANY MATERIAL BY REMOVAL OF MATERIAL OPERATED BY LASER.
845612	MACHINE TOOLS FOR WORKING ANY MATERIAL BY REMOVAL OF MATERIAL OPERATED BY OTHER LIGHT OR PHOTON BEAM PROCESSES.
845620	MACHINE TOOLS FOR WORKING ANY MATERIAL BY REMOVAL OF MATERIAL, BY ULTRASONIC PROCESSES.
845630	MACHINE TOOLS FOR WORKING ANY MATERIAL BY REMOVAL OF MATERIAL, BY ELECTRO-DISCHARGE PROCESSES.
845640	MACHINE TOOLS FOR WORKING ANY MATERIAL BY REMOVAL OF MATERIAL OPERATED BY PLASMA ARC PROCESSES.
845650	MACHINE TOOLS FOR WORKING ANY MATERIAL BY REMOVAL OF MATERIAL, WATER-JET CUTTING MACHINES.
845690	MACHINE TOOLS FOR REMOVAL OF MATERIAL BY ELECTRO-CHEMICAL, ELECTRON-BEAM, IONIC-BEAM OR PLASMA ARC PROCESSES, N.E.S.O.I.
845710	MACHINING CENTERS FOR WORKING METAL.
845720	UNIT CONSTRUCTION MACHINES (SINGLE STATION) FOR WORKING METAL.
845730	MULTISTATION TRANSFER MACHINES FOR WORKING METAL.
845811	HORIZONTAL LATHES FOR REMOVING METAL, NUMERICALLY CONTROLLED.
845819	HORIZONTAL LATHES FOR REMOVING METAL, NOT NUMERICALLY CONTROLLED.
845891	LATHES, EXCLUDING HORIZONTAL, FOR REMOVING METAL, NUMERICALLY CONTROLLED.
845899	LATHES, EXCLUDING HORIZONTAL, FOR REMOVING METAL, NOT NUMERICALLY CONTROLLED.
845910	WAY-TYPE UNIT HEAD MACHINES FOR REMOVING METAL.
845921	DRILLING MACHINES FOR REMOVING METAL NESOI, NUMERICALLY CONTROLLED.
845929	DRILLING MACHINES FOR REMOVING METAL NESOI, NOT NUMERICALLY CONTROLLED.
845931	BORING-MILLING MACHINES FOR REMOVING METAL NESOI, NUMERICALLY CONTROLLED.
845939	BORING-MILLING MACHINES FOR REMOVING METAL NESOI, NOT NUMERICALLY CONTROLLED.
845941	NUMERICALLY CONTROLLED BORING MACHINES, NESOI.
845949	OTHER BORING MACHINES, NESOI.
845951	MILLING MACHINES, KNEE TYPE, FOR REMOVING METAL, NUMERICALLY CONTROLLED.
845959	MILLING MACHINES, KNEE TYPE, FOR REMOVING METAL, NOT NUMERICALLY CONTROLLED.

HTS–6 code	HTS description
845961	MILLING MACHINES, NOT KNEE TYPE, FOR REMOVING METAL, NUMERICALLY CONTROLLED.
845969	MILLING MACHINES, NOT KNEE TYPE, FOR REMOVING METAL, NOT NUMERICALLY CONTROLLED.
845970	THREADING OR TAPPING MACHINES, FOR REMOVING METAL.
846012	FLAT-SURFACE GRINDING MACHINES, NUMERICALLY CONTROLLED.
846019	FLAT-SURFACE GRINDING MACHINES FOR REMOVING METAL, AXIS ACCURACY OF 0.01 MM OR MORE, NOT NUMERICALLY CONTROLLED.
846022	CENTERLESS GRINDING MACHINES, NUMERICALLY CONTROLLED.
846023	OTHER CYLINDRICAL GRINDING MACHINES, NUMERICALLY CONTROLLED.
846024	OTHER GRINDING MACHINES, NESOI, NUMERICALLY CONTROLLED.
846029	GRINDING MACHINES FOR REMOVING METAL, EXCEPT FLAT-SURFACE, AXIS ACCURACY OF 0.01 MM OR MORE, NOT NUMERICALLY CONTROLLED.
846031	SHARPENING (TOOL OR CUTTER GRINDING) MACHINES FOR REMOVING METAL, NUMERICALLY CONTROLLED.
846039	SHARPENING (TOOL OR CUTTER GRINDING) MACHINES FOR REMOVING METAL, NOT NUMERICALLY CONTROLLED.
846040	HONING OR LAPPING MACHINES FOR REMOVING METAL.
846090	MACHINE TOOLS FOR DEBURRING, POLISHING METAL, SINTERED METAL CARBIDES, ABRASIVES OR POLISHING PRODUCTS, OTHER THAN GEAR CUTTING, ETC., NESOI.
846120	SHAPING OR SLOTTING MACHINES FOR REMOVING METAL.
846130	BROACHING MACHINES FOR REMOVING METAL.
846140	GEAR CUTTING, GEAR GRINDING OR GEAR FINISHING MACHINES.
846150	SAWING OR CUTTING-OFF MACHINES FOR REMOVING METAL.
846190	MACHINE TOOLS WORKING BY REMOVING METAL, SINTERED METAL CARBIDES OR CERMETS, NESOI.
846211	FORGING OR DIE-STAMPING MACHINES (INCLUDING PRESSES) AND HAMMERS FOR WORKING METAL.
846219	FORGING OR DIE-STAMPING MACHINES (INCLUDING PRESSES) AND HAMMERS FOR WORKING METAL.
846222	BENDING, FOLDING, STRAIGHTENING OR FLATTENING MACHINES (INCLUDING PRESSES) FOR WORKING METAL, NOT NUMERICALLY CONTROLLED.
846223	BENDING, FOLDING, STRAIGHTENING OR FLATTENING MACHINES (INCLUDING PRESSES) FOR WORKING METAL, NUMERICALLY CONTROLLED.
846224	BENDING, FOLDING, STRAIGHTENING OR FLATTENING MACHINES (INCLUDING PRESSES) FOR WORKING METAL, NUMERICALLY CONTROLLED.
846225	BENDING, FOLDING, STRAIGHTENING OR FLATTENING MACHINES (INCLUDING PRESSES) FOR WORKING METAL, NUMERICALLY CONTROLLED.
846226	BENDING, FOLDING, STRAIGHTENING OR FLATTENING MACHINES (INCLUDING PRESSES) FOR WORKING METAL, NUMERICALLY CONTROLLED.
846229	BENDING, FOLDING, STRAIGHTENING OR FLATTENING MACHINES (INCLUDING PRESSES) FOR WORKING METAL, NOT NUMERICALLY CONTROLLED.
846232	SHEARING MACHINES (INCLUDING PRESSES) FOR WORKING METAL, OTHER THAN COMBINED PUNCHING AND SHEARING MACHINES, NUMERICALLY CONTROLLED.
846233	SHEARING MACHINES (INCLUDING PRESSES) FOR WORKING METAL, OTHER THAN COMBINED PUNCHING AND SHEARING MACHINES, NUMERICALLY CONTROLLED.
846239	SHEARING MACHINES (INCLUDING PRESSES) FOR WORKING METAL, OTHER THAN COMBINED PUNCHING AND SHEARING MACHINES, NOT NUMERICALLY CONTROLLED.
846242	PUNCHING OR NOTCHING MACHINES (INCLUDING PRESSES) FOR WORKING METAL, INCLUDING COMBINED PUNCHING AND SHEARING MACHINES, NUMERICALLY CONTROLLED.
846249	PUNCHING OR NOTCHING MACHINES (INCLUDING PRESSES) FOR WORKING METAL, INCLUDING COMBINED PUNCHING AND SHEARING MACHINES, NOT NUMERICALLY CONTROLLED.

HTS–6 code	HTS description
846251	PUNCHING OR NOTCHING MACHINES (INCLUDING PRESSES) FOR WORKING METAL, INCLUDING COMBINED PUNCHING AND SHEARING MACHINES, NUMERICALLY CONTROLLED.
846259	PUNCHING OR NOTCHING MACHINES (INCLUDING PRESSES) FOR WORKING METAL, INCLUDING COMBINED PUNCHING AND SHEARING MACHINES, NOT NUMERICALLY CONTROLLED.
846261	HYDRAULIC PRESSES FOR WORKING METAL.
846262	MACHINE TOOLS (INCLUDING PRESSES) FOR WORKING METAL BY FORGING, HAMMERING, DIE-CASTING, BENDING, FOLDING, FLATTENING, WORKING METAL CARBIDES, NESOI.
846263	MACHINE TOOLS (INCLUDING PRESSES) FOR WORKING METAL BY FORGING, HAMMERING, DIE-CASTING, BENDING, FOLDING, FLATTENING, WORKING METAL CARBIDES, NESOI.
846269	MACHINE TOOLS (INCLUDING PRESSES) FOR WORKING METAL BY FORGING, HAMMERING, DIE-CASTING, BENDING, FOLDING, FLATTENING, WORKING METAL CARBIDES, NESOI.
846290	MACHINE TOOLS (INCLUDING PRESSES) FOR WORKING METAL BY FORGING, HAMMERING, DIE-CASTING, BENDING, FOLDING, FLATTENING, WORKING METAL CARBIDES, NESOI.
846310	DRAW-BENCHES FOR BARS, TUBES, PROFILES, WIRE OR THE LIKE FOR WORKING METAL WITHOUT REMOVING MATERIAL.
846320	THREAD ROLLING MACHINES FOR WORKING METAL WITHOUT REMOVING MATERIAL.
846330	MACHINES FOR WORKING WIRE WITHOUT REMOVING MATERIAL.
846390	MACHINE TOOLS FOR WORKING METAL, SINTERED METAL CARBIDES OR CERMETS, WITHOUT REMOVING MATERIAL, NESOI.
846410	SAWING MACHINES FOR WORKING STONE, CERAMICS, CONCRETE, ASBESTOS-CEMENT OR LIKE MINERAL MATERIALS OR FOR COLD WORKING GLASS.
846420	GRINDING OR POLISHING MACHINES FOR WORKING STONE, CERAMICS, CONCRETE, ASBESTOS-CEMENT OR LIKE MINERAL MATERIALS OR FOR COLD WORKING GLASS.
846490	MACHINE TOOLS FOR WORKING STONE, CERAMICS, CONCRETE, ASBESTOS-CEMENT OR LIKE MINERAL MATERIALS OR FOR COLD WORKING GLASS, NESOI.
846510	MACHINES FOR WORKING WOOD, HARD RUBBER, ETC., WHICH CARRY OUT DIFFERENT MACHINE OPERATIONS WITHOUT TOOL CHANGES BETWEEN OPERATIONS.
846520	MACHINING CENTERS FOR WORKING CORK, BONE, HARD RUBBER, HARD PLASTICS OR SIMILIAR HARD MATERALS.
846591	SAWING MACHINES FOR WORKING WOOD, CORK, BONE, HARD RUBBER, HARD PLASTICS OR SIMILAR HARD MATERIALS.
846592	PLANING, MILLING OR MOLDING (BY CUTTING) MACHINES FOR WORKING WOOD, CORK, BONE, HARD RUBBER, HARD PLASTICS OR SIMILAR HARD MATERIALS.
846593	GRINDING, SANDING OR POLISHING MACHINES FOR WORKING WOOD, CORK, BONE, HARD RUBBER, HARD PLASTICS OR SIMILAR HARD MATERIALS.
846594	BENDING OR ASSEMBLING MACHINES FOR WORKING WOOD, CORK, BONE, HARD RUBBER, HARD PLASTICS OR SIMILAR HARD MATERIALS.
846595	DRILLING OR MORTISING MACHINES FOR WORKING WOOD, CORK, BONE, HARD RUBBER, HARD PLASTICS OR SIMILAR HARD MATERIALS.
846596	SPLITTING, SLICING OR PARING MACHINES FOR WORKING WOOD, CORK, BONE, HARD RUBBER, HARD PLASTICS OR SIMILAR HARD MATERIALS.
846599	MACHINE TOOLS (ALSO THOSE FOR NAILING, STAPLING, GLUEING, ETC.) FOR WORKING WOOD, CORK, BONE, HARD RUBBER, HARD PLASTICS OR SIMILAR MATERIALS, NESOI.
846610	TOOL HOLDERS AND SELF-OPENING DIEHEADS FOR MACHINES OR ANY TYPE OF TOOL FOR WORKING IN THE HAND.
846620	WORK HOLDERS FOR MACHINE TOOLS.
846630	DIVIDING HEADS AND OTHER SPECIAL ATTACHMENTS FOR MACHINE TOOLS.

HTS–6 code	HTS description
846691	PARTS AND ACCESSORIES FOR MACHINE TOOLS FOR WORKING STONE, CERAMICS, CONCRETE, ASBESTOS-CEMENT OR LIKE MATERIALS OR FOR COLD WORKING GLASS, NESOI.
846692	PARTS AND ACCESSORIES FOR MACHINE TOOLS FOR WORKING WOOD, CORK, BONE, HARD RUBBER, HARD PLASTICS OR SIMILAR HARD MATERIALS, NESOI.
846693	PARTS AND ACCESSORIES FOR MACHINE TOOLS, FOR LASER OPERATION, METALWORKING MACHINING CENTERS, LATHES AND DRILLING MACHINES, ETC., NESOI.
846694	PARTS AND ACCESSORIES FOR MACHINES TOOLS, FOR FORGING, DIE-STAMPING, SHEARING, ETC. METAL AND THOSE FOR WORKING METAL WITHOUT REMOVING MATERIAL, NESOI.
846711	PNEUMATIC TOOLS FOR WORKING IN THE HAND, ROTARY TYPE (INCLUDING COMBINED ROTARY-PERCUSSION).
846719	PNEUMATIC TOOLS FOR WORKING IN THE HAND, EXCEPT ROTARY TYPE.
846721	DRILLS WITH SELF-CONTAINED ELECTRIC MOTORS, FOR WORKING IN THE HAND.
846722	SAWS WITH SELF-CONTAINED ELECTRIC MOTORS, FOR WORKING IN THE HAND.
846729	TOOLS FOR WORKING IN THE HAND, WITH SELF-CONTAINED ELECTRIC MOTORS, NESOI.
846781	CHAIN SAWS, SELF-CONTAINED NONELECTRIC MOTOR, HAND-DIRECTED.
846789	TOOLS FOR WORKING IN THE HAND, WITH SELF-CONTAINED NONELECTRIC MOTOR, NESOI.
846791	PARTS OF CHAIN SAWS.
846792	PARTS OF PNEUMATIC TOOLS FOR WORKING IN THE HAND.
846799	PARTS OF TOOLS WITH SELF-CONTAINED NONELECTRIC MOTOR, FOR WORKING IN THE HAND, NESOI.
846810	HAND-HELD BLOW TORCHES.
846820	GAS OPERATED MACHINERY AND APPARATUS FOR SOLDERING, BRAZING OR WELDING, OTHER THAN HAND-HELD BLOW TORCHES.
846880	MACHINERY AND APPARATUS FOR SOLDERING, BRAZING OR WELDING, NESOI.
846890	PARTS OF MACHINERY AND APPARATUS FOR SOLDERING, BRAZING OR WELDING, NESOI.
847010	ELECTRONIC CALCULATORS CAPABLE OF OPERATION WITHOUT AN EXTERNAL SOURCE OF POWER.
847021	ELECTRONIC CALCULATING MACHINES, NESOI, INCORPORATING A PRINTING DEVICE.
847029	ELECTRONIC CALCULATING MACHINES, NESOI, NOT INCORPORATING A PRINTING DEVICE.
847030	CALCULATING MACHINES, EXCEPT ELECTRONIC.
847050	CASH REGISTERS.
847090	POSTAGE-FRANKING MACHINES, TICKET-ISSUING MACHINES AND SIMILAR MACHINES, INCORPORATING A CALCULATING DEVICE, NESOI.
847130	PORTABLE DIGTL AUTOMATIC DATA PROCESSING MACHINES, WEIGHT NOT MORE THAN 10 KG, CONSISTING OF AT LEAST A CENTRAL PROCESSING UNIT, KEYBOARD & A DISPLAY.
847141	DIGITAL ADP MACHINES COMPRISING IN SAME HOUSING AT LEAST A CENTRAL PROCESSING UNIT AND AN INPUT AND OUTPUT UNIT, WHETHER OR NOT COMBINED, N.E.S.O.I.
847149	DIGITAL AUTOMATIC DATA PROCESSING MACHINES AND UNITS THEREOF PRESENTED IN THE FORM OF SYSTEMS, N.E.S.O.I.
847150	DIGITAL PROCESSING UNITS OTHER THAN THOSE OF 8471.41 AND 8471.49, N.E.S.O.I.
847160	AUTOMATIC DATA PROCESSING INPUT OR OUTPUT UNITS, WHETHER OR NOT CONTAINING STORAGE UNITS IN THE SAME HOUSING, N.E.S.O.I.
847170	AUTOMATIC DATA PROCESSING STORAGE UNITS, N.E.S.O.I.
847180	AUTOMATIC DATA PROCESSING UNITS, N.E.S.O.I.
847190	AUTOMATIC DATA PROCESSING UNTS THEREOF; MAGNETIC/OPTICAL READERS, MACH FOR TRANSCRIBING DATA TO DATA MEDIA IN CODED FORM & MACH FOR PROC DATA, NESOI.
847210	DUPLICATING MACHINES.
847230	MACHINES FOR SORTING OR FOLDING MAIL, FOR INSERTING MAIL IN ENVELOPES, OR FOR OPENING OR SEALING MAIL AND MACHINES FOR AFFIXING OR CANCELLING POSTAGE.

HTS–6 code	HTS description
847290	OFFICE MACHINES NESOI (INCLUDING AUTOMATIC BANKNOTE DISPENSERS, COIN-SORTING MACHINES, PENCIL-SHARPENING MACHINES, PERFORATING OR STAPLING MACHINES).
847321	PARTS AND ACCESSORIES FOR ELECTRONIC CALCULATORS AND CALCULATING MACHINES.
847329	PARTS AND ACCESSORIES FOR CASH REGISTERS AND MACHINES FOR ACCOUNTING, POSTAGE-FRANKING, TICKET-ISSUING AND SIMILAR MACHINES WITH A CALCULATING DEVICE.
847330	PARTS AND ACCESSORIES FOR AUTOMATIC DATA PROCESSING MACHINES AND UNITS THEREOF, MAGNETIC OR OPTICAL READERS, TRANSCRIBING MACHINES, ETC., NESOI.
847340	PARTS AND ACCESSORIES FOR OFFICE MACHINES, NESOI (FOR EXAMPLE, DUPLICATING MACHINES, ADDRESSING MACHINES, STAPLING MACHINES, ETC.).
847350	PARTS AND ACCESSORIES EQUALLY SUITABLE FOR USE WITH MACHINES OF TWO OR MORE OF THE HEADINGS 8469 TO 8472.
847410	MACHINES FOR SORTING, SCREENING, SEPARATING OR WASHING EARTH, STONE, ORE OR OTHER MINERAL SUBSTANCES, IN SOLID FORM.
847420	MACHINES FOR CRUSHING OR GRINDING EARTH, STONE, ORE OR OTHER MINERAL SUBSTANCES, IN SOLID FORM.
847431	CONCRETE OR MORTAR MIXERS.
847432	MACHINES FOR MIXING MINERAL SUBSTANCES WITH BITUMEN.
847439	MACHINES FOR MIXING OR KNEADING EARTH, STONE, ORE OR OTHER MINERAL SUBSTANCES IN SOLID FORM, NESOI.
847480	MACHINERY FOR AGGLOMERATING ETC. SOLID MINERAL FUELS, CERAMIC PASTE OR OTHER MINERAL PRODUCTS; MACHINES FOR FORMING FOUNDRY MOLDS OF SAND.
847490	PARTS OF MACHINERY FOR SORTING, SCREENING, SEPARATING AND KNEADING OR PROCESSING, ETC. EARTH, STONE, ORES OR OTHER MINERAL SUBSTANCES IN SOLID FORM.
847510	MACHINES FOR ASSEMBLING ELECTRIC OR ELECTRONIC LAMPS, TUBES OR FLASHBULBS, IN GLASS ENVELOPES.
847521	MACHINES FOR MAKING OPTICAL FIBERS AND PREFORMS THEREOF.
847529	MACHINES FOR MANUFACTURING OR HOT WORKING GLASS OR GLASSWARE, NESOI.
847590	PARTS OF MACHINES FOR ASSEMBLING ELECTRIC OR ELECTRONIC LAMPS, TUBES ETC., IN GLASS ENVELOPES AND FOR MANUFACTURING OR HOT WORKING GLASS OR GLASSWARE.
847621	AUTOMATIC BEVERAGE VENDING MACHINES INCORPORATING HEATING OR REFRIGERATING DEVICES.
847629	AUTOMATIC BEVERAGE VENDING MACHINES NOT INCORPORATING HEATING OR REFRIGERATING DEVICES.
847681	AUTOMATIC GOOGS-VENDING MACHINES INCORPORATING HEATING OR REFRIGERATING DEVICES, NESOI.
847689	AUTOMATIC GOODS-VENDING MACHINES NOT INCORPORATINNG HEATING OR REFRIGERATING DEVICES, NESOI.
847690	PARTS OF AUTOMATIC VENDING MACHINES.
847710	INJECTION-MOLDING MACHINES FOR WORKING RUBBER OR PLASTICS.
847720	EXTRUDERS FOR WORKING RUBBER OR PLASTICS.
847730	BLOW-MOLDING MACHINES FOR WORKING RUBBER OR PLASTIC.
847740	VACUUM-MOLDING MACHINES AND OTHER THERMOFORMING MACHINES, FOR MOLDING OR FORMING RUBBER OR PLASTICS.
847751	MACHINERY FOR MOLDING OR RETREADING PNEUMATIC TIRES OR FOR MOLDING OR OTHERWISE FORMING INNER TUBES.
847759	MACHINERY FOR MOLDING OR OTHERWISE FORMING RUBBER OR PLASTICS, NESOI.
847780	MACHINERY FOR WORKING RUBBER OR PLASTICS OR FOR THE MANUFACTURE OF PRODUCTS FROM THESE MATERIALS, NESOI.
847790	PARTS OF MACHINERY FOR WORKING RUBBER OR PLASTICS OR PARTS OF MACHINERY USED IN THE MANUFACTURE OF PRODUCTS FROM RUBBER OR PLASTICS MATERIALS, NESOI.
847810	MACHINERY FOR PREPARING OR MAKING UP TOBACCO, NESOI.
847890	PARTS OF MACHINERY, NESOI, FOR PREPARING OR MAKING UP TOBACCO.

HTS–6 code	HTS description
847910	MACHINERY FOR PUBLIC WORKS, BUILDING OR THE LIKE.
847920	MACHINERY FOR THE EXTRACTION OR PREPARATION OF ANIMAL OR FIXED VEGETABLE FATS OR OILS.
847930	PRESSES FOR MANUFACTURING PARTICLE BOARD OR FIBER BUILDING BOARD OF WOOD OR OTHER LIGNEOUS MATERIALS AND OTHER MACHINERY FOR TREATING WOOD OR CORK.
847940	ROPE OR CABLE-MAKING MACHINES.
847950	INDUSTRIAL ROBOTS FOR MULTIPLE USES.
847960	EVAPORATIVE AIR COOLERS.
847971	PASSENGER BOARDING BRIDGES OF A KIND USED IN AIRPORTS.
847979	PASSENGER BOARDING BRIDGES, OTHER THAN THOSE OF A KIND USED IN AIRPORTS.
847981	MACHINES AND MECHANICAL APPLIANCES FOR TREATING METAL, INCLUDING ELECTRIC WIRE COIL-WINDERS.
847982	MACHINES AND MECHANICAL APPLIANCES FOR MIXING, KNEADING, CRUSHING, GRINDING, SCREENING, SIFTING, HOMOGENIZING, EMULSIFYING OR STIRRING, NESOI.
847983	MACHINES AND MECHANICAL APPLIANCES HAVING INDIVIDUAL FUNCTIONS, NESOI.
847989	MACHINES AND MECHANICAL APPLIANCES HAVING INDIVIDUAL FUNCTIONS, NESOI.
847990	PARTS OF MACHINES AND MECHANICAL APPLIANCES HAVING INDIVIDUAL FUNCTIONS, NESOI.
848010	MOLDING BOXES FOR METAL FOUNDRY.
848020	MOLD BASES.
848030	MOLDING PATTERNS.
848041	MOLDS FOR METAL OR METAL CARBIDES, INJECTION OR COMPRESSION TYPES.
848049	MOLDS FOR METAL OR METAL CARBIDES, OTHER THAN INJECTION OR COMPRESSION TYPES.
848050	MOLDS FOR GLASS.
848060	MOLDS FOR MINERAL MATERIALS.
848071	MOLDS FOR RUBBER OR PLASTICS, INJECTION OR COMPRESSION TYPES.
848079	MOLDS FOR RUBBER OR PLASTICS, OTHER THAN INJECTION OR COMPRESSION TYPES.
848110	PRESSURE-REDUCING VALVES.
848120	VALVES FOR OLEOHYDRAULIC OR PNEUMATIC TRANSMISSIONS.
848130	CHECK VALVES.
848140	SAFETY OR RELIEF VALVES.
848180	TAPS, COCKS, VALVES AND SIMILAR APPLIANCES FOR PIPES, VATS OR THE LIKE, INCLUDING THERMOSTATICALLY CONTROLLED VALVES, NESOI.
848190	PARTS FOR TAPS, COCKS, VALVES AND SIMILAR APPLIANCES FOR PIPES, VATS OR THE LIKE, INCLUDING PRESSURE REDUCING AND THERMOSTATICALLY CONTROLLED VALVES.
848210	BALL BEARINGS.
848220	TAPERED ROLLER BEARINGS, INCLUDING CONE AND TAPERED ROLLER ASSEMBLIES.
848230	SPHERICAL ROLLER BEARINGS.
848240	NEEDLE ROLLER BEARINGS.
848250	CYLINDRICAL ROLLER BEARINGS NESOI.
848280	BALL OR ROLLER BEARINGS NESOI, INCLUDING COMBINED BALL/ROLLER BEARINGS.
848291	BALLS, NEEDLES AND ROLLERS FOR BALL OR ROLLER BEARINGS.
848299	PARTS OF BALL OR ROLLER BEARINGS, NESOI.
848310	TRANSMISSION SHAFTS (INCLUDING CAMSHAFTS AND CRANKSHAFTS) AND CRANKS.
848320	HOUSED BEARINGS, INCORPORATING BALL OR ROLLER BEARINGS.
848330	BEARING HOUSINGS; PLAIN SHAFT BEARINGS.
848340	GEARS AND GEARING (EXCEPT TOOTHED WHEELS, CHAIN SPROCKETS, ETC.); BALL OR ROLLER SCREWS; GEAR BOXES AND OTHER SPEED CHANGERS, INCL TORQUE CONVERTERS.
848350	FLYWHEELS AND PULLEYS, INCLUDING PULLEY BLOCKS.
848360	CLUTCHES AND SHAFT COUPLINGS (INCLUDING UNIVERSAL JOINTS).
848390	TOOTHED WHEELS, CHAIN SPROCKETS AND OTHER TRANSMISSION ELEMENTS PRESENTED SEPARATELY; PARTS.
848410	GASKETS AND SIMILAR JOINTS OF METAL SHEETING COMBINED WITH OTHER MATERIAL OR OF TWO OR MORE LAYERS OF METAL.
848420	MECHANICAL SEALS.
848490	SETS OR ASSORTMENTS OF GASKETS AND SIMILAR JOINTS, DISSIMILAR IN COMPOSITION, PUT UP IN POUCHES, ENVELOPES OR SIMILAR PACKINGS.
848510	SHIPS' OR BOATS' PROPELLERS AND BLADES THEREFOR.

HTS–6 code	HTS description
848520	MACHINERY FOR WORKING RUBBER OR PLASTICS OR FOR THE MANUFACTURE OF PRODUCTS FROM THESE MATERIALS, NESOI.
848530	MACHINES AND MECHANICAL APPLIANCES HAVING INDIVIDUAL FUNCTIONS, NESOI.
848580	MACHINES AND MECHANICAL APPLIANCES HAVING INDIVIDUAL FUNCTIONS, NESOI.
848590	MACHINERY PARTS, NOT CONTAINING ELECTRICAL CONNECTORS, INSULATORS, COILS, CONTACTS OR OTHER ELECTRICAL FEATURES, NESOI.
848610	MACHINES AND APPARATUS FOR THE MANUFACTURE OF BOULES OR WAFERS.
848620	MACHINES AND APPARATUS FOR THE MANUFACTURE OF SEMICONDUCTOR DEVICES OR OF ELECTRONIC INTEGRATES CIRCUITS.
848630	MACHINES AND APPARATUS FOR THE MANUFACTURE OF FLAT PANEL DISPLAYS.
848640	MACHINES AND APPARATUS SPECIFIED IN NOTE 9(C) TO CHAPTER 84.
848690	MACHINES AND APPARATUS OF A KIND USED FOR THE MANUFACTURE OF SEMICONDUCTOR BOULES OR WAFERS, ETC, PARTS AND ACCESSORITES.
848710	SHIPS' OR BOATS' PROPELLERS AND BLADES THEREOF.
848790	MACHINERY PARTS, NON ELECTRIC, NESOI.
850110	ELECTRIC MOTORS OF AN OUTPUT NOT EXCEEDING 37.5 W.
850120	UNIVERSAL AC/DC MOTORS OF AN OUTPUT EXCEEDING 37.5 W.
850131	DC MOTORS NESOI AND GENERATORS OF AN OUTPUT NOT EXCEEDING 750 W.
850132	DC MOTORS NESOI AND GENERATORS OF AN OUTPUT EXCEEDING 750 W BUT NOT EXCEEDING 75 KW.
850133	DC MOTORS NESOI AND GENERATORS OF AN OUTPUT EXCEEDING 75 KW BUT NOT EXCEEDING 375 KW.
850134	DC MOTORS NESOI AND GENERATORS OF AN OUTPUT EXCEEDING 375 KW.
850140	AC MOTORS NESOI, SINGLE-PHASE.
850151	AC MOTORS NESOI, MULTI-PHASE, OF AN OUTPUT NOT EXCEEDING 750 W.
850152	AC MOTORS NESOI, MULTI-PHASE, OF AN OUTPUT EXCEEDING 750 W BUT NOT EXCEEDING 75 KW.
850153	AC MOTORS NESOI, MULTI-PHASE, OF AN OUTPUT EXCEEDING 75 KW.
850161	AC GENERATORS (ALTERNATORS), OF AN OUTPUT NOT EXCEEDING 75 KVA.
850162	AC GENERATORS (ALTERNATORS), OF AN OUTPUT EXCEEDING 75 KVA BUT NOT EXCEEDING 375 KVA.
850163	AC GENERATORS (ALTERNATORS), OF AN OUTPUT EXCEEDING 375 KVA BUT NOT EXCEEDING 750 KVA.
850164	AC GENERATORS (ALTERNATORS), OF AN OUTPUT EXCEEDING 750 KVA.
850171	DC MOTORS NESOI AND GENERATORS OF AN OUTPUT NOT EXCEEDING 750 W.
850172	DC MOTORS NESOI AND GENERATORS OF AN OUTPUT NOT EXCEEDING 750 W.
850180	AC GENERATORS (ALTERNATORS), OF AN OUTPUT NOT EXCEEDING 75 KVA.
850211	GENERATING SETS WITH COMPRESSION-IGNITION INTERNAL COMBUSTION PISTON (DIESEL OR SEMI-DIESEL) ENGINES, OF AN OUTPUT NOT EXCEEDING 75 KVA.
850212	GENERATING SETS WITH COMPRESSION-IGNITION INTERNAL COMBUSTION PISTON (DIESEL ETC.) ENGINES, OF AN OUTPUT EXCEEDING 75 KVA NOT EXCEEDING 375 KVA.
850213	GENERATING SETS WITH COMPRESSION-IGNITION INTERNAL COMBUSTION PISTON (DIESEL OR SEMI-DIESEL) ENGINES, OF AN OUTPUT EXCEEDING 375 KVA.
850220	GENERATING SETS WITH SPARK-IGNITION INTERNAL COMBUSTION PISTON ENGINES.
850231	GENERATING SETS, ELECTRIC, WIND-POWERED.
850239	GENERATING SETS, ELECTRIC, NESOI.
850240	ELECTRIC ROTARY CONVERTERS.
850300	PARTS OF ELECTRIC MOTORS, GENERATORS, GENERATING SETS AND ROTARY CONVERTERS.
850410	BALLASTS FOR DISCHARGE LAMPS OR TUBES.
850421	LIQUID DIELECTRIC TRANSFORMERS HAVING A POWER HANDLING CAPACITY NOT EXCEEDING 650 KVA.

HTS–6 code	HTS description
850422	LIQUID DIELECTRIC TRANSFORMERS HAVING A POWER HANDLING CAPACITY EXCEEDING 650 KVA BUT NOT EXCEEDING 10,000 KVA.
850423	LIQUID DIELECTRIC TRANSFORMERS HAVING A POWER HANDLING CAPACITY EXCEEDING 10,000 KVA.
850431	ELECTRICAL TRANSFORMERS NESOI, HAVING A POWER HANDING CAPACITY NOT EXCEEDING 1 KVA.
850432	ELECTRICAL TRANSFORMERS NESOI, HAVING A POWER HANDING CAPACITY EXCEEDING 1 KVA BUT NOT EXCEEDING 16 KVA.
850433	ELECTRICAL TRANSFORMERS NESOI, HAVING A POWER HANDING CAPACITY EXCEEDING 16 KVA BUT NOT EXCEEDING 500 KVA.
850434	ELECTRICAL TRANSFORMERS NESOI, HAVING A POWER HANDLING CAPACITY EXCEEDING 500 KVA.
850440	ELECTRICAL STATIC CONVERTERS; POWER SUPPLIES FOR ADP MACHINES OR UNITS OF 8471.
850450	ELECTRICAL INDUCTORS NESOI.
850490	PARTS FOR ELECTRICAL TRANSFORMERS, STATIC CONVERTERS AND INDUCTORS.
850511	PERMANENT MAGNETS AND ARTICLES INTENDED TO BECOME PERMANENT MAGNETS AFTER MAGNETIZATION, MADE OF METAL.
850519	PERMANENT MAGNETS AND ARTICLES INTENDED TO BECOME PERMANENT MAGNETS AFTER MAGNETIZATION, MADE OF MATERIALS OTHER THAN METAL.
850520	ELECTROMAGNETIC COUPLINGS, CLUTCHES AND BRAKES.
850590	ELECTROMAGNETS; ELECTROMAGNETIC OR PERMANENT MAGNET CHUCKS, CLAMPS AND SIMILAR HOLDING DEVICES; AND PARTS OF ELECTROMAGNETIC ARTICLES, NESOI.
850610	PRIMARY CELLS AND PRIMARY BATTERIES, MANGANESE DIOXIDE.
850630	PRIMARY CELLS AND PRIMARY BATTERIES, MERCURIC OXIDE.
850640	PRIMARY CELLS AND PRIMARY BATTERIES, SILVER OXIDE.
850650	PRIMARY CELLS AND PRIMARY BATTERIES, LITHIUM.
850660	PRIMARY CELLS AND PRIMARY BATTERIES, AIR-ZINC.
850680	PRIMARY CELLS AND PRIMARY BATTERIES, N.E.S.O.I.
850690	PARTS OF PRIMARY CELLS AND PRIMARY BATTERIES.
850710	LEAD-ACID STORAGE BATTERIES OF A KIND USED FOR STARTING PISTON ENGINES.
850720	LEAD-ACID STORAGE BATTERIES NESOI.
850730	NICKEL-CADMIUM STORAGE BATTERIES.
850750	NICKEL-METAL HYDRIDE BATTERIES.
850760	LITHIUM ION BATTERIES.
850780	STORAGE BATTERIES NESOI.
850790	PARTS OF ELECTRIC STORAGE BATTERIES, INCLUDING SEPARATORS THEREFOR.
850811	VACUUM CLEANERS WITH SELF-CONTAINED ELECTRIC MOTOR, OF A POWER LT=1500 W AND HAVING A DUST BAG OR OTHER RECEPTACLE CAPACITY LT=20 L.
850819	VACUUM CLEANERS WITH SELF-CONTAINED ELECTRIC MOTOR, NESOI.
850860	VACUUM CLEANERS WITHOUT SELF-CONTAINED ELECTRIC MOTOR.
850870	PARTS OF VACUUM CLEANERS.
850940	ELECTROMECHANICAL DOMESTIC FOOD GRINDERS, PROCESSORS AND MIXERS, AND FRUIT OR VEGETABLE JUICE EXTRACTORS, WITH SELF-CONTAINED ELECTRIC MOTOR.
850980	ELECTROMECHANICAL DOMESTIC APPLIANCES, WITH SELF-CONTAINED ELECTRIC MOTOR, NESOI.
850990	PARTS OF ELECTROMECHANICAL DOMESTIC APPLIANCES WITH SELF-CONTAINED ELECTRIC MOTOR.
851010	ELECTRIC SHAVERS, WITH SELF-CONTAINED ELECTRIC MOTOR.
851020	ELECTRIC HAIR CLIPPERS, WITH SELF-CONTAINED ELECTRIC MOTOR.
851030	HAIR-REMOVING APPLIANCES, WITH SELF-CONTAINED ELECTRIC MOTOR.
851090	PARTS OF ELECTRIC SHAVERS AND HAIR CLIPPERS WITH SELF-CONTAINED ELECTRIC MOTOR.
851110	INTERNAL COMBUSTION ENGINE SPARK PLUGS.
851120	INTERNAL COMBUSTION ENGINE IGNITION MAGNETOS, MAGNETO-DYNAMOS AND MAGNETIC FLYWHEELS.
851130	INTERNAL COMBUSTION ENGINE DISTRIBUTORS AND IGNITION COILS.

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851140	INTERNAL COMBUSTION ENGINE STARTER MOTORS AND DUAL PURPOSE STARTER-GENERATORS.
851150	INTERNAL COMBUSTION ENGINE GENERATORS, NESOI.
851180	ELECTRICAL IGNITION OR STARTING EQUIPMENT USED FOR INTERNAL COMBUSTION ENGINES, NESOI, AND EQUIPMENT USED IN CONJUNCTION WITH SUCH ENGINES, NESOI.
851190	PARTS FOR ELECTRICAL IGNITION OR STARTING EQUIPMENT USED FOR INTERNAL COMBUSTION ENGINES; PARTS FOR GENERATORS AND CUT-OUTS USED WITH SUCH EQUIPMENT.
851210	ELECTRICAL LIGHTING OR VISUAL SIGNALING EQUIPMENT FOR USE ON BICYCLES.
851220	ELECTRICAL LIGHTING OR VISUAL SIGNALING EQUIPMENT, FOR USE ON CYCLES OR MOTOR VEHICLES, EXCEPT FOR USE ON BICYCLES.
851230	ELECTRICAL SOUND SIGNALING EQUIPMENT USED FOR CYCLES OR MOTOR VEHICLES.
851240	ELECTRICAL WINDSHIELD WIPERS, DEFROSTERS AND DEMISTERS USED FOR CYCLES OR MOTOR VEHICLES.
851290	PARTS OF ELECTRICAL LIGHTING OR SIGNALING EQUIPMENT, WINDSHIELD WIPERS, DEFROSTERS AND DEMISTERS, USED FOR CYCLES OR MOTOR VEHICLES.
851310	PORTABLE ELECTRIC LAMPS, BATTERY OR MAGNETO POWERED, NESOI.
851390	PARTS FOR PORTABLE ELECTRIC LAMPS, BATTERY OR MAGNETO POWERED, NESOI.
851411	INDUSTRIAL OR LABORATORY ELECTRIC FURNACES AND OVENS, RESISTANCE TYPE.
851419	INDUSTRIAL OR LABORATORY ELECTRIC FURNACES AND OVENS, RESISTANCE TYPE.
851420	INDUSTRIAL OR LABORATORY ELECTRIC FURNACES AND OVENS, INDUCTION OR DIELECTRIC TYPE.
851431	INDUSTRIAL OR LABORATORY ELECTRIC FURNACES AND OVENS, NESOI.
851432	INDUSTRIAL OR LABORATORY ELECTRIC FURNACES AND OVENS, NESOI.
851439	INDUSTRIAL OR LABORATORY ELECTRIC FURNACES AND OVENS, NESOI.
851440	INDUSTRIAL OR LABORATORY INDUCTION OR DIELECTION HEATING EQUIPMENT, NESOI.
851490	PARTS FOR INDUSTRIAL OR LABORATORY ELECTRIC FURNACES AND OVENS; PARTS FOR INDUSTRIAL OR LABORATORY INDUCTION OR DIELECTRIC HEATING EQUIPMENT, NESOI.
851511	ELECTRIC SOLDERING IRONS AND GUNS.
851519	ELECTRIC BRAZING OR SOLDERING MACHINES OR APPARTAUS, NESOI.
851521	ELECTRIC MACHINES AND APPARATUS FOR RESISTANCE WELDING OF METAL, FULLY OR PARTY AUTOMATIC.
851529	ELECTRIC MACHINES AND APPARATUS FOR RESISTANCE WELDING OF METAL, OTHER THAN FULLY OR PARTLY AUTOMATIC.
851531	ELECTRIC MACHINES AND APPARATUS FOR ARC (INCLUDING PLAZMA ARC) WELDING OF METALS, FULLY OR PARTY AUTOMATIC.
851539	ELECTRIC MACHINES AND APPARATUS FOR ARC (INCLUDING PLAZMA ARC) WELDING OF METALS, OTHER THAN FULLY OR PARTLY AUTOMATIC.
851580	ELECTRIC, LASER, ULTRASONIC ETC. BRAZING OR WELDING MACHINES NESOI; ELECTRIC MACHINES FOR HOT SPRAYING OF METALS OR SINTERED METAL CARBIDES, NESOI.
851590	PARTS FOR ELECTRIC LASER, ULTRASONIC ETC. WELDING ETC. MACHINES; PARTS FOR ELECTRIC MACHINES FOR HOT SPRAYING OF METALS OR SINTERED METAL CARBIDES.
851610	ELECTRIC INSTANTANEOUS OR STORAGE WATER HEATERS AND IMMERSION HEATERS.
851621	ELECTRIC STORAGE HEATING RADIATORS.
851629	ELECTRIC SPACE HEATING APPARATUS NESOI AND ELECTRIC SOIL HEATING APPARATUS.
851631	ELECTRIC HAIR DRYERS.
851632	ELECTROTHERMIC HAIRDRESSING APPARATUS OTHER THAN HAIR DRYERS.
851633	ELECTRIC HAND-DRYING APPARATUS.
851640	ELECTRIC FLATIRONS.
851650	MICROWAVE OVENS.

HTS–6 code	HTS description
851660	ELECTRIC OVENS, COOKING STOVES, RANGES, COOKING PLATES, BOILING RINGS, GRILLERS AND ROASTERS, NESOI.
851671	ELECTRIC COFFEE OR TEA MAKERS.
851672	ELECTRIC TOASTERS.
851679	ELECTROTHERMIC DOMESTIC APPLIANCES, NESOI.
851680	ELECTRIC HEATING RESISTORS.
851690	PARTS FOR ELECTRIC WATER HEATERS, SPACE HEATERS, HAIRDRESSING APPARATUS, FLAT IRONS, STOVES, OVENS, COFFEE OR TEA MAKERS, TOASTERS, ETC.
851711	LINE TELEPHONE SETS WITH CORDLESS HANDSETS.
851713	TELEPHONES FOR CELLULAR NETWORKS OR FOR OTHER WIRELESS NETWORKS.
851714	TELEPHONES FOR CELLULAR NETWORKS OR FOR OTHER WIRELESS NETWORKS.
851718	TELEPHONE SETS, NESOI.
851761	BASE STATIONS.
851762	MACHINES FOR THE RECEPTION, CONVERSION AND TRANSMISSION OR REGENERATION OF VOICE, IMAGES OR OTHER DATA, INCLUDING SWITCHING AND ROUTING APPARATUS.
851769	APPARATUS FOR THE TRANSMISSION OR RECEPTION OF VOICE, IMAGES OR OTHER DATA, INCLUDING SWITCHING AND ROUTING APPARATUS, NESOI.
851771	PARTS OF TELEPHONE SETS AND OTHER APPARATUS FOR THE TRANSMISSION OR RECEPTION OF VOICE, IMAGES OR OTHER DATA.
851779	PARTS OF TELEPHONE SETS AND OTHER APPARATUS FOR THE TRANSMISSION OR RECEPTION OF VOICE, IMAGES OR OTHER DATA.
851810	MICROPHONES AND STANDS THEREFOR.
851821	SINGLE LOUDSPEAKERS, MOUNTED IN THEIR ENCLOSURES.
851822	MULTIPLE LOUDSPEAKERS, MOUNTED IN SAME ENCLOSURE.
851829	LOUDSPEAKERS, NESOI.
851830	HEADPHONES, EARPHONES WHETHER OR NOT COMBINED MICROPHONE/SPEAKER SETS.
851840	AUDIO-FREQUENCY ELECTRIC AMPLIFIERS.
851850	ELECTRIC SOUND AMPLIFIER SETS.
851890	PARTS OF MICROPHONES, LOUDSPEAKERS, HEADPHONES, EARPHONES, AUDIO-FREQUENCY ELECTRIC AMPLIFIERS, AND ELECTRIC SOUND AMPLIFIER SETS.
851920	SOUND RECORDING OR REPRODUCING APPARATUS OPERATED BY COINS, BANKNOTES, BANK CARDS, TOKENS OR BY OTHER MEANS OF PAYMENT.
851930	TURNTABLES (RECORD-DECKS).
851981	SOUND RECORDING OR REPRODUCING APPARATUS, USING MAGNETIC, OPTICAL OR SEMICONDUCTOR MEDIA, NESOI.
851989	SOUND RECORDING OR REPRODUCING APPARATUS, NESOI.
852110	VIDEO RECORDING OR REPRODUCING APPARATUS (WHETHER OR NOT INCORPORATING A VIDEO TUNER), MAGNETIC TAPE-TYPE.
852190	VIDEO RECORDING OR REPRODUCING APPARATUS (WHETHER OR NOT INCORPORATING A VIDEO TURNER), OTHER THAN MAGNETIC TAPE-TYPE.
852210	PICKUP CARTRIDGES FOR SOUND RECORDERS.
852290	PARTS AND ACCESSORIES, EXCEPT PICKUP CARTRIDGES, FOR SOUND REPRODUCING, SOUND RECORDING, AND VIDEO RECORDING OR REPRODUCING APPARATUS.
852321	CARDS INCORPORATING A MAGNETIC STRIPE.
852329	MAGNETIC MEDIA FOR THE RECORDING OF SOUND OR OTHER PHENOMENA, NESOI.
852341	OPTICAL MEDIA FOR THE RECORDING OF SOUND OR OF OTHER PHENOMENA, UNRECORDED.
852349	OPTICAL MEDIA FOR THE RECORDING OF SOUND OR OF OTHER PHENOMENA, RECORDED.
852351	SOLID-STATE NON-VOLATILE SEMICONDUCTOR STORAGE DEVICES.
852352	SMART CARDS.
852359	SEMICONDUCTOR MEDIA, FOR THE RECORDING OF SOUND OR OTHER PHENOMENA, NESOI.
852380	MEDIA FOR THE RECORDING OF SOUND OR OF OTHER PHENOMENA, NESOI.
852411	OPTICAL DEVICES, APPLIANCES AND INSTRUMENTS, NESOI.
852412	PARTS (EXCEPT ANTENNAS AND REFLECTORS) FOR USE WITH RADIO TRANSMISSION, RADAR, RADIO NAVIGATIONAL AID, RECEPTION AND TELEVISION APPARATUS, NESOI.

HTS–6 code	HTS description
852419	PARTS AND ACCESSORIES FOR LIQUID CRYSTAL DEVICES, LASERS (OTHER THAN LASER DIODES) AND OTHER OPTICAL APPLIANCES AND INSTRUMENTS, NESOI.
852491	OTHER RECORDED MEDIA, NESOI, FOR REPRODUCING PHENOMENA OTHER THAN SOUND OR IMAGE.
852492	PARTS (EXCEPT ANTENNAS AND REFLECTORS) FOR USE WITH RADIO TRANSMISSION, RADAR, RADIO NAVIGATIONAL AID, RECEPTION AND TELEVISION APPARATUS, NESOI.
852499	RECORDED MEDIA FOR REPRODUCING SOUND OR IMAGE, N.E.S.O.I.
852550	TRANSMISSION APPARATUS FOR RADIO-BROADCASTING OR TELEVISION.
852560	TRANSMISSION APPARATUS INCORPORATING RECEPTION APPARATUS, FOR RADIO-BROADCASTING OR TELEVISION.
852581	TELEVISION CAMERAS, DIGITAL CAMERAS AND VIDEO CAMERA RECORDERS.
852582	TELEVISION CAMERAS, DIGITAL CAMERAS AND VIDEO CAMERA RECORDERS.
852583	TELEVISION CAMERAS, DIGITAL CAMERAS AND VIDEO CAMERA RECORDERS.
852589	TELEVISION CAMERAS, DIGITAL CAMERAS AND VIDEO CAMERA RECORDERS.
852610	RADAR APPARATUS.
852691	RADIO NAVIGATIONAL AID APPARATUS.
852692	RADIO REMOTE CONTROL APPARATUS.
852712	POCKET-SIZE RADIO CASSETTE PLAYERS.
852713	RADIOBROADCAST RECEIVERS CAPABLE OF OPERATING WITHOUT AN EXTERNAL SOURCE OF POWER, COMBINED WITH SOUND RECORDING OR REPRODUCING APPARATUS, N.E.S.O.I.
852719	RADIOBROADCAST RECEIVERS, BATTERY TYPE, NESOI.
852721	RADIOBROADCAST RECEIVERS FOR MOTOR VEHICLES, COMBINED WITH SOUND RECORDING OR REPRODUCING APPARATUS, NOT CAPABLE OF OPERATING WITHOUT OUTSIDE POWER.
852729	RADIOBROADCAST RECEIVERS FOR MOTOR VEHICLES, NOT CAPABLE OF OPERATING WITHOUT OUTSIDE POWER, NESOI.
852791	RECEPTION APPARATUS FOR RADIO-BROADCASTING, COMBINED WITH SOUND RECORDING OR REPRODUCING APPARATUS, NESOI.
852792	RECEPTION APPARATUS FOR RADIO-BROADCASTING, COMBINED WITH A CLOCK, NESOI.
852799	RECEPTION APPARATUS FOR RADIO-BROADCASTING, NESOI.
852842	CATHODE-RAY TUBE MONITORS CAPABLE OF DIRECTLY CONNECTING TO AND DESIGNED FOR USE WITH MACHINES OF HEADING 8471.
852849	CATHODE-RAY TUBE MONITORS, NOT INCORPORATING TELEVISION RECEPTION APPARATUS, NESOI.
852852	OTHER MONITORS CAPABLE OF DIRECTLY CONNECTING TO AND DESIGNED FOR USE WITH MACHINES OF HEADIN 8471.
852859	MONITORS, NOT INCORPORATING TELEVISION RECEPTION APPARATUS, NESOI.
852862	PROJECTORS CAPABLE OF DIRECTLY CONNECTING TO AND DESIGNED FOR USE WITH ADP MACHINES OF HEADING 8471.
852869	PROJECTORS, NOT INCORPORATING TELEVISION RECEPTION APPARATUS, NESOI.
852871	RECEPTION APPARATUS FOR TELEVISION, NOT DESIGNED TO INCORPORATE A VIDEO DISPLAY OR SCREEN.
852872	RECEPTION APPARATUS FOR TELEVISION, COLOR, NESOI.
852873	RECEPTION APPARATUS FOR TELEVISION, MONOCHROME, DESIGNED TO INCORPORATED A VIDEO DISPLAY OR SCREEN.
852910	ANTENNAS AND ANTENNA REFLECTORS AND PARTS THEREOF.
852990	PARTS (EXCEPT ANTENNAS AND REFLECTORS) FOR USE WITH RADIO TRANSMISSION, RADAR, RADIO NAVIGATIONAL AID, RECEPTION AND TELEVISION APPARATUS, NESOI.
853010	ELECTRICAL SIGNALING, SAFETY OR TRAFFIC CONTROL EQUIPMENT FOR RAILWAYS, STREETCAR LINES OR SUBWAYS.
853080	ELECTRICAL SIGNALING, SAFETY OR TRAFFIC CONTROL EQUIPMENT FOR ROADS, INLAND WATERWAYS, PARKING FACILITIES, PORT INSTALLATIONS OR AIRFIELDS.

HTS–6 code	HTS description
853090	PARTS FOR ELECTRICAL SIGNALING, SAFETY OR TRAFFIC CONTROL EQUIPMENT FOR RAIL LINES, ROADS, WATERWAYS, PARKING AREAS, PORT INSTALLATIONS OR AIRFIELDS.
853110	BURGLAR OR FIRE ALARMS AND SIMILAR APPARATUS.
853120	INDICATOR PANELS INCORPORATING LIQUID CRYSTAL DEVICES (LCD'S) OR LIGHT EMITTING DIODES (LED'S).
853180	ELECTRIC SOUND OR VISUAL SIGNALING APPARATUS (FOR EXAMPLE, BELLS, SIRENS, INDICATOR PANELS), NESOI.
853190	PARTS OF ELECTRIC SOUND OR VISUAL SIGNALING APPARATUS, NESOI.
853210	FIXED CAPACITORS, DESIGNED FOR USE IN 50/60 HZ CIRCUITS, WITH REACTIVE POWER CAPACITY NOT LESS THAN 0.5 KVAR (POWER CAPACITORS).
853221	TANTALUM CAPACITORS.
853222	FIXED CAPACITORS NESOI, ALUMINUM ELECTROLYTIC.
853223	FIXED CAPACITORS NESOI, SINGLE LAYER CERAMIC DIELECTRIC.
853224	FIXED CAPACITORS NESOI, MULTILAYER CERAMIC DIELECTRIC.
853225	FIXED CAPACITORS NESOI, DIELECTRIC OF PAPER OR PLASTICS.
853229	FIXED CAPACITORS, NESOI.
853230	VARIABLE OR ADJUSTABLE (PRESET) CAPACITORS.
853290	PARTS FOR ELECTRICAL CAPACITORS.
853310	FIXED CARBON RESISTORS, COMPOSITION OR FILM TYPES.
853321	FIXED RESISTORS, NESOI, FOR A POWER HANDLING CAPACITY NOT EXCEDING 20 W.
853329	FIXED RESISTORS, NESOI, FOR A POWER HANDLING CAPACITY EXCEEDING 20 W.
853331	WIREWOUND VARIABLE RESISTORS, INCLUDING RHEOSTATS AND POTENTIOMETERS, FOR A POWER HANDLING CAPACITY NOT EXCEEDING 20 W.
853339	WIREWOUND VARIABLE RESISTORS, INCLUDING RHEOSTATS AND POTENTIOMETERS, FOR A POWER HANDING CAPACITY EXCEEDING 20 W.
853340	VARIABLE RESISTORS, INCLUDING RHEOSTATS AND POTENTIOMETERS, NESOI.
853390	PARTS FOR ELECTRICAL RESISTORS, INCLUDING PARTS FOR RHEOSTATS AND POTENTIOMETERS.
853400	PRINTED CIRCUITS.
853510	FUSES FOR ELECTRICAL APPARATUS FOR A VOLTAGE EXCEEDING 1,000 V.
853521	AUTOMATIC CIRCUIT BREAKERS FOR A VOLTAGE EXCEEDING 1,000 V BUT LESS THAN 72.5 KV.
853529	AUTOMATIC CIRCUIT BREAKERS FOR A VOLTAGE OF 72.5 KV OR MORE.
853530	ISOLATING SWITCHES AND MAKE-AND-BREAK SWITCHES FOR A VOLTAGE EXCEEDING 1,000 V.
853540	LIGHTNING ARRESTERS, VOLTAGE LIMITERS, AND SURGE SUPPRESSORS FOR A VOLTAGE EXCEEDING 1,000 V.
853590	ELECTRICAL APPARATUS FOR SWITCHING, PROTECTING OR MAKING CONNECTIONS TO OR IN ELECTRICAL CIRCUITS, FOR A VOLTAGE EXCEEDING 1,000 V, NESOI.
853610	FUSES FOR ELECTRICAL APPARATUS FOR A VOLTAGE NOT EXCEEDING 1,000 V.
853620	AUTOMATIC CIRCUIT BREAKERS FOR A VOLTAGE NOT EXCEEDING 1,000 V.
853630	ELECTRICAL APPARATUS FOR PROTECTING ELECTRICAL CIRCUITS FOR A VOLTAGE NOT EXCEEDING 1,000 V, NESOI.
853641	RELAYS FOR A VOLTAGE NOT EXCEEDING 60 V.
853649	RELAYS FOR A VOLTAGE EXCEEDING 60 V BUT NOT EXCEEDING 1,000 V.
853650	ELECTRICAL SWITCHES FOR A VOLTAGE NOT EXCEEDING 1,000 V, NESOI.
853661	ELECTRICAL LAMPHOLDERS FOR A VOLTAGE NOT EXCEEDING 1,000 V.
853669	ELECTRICAL PLUGS AND SOCKETS FOR A VOLTAGE NOT EXCEEDING 1,000 V.
853670	CONNECTORS FOR OPTICAL FIBERS, OPTICAL FIBER BUNDLES OR CABLES.
853690	ELECTRICAL APPARATUS FOR SWITCHING, PROTECTING OR MAKING CONNECTIONS TO OR IN ELECTRICAL CIRCUITS, FOR A VOLTAGE NOT EXCEEDING 1,000 V, NESOI.
853710	BOARDS, PANELS, CONSOLES, ETC. WITH ELECTRICAL APPARATUS, FOR ELECTRIC CONTROL OR DISTRIBUTION OF ELECTRICITY, FOR A VOLTAGE NOT EXCEEDING 1,000 V.

HTS–6 code	HTS description
853720	BOARDS, PANELS, CONSOLES, ETC. WITH ELECTRICAL APPARATUS, FOR ELECTRIC CONTROL OR DISTRIBUTION OF ELECTRICITY, FOR A VOLTAGE EXCEEDING 1,000 V.
853810	BOARDS, PANELS, CONSOLES, DESKS, CABINETS, AND OTHER BASES FOR ELECTRIC CONTROL ETC. EQUIPMENT, NOT EQUIPPED WITH ELECTRICAL APPARATUS.
853890	PARTS FOR ELECTRICAL APPARATUS FOR ELECTRICAL CIRCUITS, BOARDS, PANELS ETC. FOR ELECTRIC CONTROL OR DISTRIBUTION OF ELECTRICITY, NESOI.
853910	SEALED BEAM ELECTRIC LAMP UNITS.
853921	TUNGSTEN HALOGEN ELECTRIC FILAMENT LAMPS.
853922	ELECTRIC FILAMENT LAMPS NESOI, OF A POWER NOT EXCEEDING 200 W AND FOR A VOLTAGE EXCEEDING 100 V.
853929	ELECTRIC FILAMENT LAMPS, NESOI.
853931	ELECTRIC DISCHARGE LAMPS (OTHER THAN ULTRAVIOLET LAMPS), FLUORESCENT, HOT CATHODE.
853932	MERCURY OR SODIUM VAPOR DISCHARGE LAMPS; METAL HALIDE DISCHARGE LAMPS.
853939	ELECTRIC DISCHARGE LAMPS (OTHER THAN ULTRAVIOLET OR FLUORESCENT, HOT CATHODE LAMPS), NESOI.
853941	ARC LAMPS.
853949	ULTRAVIOLET OR INFRARED LAMPS.
853951	ELECTRIC LAMPS AND LIGHTING FITTINGS, NESOI.
853952	LIGHT-EMITTING DIODE (LED) LAMPS.
853990	PARTS FOR ELECTRIC FILAMENT, DISCHARGE OR ARC LAMPS.
854011	CATHODE-RAY TELEVISION PICTURE TUBES, COLOR, INCLUDING VIDEO MONITOR CATHODE-RAY TUBES.
854012	CATHODE-RAY TELEVISION PICTURE TUBES, INCLUDING VIDEO MONITOR CATHODE-RAY TUBES, MONOCHROME.
854020	TELEVISION CAMERA TUBES; IMAGE CONVERTERS AND INTENSIFIERS; OTHER PHOTOCATHODE TUBES.
854040	DATA/GRAPHIC DISPLAY TUBES, MONOCHROME; DATA/GRAPHIC DISPLAY TUBES, COLOR, WITH A PHOSPHOR DOT SCREEN PITCH SMALLER THAN 0.4 MM.
854060	CATHODE-RAY TUBES, N.E.S.O.I.
854071	MAGNETRON MICROWAVE TUBES.
854079	MICROWAVE TUBES, NESOI.
854081	RECEIVER OR AMPLIFIER TUBES.
854089	THERMIONIC AND OTHER CATHODE TUBES, NESOI.
854091	PARTS OF CATHODE-RAY TUBES.
854099	PARTS OF CATHODE TUBES, NESOI.
854110	DIODES, OTHER THAN PHOTOSENSITIVE OR LIGHT-EMITTING DIODES.
854121	TRANSISTORS, OTHER THAN PHOTOSENSITIVE, WITH A DISSIPATION RATE OF LESS THAN 1 W.
854129	TRANSISTORS, OTHER THAN PHOTOSENSITIVE, NESOI.
854130	THYRISTORS, DIACS AND TRIACS, OTHER THAN PHOTOSENSITIVE DEVICES.
854141	PHOTOSENSITIVE SEMICONDUCTOR DEVICES, INCLUDING PHOTOVOLTAIC CELLS; LIGHT-EMITTING DIODES.
854142	PHOTOSENSITIVE SEMICONDUCTOR DEVICES, INCLUDING PHOTOVOLTAIC CELLS; LIGHT-EMITTING DIODES.
854143	PHOTOSENSITIVE SEMICONDUCTOR DEVICES, INCLUDING PHOTOVOLTAIC CELLS; LIGHT-EMITTING DIODES.
854149	PHOTOSENSITIVE SEMICONDUCTOR DEVICES, INCLUDING PHOTOVOLTAIC CELLS; LIGHT-EMITTING DIODES.
854151	SEMICONDUCTOR DEVICES, EXCEPT PHOTOSENSITIVE AND PHOTOVOLTAIC CELLS, NESOI.
854159	SEMICONDUCTOR DEVICES, EXCEPT PHOTOSENSITIVE AND PHOTOVOLTAIC CELLS, NESOI.
854160	MOUNTED PIEZOELECTRIC CRYSTALS.
854190	PARTS FOR DIODES, TRANSISTORS AND SIMILAR SEMICONDUCTOR DEVICES; PARTS FOR PHOTOSENSITIVE SEMICONDUCTOR DEVICES AND MOUNTED PIEZOELECTRIC CRYSTALS.
854231	PROCESSORS AND CONTROLLERS, ELECTRONIC INTEGRATED CIRCUITS.
854232	MEMORIES, ELECTRONIC INTEGRATED CIRCUITS.
854233	AMPLIFIERS, ELECTRONIC INTEGRATED CIRCUITS.
854239	ELECTRONIC INTEGRATED CIRCUITS, NESOI.
854290	PARTS FOR ELECTRONIC INTEGRATED CIRCUITS AND MICROASSEMBLIES.
854310	PARTICLE ACCELERATORS.
854320	ELECTRICAL SIGNAL GENERATORS.

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854330	ELECTRICAL MACHINES AND APPARATUS FOR ELECTROPLATING, ELECTROLYSIS OR ELECTROPHORESIS.
854340	ELECTRIC FENCE ENERGIZERS.
854370	ELECTRICAL MACHINES AND APPARATUS, HAVING INDIVIDUAL FUNCTIONS, NESOI.
854390	PARTS FOR ELECTRICAL MACHINES AND APPARATUS HAVING INDIVIDUAL FUNCTIONS, NESOI.
854411	INSULATED WINDING WIRE OF COPPER.
854419	INSULATED WINDING WIRE, NESOI.
854420	INSULATED COAXIAL CABLE AND OTHER COAXIAL ELECTRICAL CONDUCTORS.
854430	INSULATED IGNITION WIRING SETS AND OTHER WIRING SETS FOR VEHICLES, AIRCRAFT AND SHIPS.
854442	ELECTRIC CONDUCTORS, FOR A VOLTAGE NOT EXCEEDING 1000 V, FITTED WITH CONNECTORS, NESOI.
854449	INSULATED ELECTRIC CONDUCTORS, FOR A VOLTAGE NOT EXCEEDING 80 V, NOT FITTED WITH CONNECTORS.
854460	INSULATED ELECTRIC CONDUCTORS, FOR A VOLTAGE EXCEEDING 1,000 V.
854470	INSULATED OPTICAL FIBER CABLES, MADE UP OF INDIVIDUALLY SHEATHED FIBERS.
854511	CARBON ELECTRODES OF A KIND USED FOR FURNACES.
854519	CARBON ELECTRODES NESOI.
854520	ELECTRICAL CARBON OR GRAPHITE BRUSHES.
854590	ELECTRICAL CARBON OR GRAPHITE ARTICLES, NESOI.
854610	ELECTRICAL INSULATORS OF GLASS.
854620	ELECTRICAL INSULATORS OF CERAMICS.
854690	ELECTRICAL INSULATORS, NESOI.
854710	INSULATING FITTINGS OF CERAMICS, FOR ELECTRICAL MACHINES OR APPLIANCES.
854720	INSULATING FITTINGS OF PLASTICS, FOR ELECTRICAL MACHINES OR APPLIANCES.
854790	INSULATING FITTINGS NESOI, FOR ELECTRICAL MACHINES OR APPLIANCES; ELECTRICAL CONDUIT TUBING AND JOINTS, OF BASE METAL LINED WITH INSULATING MATERIAL.
854800	ELECTRICAL PARTS OF MACHINERY OR APPARATUS, NESOI.
854911	WASTE AND SCRAP OF PRIMARY CELLS, PRIMARY BATTERIES AND ELECTRIC STORAGE BATTERIES; SPENT PRIMARY CELLS, SPENT PRIMARY AND ELECTRIC STORAGE BATTERIES.
854912	WASTE AND SCRAP OF PRIMARY CELLS, PRIMARY BATTERIES AND ELECTRIC STORAGE BATTERIES; SPENT PRIMARY CELLS, SPENT PRIMARY AND ELECTRIC STORAGE BATTERIES.
854913	WASTE AND SCRAP OF PRIMARY CELLS, PRIMARY BATTERIES AND ELECTRIC STORAGE BATTERIES; SPENT PRIMARY CELLS, SPENT PRIMARY AND ELECTRIC STORAGE BATTERIES.
854914	WASTE AND SCRAP OF PRIMARY CELLS, PRIMARY BATTERIES AND ELECTRIC STORAGE BATTERIES; SPENT PRIMARY CELLS, SPENT PRIMARY AND ELECTRIC STORAGE BATTERIES.
854919	WASTE AND SCRAP OF PRIMARY CELLS, PRIMARY BATTERIES AND ELECTRIC STORAGE BATTERIES; SPENT PRIMARY CELLS, SPENT PRIMARY AND ELECTRIC STORAGE BATTERIES.
854921	MUNICIPAL WASTE.
854929	WASTE AS SPECIFIED IN CHAPTER 38 NOTES, NESOI.
854931	CULLET AND OTHER WASTE AND SCRAP OF GLASS; GLASS IN THE MASS.
854939	WASTE AND SCRAP OF PRECIOUS METAL, NESOI.
854991	CULLET AND OTHER WASTE AND SCRAP OF GLASS; GLASS IN THE MASS.
854999	WASTE AND SCRAP OF PRECIOUS METAL, NESOI.
860110	RAIL LOCOMOTIVES POWERED FROM AN EXTERNAL SOURCE OF ELECTRICITY.
860120	RAIL LOCOMOTIVES POWERED BY ELECTRIC ACCUMULATORS (BATTERIES).
860210	DIESEL-ELECTRIC LOCOMOTIVES.
860290	RAIL LOCOMOTIVES, NESOI; LOCOMOTIVE TENDERS.
860310	SELF-PROPELLED RAILWAY OR TRAMWAY COACHES, VANS AND TRUCKS (EXCEPT RAILWAY OR TRAMWAY MAINTENANCE OR SERVICE VEHICLES), POWERED EXTERNALLY, ELECTRIC.
860390	SELF-PROPELLED RAILWAY OR TRAMWAY COACHES, VANS AND TRUCKS (EXCEPT RAILWAY OR TRAMWAY MAINTENANCE OR SERVICE VEHICLES), NESOI.

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860400	RAILWAY OR TRAMWAY MAINTENANCE OR SERVICE VEHICLES, WHETHER OR NOT SELF-PROPELLED (FOR EXAMPLE, WORKSHOPS, CRANES, BALLAST TAMPERS, TRACKLINERS, ETC.).
860500	RAILWAY OR TRAMWAY PASSENGER COACHES, LUGGAGE VANS, POST OFFICE COACHES AND OTHER SPECIAL PURPOSE RAIL OR TRAMWAY COACHES, NOT SELF-PROPELLED, NESOI.
860610	RAILWAY OR TRAMWAY TANK CARS AND THE LIKE, NOT SELF-PROPELLED.
860630	RAILWAY OR TRAMWAY SELF-DISCHARGING CARS (OTHER THAN TANK CARS AND THE LIKE OR INSULATED OR REFRIGERATED CARS), NOT SELF-PROPELLED.
860691	RAILWAY OR TRAMWAY FREIGHT CARS, COVERED AND CLOSED, NOT SELF-PROPELLED, NESOI.
860692	RAILWAY OR TRAMWAY FREIGHT CARS, OPEN, WITH NON-REMOVABLE SIDES OF A HEIGHT EXCEEDING 60 CM, NOT SELF-PROPELLED, NESOI.
860699	RAILWAY OR TRAMWAY FREIGHT CARS, NOT SELF-PROPELLED, NESOI.
860711	TRUCK ASSEMBLIES FOR SELF-PROPELLED RAILWAY OR TRAMWAY LOCOMOTIVES OR ROLLING STOCK.
860712	TRUCK ASSEMBLIES, NESOI, FOR RAILWAY OR TRAMWAY ROLLING STOCK.
860719	TRUCK AXLES AND WHEELS AND PARTS THEREOF, INCLUDING PARTS OF TRUCK ASSEMBLIES, FOR RAILWAY OR TRAMWAY VEHICLES.
860721	AIRBRAKES AND PARTS THEREOF, FOR RAILWAY OR TRAMWAY VEHICLES.
860729	BRAKES (EXCEPT AIRBRAKES) AND PARTS THEREOF, FOR RAILWAY OR TRAMWAY VEHICLES.
860730	HOOKS AND OTHER COUPLING DEVICES, BUFFERS AND PARTS THEREOF, FOR RAILWAY OR TRAMWAY VEHICLES.
860791	PARTS OF RAILWAY OR TRAMWAY LOCOMOTIVES, NESOI.
860799	PARTS OF RAILWAY OR TRAMWAY VEHICLES, OTHER THAN LOCOMOTIVES, NESOI.
860800	RAIL TRACK FIXTURES; MECHANICAL SIGNALING, SAFETY OR TRAFFIC CONTROL EQUIPMENT FOR RAIL, ROAD, WATERWAY, PARKING, AIRFIELD ETC. AREAS; PARTS THEREOF.
860900	CONTAINERS (INCLUDING CONTAINERS FOR THE TRANSPORT OF FLUIDS) SPECIALLY DESIGNED AND EQUIPPED FOR CARRIAGE BY ONE OR MORE MODES OF TRANSPORT.
870110	TRACTORS, PEDESTRIAN CONTROLLED TYPE (OTHER THAN TRACTORS OF THE TYPE USED ON RAILWAY STATION PLATFORMS).
870121	ROAD TRACTORS FOR SEMI-TRAILERS.
870122	ROAD TRACTORS FOR SEMI-TRAILERS.
870123	ROAD TRACTORS FOR SEMI-TRAILERS.
870124	ROAD TRACTORS FOR SEMI-TRAILERS.
870129	ROAD TRACTORS FOR SEMI-TRAILERS.
870130	TRACK-LAYING TRACTORS.
870191	TRACTORS (OTHER THAN TRACTORS OF HEADING 8709), NOT EXCEEDING 18KW.
870192	TRACTORS (OTHER THAN TRACTORS OF HEADING 8709), EXCEEDING 18 KW BUT NOT EXCEEDING 37 KW.
870193	TRACTORS (OTHER THAN TRACTORS OF HEADING 8709), EXCEEDING 37 KW BUT NOT EXCEEDING 75 KW.
870194	TRACTORS (OTHER THAN TRACTORS OF HEADING 8709), EXCEEDING 75 KW BUT NOT EXCEEDING 130 KW.
870195	TRACTORS (OTHER THAN TRACTORS OF HEADING 8709) EXCEEDING 130 KW.
870210	MOTOR VEHICLES FOR THE TRANSPORT OF TEN OR MORE PERSONS, WITH A COMPRESSION-IGNITION INTERNAL COMBUSTION PISTON ENGINE (DIESEL OR SEMI-DIESEL).
870220	MOTOR VEHICLES FOR TRANSPORT OF 10 OR MORE WITH BOTH COMPRESSION-IGNITION INTERNAL COMBUST PISTON ENG (DIESEL OR SEMI-DIESEL) AND ELECTRIC MOTOR.
870230	MOTOR VEHICLES FOR TRANSPORT OF 10 OR MORE WITH BOTH SPARK-IGNITION RECIPROCATING PISTON AND ELECTRIC MOTOR.

HTS–6 code	HTS description
870240	MOTOR VEHICLES FOR TRANSPORT OF 10 OR MORE WITH ONLY ELECTRIC MOTOR FOR PROPULSION.
870290	MOTOR VEHICLES FOR THE TRANSPORT OF TEN OR MORE PERSONS, NESOI.
870310	PASSENGER MOTOR VEHICLES SPECIALLY DESIGNEED FOR TRAVELING ON SNOW; GOLF CARTS AND SIMILAR VEHICLES.
870321	PASSENGER MOTOR VEHICLES WITH SPARK-IGNITION INTERNAL COMBUSTION RECIPROCATING PISTON ENGINE, CYLINDER CAPACITY NOT OVER 1,000 CC.
870322	PASSENGER MOTOR VEHICLES WITH SPARK-IGNITION INTERNAL COMBUSTION RECIPROCATING PISTON ENGINE, CYLINDER CAPACITY OVER 1,000 CC BUT NOT OVER 1,500 CC.
870323	PASSENGER MOTOR VEHICLES WITH SPARK-IGNITION INTERNAL COMBUSTION RECIPROCATING PISTON ENGINE, CYLINDER CAPACITY OVER 1,500 CC BUT NOT OVER 3,000 CC.
870324	PASSENGER MOTOR VEHICLES WITH SPARK-IGNITION INTERNAL COMBUSTION RECIPROCATING PISTON ENGINE, CYCLINDER CAPACITY OVER 3,000 CC.
870331	PASSENGER MOTOR VEHICLES WITH COMPRESSION-IGNITION INTERNAL COMBUSTION PISTON ENGINE (DIESEL), CYLINDER CAPACITY NOT OVER 1,500 CC.
870332	PASSENGER MOTOR VEHICLES WITH COMPRESSION-IGNITION INTERNAL COMBUSTION PISTON ENGINE (DIESEL), CYLINDER CAPACITY OVER 1,500 CC BUT NOT OVER 2,500 CC.
870333	PASSENGER MOTOR VEHICLES WITH COMPRESSION-IGNITION INTERNAL COMBUSTION PISTON ENGINE (DIESEL), CYLINDER CAPACITY OVER 2,500 CC.
870340	PASSENGER MOTOR VEHICLES, WITH BOTH APRK-IG INTRNL COMBUST AND ELECTRIC MOTOR, OTHER THAN THOSE CHARGES BY PLUGGIN TO EXTERNAL ELECTRIC POWER.
870350	MOTOR VEHICLES, WITH BOTH COMPRES-IG INTERNAL COMBUS PISTON ENGINE (DIESEL/SEMI-DIESEL) AND ELECTRIC MOTOR, NOT CHARGED BY PLUG.
870360	MOTOR VEHICLES WITH BOTH SPARK-IG AND ELECTRIC MOTOR, CAPABLE OF CHARGE BY PLUGGING TO EXTNL PWR.
870370	MOTOR VEHICLES, WITH BOTH COMPRESSION-IGNITION INTERNAL COMBUSTION (DIESEL/SEMI-DIESEL AND ELECTRIC MOTOR, CAPABLE OF CHARGED BY PLUGGING.
870380	MOTOR VEHICLES WITH ONLY ELECTRIC MOTOR, NESOI.
870390	PASSENGER MOTOR VEHICLES, NESOI.
870410	DUMPERS (DUMP TRUCKS) DESIGNED FOR OFF-HIGHWAY USE.
870421	MOTOR VEHICLES FOR GOODS TRANSPORT NESOI, WITH COMPRESSION-IGNITION INTERNAL COMBUSTION PISTON ENGINE (DIESEL), GVW NOT OVER 5 METRIC TONS.
870422	MOTOR VEHICLES FOR GOODS TRANSPORT NESOI, WITH COMPRESSION-IGNITION INTERNAL COMBUSTION PISTON ENGINE (DIESEL), GVW OVER 5 BUT NOT OVER 20 METRIC TONS.
870423	MOTOR VEHICLES FOR GOODS TRANSPORT NESOI, WITH COMPRESSION-IGNITION INTERNAL COMBUSTION PISTON ENGINE (DIESEL), GVW OVER 20 METRIC TONS.
870431	MOTOR VEHICLES FOR GOODS TRANSPORT NESOI, WITH SPARK-IGNITION INTERNAL COMBUSTION PISTON ENGINE, GVW NOT OVER 5 METRIC TONS.
870432	MOTOR VEHICLES FOR GOODS TRANSPORT NESOI, WITH SPARK-IGNITION INTERNAL COMBUSTION PISTON ENGINE, GVW OVER 5 METRIC TONS.
870441	MOTOR VEHICLES FOR THE TRANSPORT OF GOODS, NESOI.
870442	MOTOR VEHICLES FOR THE TRANSPORT OF GOODS, NESOI.
870443	MOTOR VEHICLES FOR THE TRANSPORT OF GOODS, NESOI.
870451	MOTOR VEHICLES FOR THE TRANSPORT OF GOODS, NESOI.
870452	MOTOR VEHICLES FOR THE TRANSPORT OF GOODS, NESOI.
870460	MOTOR VEHICLES FOR THE TRANSPORT OF GOODS, NESOI.
870490	MOTOR VEHICLES FOR THE TRANSPORT OF GOODS, NESOI.
870510	MOBILE CRANES.
870520	MOBILE DRILLING DERRICKS.
870530	FIRE FIGHTING VEHICLES.
870540	CONCRETE MIXERS, SPECIAL PURPOSE VEHICLES.

HTS–6 code	HTS description
870590	SPECIAL PURPOSE VEHICLES, OTHER THAN THOSE PRINCIPALLY DESIGNED FOR THE TRANSPORT OF PERSONS OR GOODS, NESOI.
870790	BODIES (INCLUDING CABS) FOR ROAD TRACTORS FOR SEMI-TRAILERS, MOTOR VEHICLES FOR PUBLIC-TRANSPORT OF PASSENGERS, GOODS TRANSPORT AND SPECIAL PURPOSE.
870810	BUMPERS AND PARTS THEREOF FOR MOTOR VEHICLES.
870821	SAFETY SEAT BELTS FOR MOTOR VEHICLES.
870822	LAMINATED SAFETY GLASS, OF SIZE AND SHAPE SUITABLE FOR INCORPORATION IN VEHICLES, AIRCRAFT, SPACECRAFT OR VESSELS.
870829	PARTS AND ACCESSORIES OF BODIES (INCLUDING CABS) FOR MOTOR VEHICLES, NESOI.
870830	BRAKES AND SERVO-BRAKES; PARTS THEREOF.
870840	GEAR BOXES FOR MOTOR VEHICLES.
870850	DRIVE AXLES WITH DIFFERENTIAL FOR MOTOR VEHICLES.
870870	ROAD WHEELS AND PARTS AND ACCESSORIES THEREOF FOR MOTOR VEHICLES.
870880	SUSPENSION SHOCK ABSORBERS FOR MOTOR VEHICLES.
870891	RADIATORS FOR MOTOR VEHICLES.
870892	MUFFLERS AND EXHAUST PIPES FOR MOTOR VEHICLES.
870893	CLUTCHES AND PARTS THEREOF FOR MOTOR VEHICLES.
870894	STEERING WHEELS, STEERING COLUMNS AND STEERING BOXES FOR MOTOR VEHICLES.
870895	SAFETY AIRBAGS WITH INFLATOR SYSTEM; PARTS THEREOF.
870911	WORKS TRUCKS (NOT LIFTING OR HANDLING) USED IN FACTORIES ETC. AND TRACTORS USED ON RAILWAY STATION PLATFORMS, ELECTRICAL.
870919	WORKS TRUCKS (NOT LIFTING OR HANDLING) USED IN FACTORIES ETC. AND TRACTORS USED ON RAILWAY STATION PLATFORMS, NOT ELECTRICAL.
870990	PARTS FOR WORKS TRUCKS (NOT LIFTING OR HANDLING) USED IN FACTORIES ETC. AND PARTS OF TRACTORS OF THE TYPE USED ON RAILWAY STATION PLATFORMS.
871000	TANKS AND OTHER ARMORED FIGHTING VEHICLES, MOTORIZED, WHETHER OR NOT FITTED WITH WEAPONS, AND PARTS OF SUCH VEHICLES.
871110	MOTORCYCLES AND CYCLES WITH AN AUXILIARY MOTOR, WITH RECIPROCATING INTERNAL COMBUSTION PISTON ENGINE, CYLINDER CAPACITY NOT OVER 50 CC.
871200	BICYCLES AND OTHER CYCLES (INCLUDING DELIVERY TRICYCLES), NOT MOTORIZED.
871491	FRAMES AND FORKS, AND PARTS THEREOF FOR BICYCLES AND OTHER CYCLES NESOI.
871492	WHEEL RIMS AND SPOKES FOR BICYCLES AND OTHER CYCLES NESOI.
871493	HUBS (OTHER THAN COASTER BRAKING HUBS AND HUB BRAKES) AND FREE-WHEEL SPROCKET-WHEELS FOR BICYCLES AND OTHER CYCLES NESOI.
871494	BRAKES, INCLUDING COASTER BRAKING HUBS AND HUB BRAKES AND PARTS THERE OF, FOR BICYCLES AND OTHER CYCLES NESOI.
871495	SADDLES FOR BICYCLES AND OTHER CYCLES NESOI.
871496	PEDALS AND CRANK-GEAR, AND PARTS THEREOF FOR BICYCLES AND OTHER CYCLES NESOI.
871499	PARTS AND ACCESSORIES NESOI, FOR BICYCLES AND OTHER CYCLES NESOI.
871610	TRAILERS AND SEMI-TRAILERS FOR HOUSING OR CAMPING.
871620	SELF-LOADING OR SELF-UNLOADING TRAILERS AND SEMI-TRAILERS FOR AGRICULTURAL PURPOSES.
871631	TANKER TRAILERS AND TANKER SEMI-TRAILERS.
871639	TRAILERS AND SEMI-TRAILERS FOR THE TRANSPORT OF GOODS, NESOI.
871640	TRAILERS AND SEMI-TRAILERS, NESOI.
871680	VEHICLES (OTHER THAN TRAILERS AND SEMI-TRAILERS), NOT MECHANICALLY PROPELLED, NESOI.
871690	PARTS OF TRAILERS, SEMI-TRAILERS AND OTHER VEHICLES, NOT MECHANICALLY PROPELLED.
880100	HANG GLIDERS, GLIDERS, BALLOONS, DIRIGIBLES AND OTHER NON-POWERED AIRCRAFT.
880211	HELICOPTERS OF AN UNLADEN WEIGHT NOT EXCEEDING 2,000 KG.

HTS–6 code	HTS description
880212	HELICOPTERS OF AN UNLADEN WEIGHT EXCEEDING 2,000 KG.
880220	AIRPLANES AND OTHER AIRCRAFT NESOI, OF AN UNLADEN WEIGHT NOT EXCEEDING 2,000 KG.
880230	AIRPLANES AND OTHER AIRCRAFT NESOI, OF AN UNLADEN WEIGHT EXCEEDING 2,000 KG BUT NOT EXCEEDING 15,000 KG.
880240	AIRPLANES AND OTHER AIRCRAFT NESOI, OF AN UNLADEN WEIGHT EXCEEDING 15,000 KG.
880260	SPACECRAFT (INCLUDING SATELLITES) AND SUBORBITAL AND SPACECRAFT LAUNCH VEHICLES.
880400	PARACHUTES (INCLUDING DIRIGIBLE PARACHUTES AND PARAGLIDERS) AND ROTOCHUTES; PARTS THEREOF AND ACCESSORIES THERETO.
880510	AIRCRAFT LAUNCHING GEAR AND PARTS THEREOF; DECK-ARRESTORS OR SIMILAR GEAR AND PARTS THEREOF.
880521	AIR COMBAT SIMULATORS AND PARTS THEREOF.
880529	GROUND FLYING TRAINERS AND PARTS THEREOF, NESOI.
880610	UNMANNED AIRCRAFT DESIGNED FOR THE CARRIAGE OF PASSENGERS.
880621	UNMANNED AIRCRAFT FOR REMOTE-CONTROLLED FLIGHT ONLY, WITH MAXIMUM TAKE-OFF WEIGHT NOT MORE THAN 250 G.
880622	UNMANNED AIRCRAFT FOR REMOTE-CONTROLLED FLIGHT ONLY, WITH MAXIMUM TAKE-OFF WEIGHT MORE THAN 250 G BUT NOT MORE THAN 7 KG.
880623	UNMANNED AIRCRAFT FOR REMOTE-CONTROLLED FLIGHT ONLY, WITH MAXIMUM TAKE-OFF WEIGHT MORE THAN 7 KG BUT NOT MORE THAN 25 KG.
880624	UNMANNED AIRCRAFT FOR REMOTE-CONTROLLED FLIGHT ONLY, WITH MAXIMUM TAKE-OFF WEIGHT MORE THAN 25 KG BUT NOT MORE THAN 150 KG.
880629	UNMANNED AIRCRAFT FOR REMOTE-CONTROLLED FLIGHT ONLY, WITH MAXIMUM TAKE-OFF WEIGHT MORE THAN 150 KG.
880691	UNMANNED AIRCRAFT WITH MAXIMUM TAKE-OFF WEIGHT NOT MORE THAN 250 G, NESOI.
880692	UNMANNED AIRCRAFT WITH MAXIMUM TAKE-OFF WEIGHT MORE THAN 250 G BUT NOT MORE THAN 7 KG, NESOI.
880693	UNMANNED AIRCRAFT WITH MAXIMUM TAKE-OFF WEIGHT MORE THAN 7 KG BUT NOT MORE THAN 25 KG, NESOI.
880694	UNMANNED AIRCRAFT WITH MAXIMUM TAKE-OFF WEIGHT MORE THAN 25 KG BUT NOT MORE THAN 150 KG, NESOI.
880699	UNMANNED AIRCRAFT WITH MAXIMUM TAKE-OFF WEIGHT MORE THAN 150 KG, NESOI.
880710	PROPELLERS AND ROTORS AND PARTS THEREOF, FOR BALLOONS, GLIDERS, OTHER AIRCRAFT AND SPACECRAFT, ETC.
880720	UNDERCARRIAGES AND PARTS THEREOF, FOR BALLOONS, GLIDERS, OTHER AIRCRAFT AND SPACECRAFT, ETC.
880730	PARTS OF AIRPLANES OR HELICOPTERS, NESOI.
880790	PARTS FOR USE IN CIVIL AIRCRAFT, BALLOONS, DIRIGIBLES, GLIDERS, HANG GLIDERS AND OTHER NON-POWERED AIRCRAFT, NESOI.
890110	CRUISE SHIPS, EXCURSION BOATS AND SIMILAR VESSELS PRINCIPALLY DESIGNED FOR THE TRANSPORT OF PERSONS; FERRY BOATS OF ALL KINDS.
890120	TANKERS FOR THE TRANSPORT OF GOODS.
890130	REFRIGERATED VESSELS, OTHER THAN TANKERS.
890190	VESSELS NESOI, FOR THE TRANSPORT OF GOODS, AND OTHER VESSELS NESOI, FOR THE TRANSPORT OF BOTH PERSONS AND GOODS.
890200	FISHING VESSELS; FACTORY SHIPS AND OTHER VESSELS FOR PROCESSING OR PRESERVING FISHERY PRODUCTS.
890311	INFLATABLE YACHTS AND VESSELS FOR PLEASURE OR SPORTS, INCLUDING INFLATABLE ROW BOATS AND CANOES.
890312	INFLATABLE YACHTS AND VESSELS FOR PLEASURE OR SPORTS, INCLUDING INFLATABLE ROW BOATS AND CANOES.
890319	INFLATABLE YACHTS AND VESSELS FOR PLEASURE OR SPORTS, INCLUDING INFLATABLE ROW BOATS AND CANOES.
890321	SAILBOATS, WITH OR WITHOUT AUXILIARY MOTOR.
890322	SAILBOATS, WITH OR WITHOUT AUXILIARY MOTOR.
890323	SAILBOATS, WITH OR WITHOUT AUXILIARY MOTOR.
890331	MOTORBOATS, OTHER THAN OUTBOARD MOTORBOATS.

HTS–6 code	HTS description
890332	MOTORBOATS, OTHER THAN OUTBOARD MOTORBOATS.
890333	MOTORBOATS, OTHER THAN OUTBOARD MOTORBOATS.
890393	YACHTS AND OTHER VESSELS FOR PLEASURE OR SPORTS NESOI; ROW BOATS AND CANOES (NOT DESIGNED TO BE PRINCIPALLY USED WITH MOTORS OR SAILS) NESOI.
890399	YACHTS AND OTHER VESSELS FOR PLEASURE OR SPORTS NESOI; ROW BOATS AND CANOES (NOT DESIGNED TO BE PRINCIPALLY USED WITH MOTORS OR SAILS) NESOI.
890400	TUGS AND PUSHER CRAFT VESSELS.
890510	DREDGERS (VESSELS).
890610	WARSHIPS (INCLUDING SUBMARINES, TROOPSHIPS ETC.).
890690	VESSELS (OTHER THAN WARSHIPS) INCLUDING LIFEBOATS, OTHER THAN ROW BOATS, NESOI.
890710	INFLATABLE RAFTS.
890790	FLOATING STRUCTURES (FOR EXAMPLE, TANKS, COFFERDAMS, LANDING-STAGES, BUOYS AND BEACONS), EXCEPT INFLATABLE RAFTS.
890800	VESSELS AND FLOATING STRUCTURES FOR BREAKING UP (SCRAPPING).
900110	OPTICAL FIBERS, OPTICAL FIBER BUNDLES AND CABLES, OTHER THAN OPTICAL FIBER CABLES MADE UP OF INDIVIDUALLY SHEATHED FIBERS.
900120	SHEETS AND PLATES OF POLARIZING MATERIAL.
900130	CONTACT LENSES.
900140	SPECTACLE LENSES OF GLASS.
900150	SPECTACLE LENSES OF MATERIALS OTHER THAN GLASS.
900190	LENSES (EXCEPT CONTACT AND SPECTACLE), PRISMS, MIRRORS AND OTHER OPTICAL ELEMENTS, UNMOUNTED, OTHER THAN ELEMENTS OF GLASS NOT OPTICALLY WORKED.
900211	OBJECTIVE LENSES AND PARTS AND ACCESSORIES THEREOF FOR CAMERAS, PROJECTORS OR PHOTOGRAPHIC ENLARGERS OR REDUCERS.
900219	OBJECTIVE LENSES AND PARTS AND ACCESSORIES THEREOF FOR INSTRUMENTS OR APPARATUS, NESOI.
900220	OPTICAL FILTERS AND PARTS AND ACCESSORIES THEREOF FOR INSTRUMENTS OR APPARATUS.
900290	PRISMS, MIRRORS AND OTHER OPTICAL ELEMENTS, MOUNTED, AND PARTS AND ACCESSORIES THEREOF, NESOI.
900311	FRAMES AND MOUNTINGS FOR SPECTACLES, GOGGLES OR THE LIKE, OF PLASTICS.
900319	FRAMES AND MOUNTINGS FOR SPECTACLES, GOGGLES OR THE LIKE, OF MATERIALS OTHER THAN PLASTICS.
900390	PARTS OF FRAMES AND MOUNTINGS FOR SPECTACLES, GOGGLES OR THE LIKE.
900410	SUNGLASSES.
900490	SPECTACLES, GOGGLES AND THE LIKE, CORRECTIVE, PROTECTIVE OR OTHER, NESOI.
900510	BINOCULARS.
900580	MONOCULARS, OTHER OPTICAL TELESCOPES AND MOUNTINGS; OTHER ASTRONOMICAL INSTRUMENTS AND MOUNTINGS, EXCLUDING INSTRUMENTS FOR RADIO-ASTRONOMY.
900590	PARTS AND ACCESSORIES (INCLUDING MOUNTINGS) OF BINOCULARS, MONOCULARS, OTHEROTHER OPTICAL TELECOPES AND ASTRONOMICAL INSTRUMENTS NESOI.
900630	CAMERAS DESIGNED FOR UNDERWATER USE, FOR AERIAL SURVEY, OR MEDICAL/SURGICAL EXAMINATION OF INTERNAL ORGANS; CAMERAS FOR FORENSIC OR CRIMINOLOGICAL USE.
900640	INSTANT PRINT CAMERAS.
900653	CAMERAS (STILL) NESOI, FOR ROLL FILM OF A WIDTH OF 35 MM (1.4 INCH).
900659	PHOTOGRAPHIC CAMERAS (OTHER THAN CINEMATOGRAPHIC), NESOI.
900661	PHOTOGRAPHIC DISCHARGE LAMP (ELECTRONIC) FLASHLIGHT APPARATUS.
900669	PHOTOGRAPHIC FLASHLIGHT APPARATUS, NESOI.
900691	PARTS AND ACCESSORIES FOR PHOTOGRAPHIC (OTHER THAN CINEMATOGRAPHIC) CAMERAS.
900699	PARTS AND ACCESSORIES FOR PHOTOGRAPHIC FLASHLIGHT APPARATUS AND FLASHBULBS, NESOI.
900710	CINEMATOGRAPHIC CAMERAS.
900720	CINEMATOGRAPHIC PROJECTORS, WHETHER OR NOT INCORPORATING SOUND RECORDING OR REPRODUCING APPARATUS.
900791	PARTS AND ACCESSORIES FOR CINEMATOGRAPHIC CAMERAS.

HTS–6 code	HTS description
900792	PARTS AND ACCESSORIES FOR CINEMATOGRAPHIC PROJECTORS.
900850	IMAGE AND PHOTOGRAPHIC PROJECTORS, ENLARGERS AND REDUCERS, OTHER THAN CINEMATOGRAPHIC.
900890	PARTS AND ACCESSORIES OF IMAGE PROJECTORS, PHOTOGRAPHIC ENLARGERS AND REDUCERS, OTHER THAN CINEMATOGRAPHIC.
901010	PHOTOGRAPHIC EQUIPMENT FOR THE AUTOMATIC DEVELOPMENT OF FILM OR PAPER IN ROLLS OR AUTOMATICALLY EXPOSING DEVELOPED FILM TO ROLLS OF PHOTOGRAPHIC PAPER.
901050	APPARATUS AND EQUIPMENT FOR PHOTOGRAPHIC (INCLUDING CIMETOGRAPHIC) LABORATORIES, N.E.S.O.I.; NEGATOSCOPES.
901060	PROJECTION SCREENS.
901090	PARTS AND ACCESSORIES OF APPARATUS AND EQUIPMENT FOR PHOTOGRAPHIC (INCLUDING CINEMATOGRAPHIC) LABORATORIES NESOI, NEGATOSCOPES AND PROJECTION SCREENS.
901110	STEREOSCOPIC MICROSCOPES.
901120	MICROSCOPES NESOI, FOR PHOTOMICROGRAPHY, CINEPHOTOMICROGRAPHY OR MICROPROJECTION.
901180	COMPOUND OPTICAL MICROSCOPES, NESOI.
901190	PARTS AND ACCESSORIES FOR COMPOUND OPTICAL MICROSCOPES.
901210	MICROSCOPES OTHER THAN OPTICAL MICROSCOPES; DIFFRACTION APPARATUS.
901290	PARTS AND ACCESSORIES FOR MICROSCOPES OTHER THAN OPTICAL MICROSCOPES; PARTS AND ACCESSORIES FOR DIFFRACTION APPARATUS.
901310	TELESCOPIC SIGHTS FOR FITTING TO ARMS; PERISCOPES; TELESCOPES FOR OPTICAL, PHOTOGRAPHIC, PRECISION, MEDICAL AND ELECTRICAL MACHINES, APPLIANCES, ETC.
901320	LASERS, OTHER THAN LASER DIODES.
901380	OPTICAL DEVICES, APPLIANCES AND INSTRUMENTS, NESOI.
901390	PARTS AND ACCESSORIES FOR LIQUID CRYSTAL DEVICES, LASERS (OTHER THAN LASER DIODES) AND OTHER OPTICAL APPLIANCES AND INSTRUMENTS, NESOI.
901410	DIRECTION FINDING COMPASSES.
901420	INSTRUMENTS AND APPLIANCES FOR AERONAUTICAL OR SPACE NAVIGATION (OTHER THAN COMPASSES).
901480	NAVIGATIONAL INSTRUMENTS AND APPLIANCES, NESOI.
901490	PARTS AND ACCESSORIES FOR DIRECTION FINDING COMPASSES AND OTHER NAVIGATIONAL INSTRUMENTS AND APPLIANCES.
901510	RANGEFINDERS.
901520	THEODOLITES AND TACHYOMETERS.
901530	LEVELS (SURVEYING).
901540	PHOTOGRAMMETRICAL SURVEYING INSTRUMENTS AND APPLIANCES.
901580	SURVEYING INSTRUMENTS AND APPLIANCES, NESOI, HYDROGRAPHIC, OCEANOGRAPHIC, HYDROLOGICAL, METEOROLOGICAL OR GEOPHYSICAL INSTRUMENTS AND APPLIANCES NESOI.
901590	PARTS ETC. FOR RANGEFINDERS AND SURVEYING, HYDROGRAPHIC, OCEAN OGRAPHIC, HYDROLOGICAL, METEOROLOGICAL OR GEOPHYSICAL INSTRUMENTS AND APPLIANCES NESOI.
901600	BALANCES OF A SENSITIVITY OF 5 CG OR BETTER, WITH OR WITHOUT WEIGHTS; PARTS AND ACCESSORIES THEREOF.
901710	DRAFTING TABLES AND MACHINES, WHETHER OR NOT AUTOMATIC.
901720	DRAWING, MARKING-OUT OR MATHEMATICAL CALCULATING INSTRUMENTS, EXCEPT DRAFTING TABLES AND MACHINES.
901730	MICROMETERS, CALIPERS AND GAUGES.
901780	INSTRUMENTS FOR MEASURING LENGTH, FOR USE IN THE HAND, NESOI.
901790	PARTS AND ACCESSORIES FOR DRAWING, MARKING-OUT OR MATHEMATICAL CALCULATING INSTRUMENTS AND INSTRUMENTS FOR MEASURING LENGTH FOR USE IN THE HAND, NESOI.
901811	ELECTROCARDIOGRAPHS, AND PARTS AND ACCESSORIES THEREOF.
901812	ULTRASONIC SCANNING APPARATUS.
901813	MAGNETIC RESONANCE IMAGING APPARATUS.

HTS–6 code	HTS description
901814	SCINTIGRAPHIC APPARATUS.
901819	ELECTRO-DIAGNOSTIC APPARATUS (AND APPARATUS FOR FUNCTIONAL EXPLORATORY EXAMINATION OR FOR CHECKING PHYSIOLOGICAL PARAMETERS) NESOI, AND PARTS, ETC.
901820	ULTRAVIOLET OR INFRARED RAY APPARATUS, AND PARTS AND ACCESSORIES THEREOF.
901831	SYRINGES, WITH OR WITHOUT NEEDLES; PARTS AND ACCESSORIES THEREOF.
901832	TUBULAR METAL NEEDLES AND NEEDLES FOR SUTURES AND PARTS AND ACCESSORIES THEREOF.
901839	MEDICAL ETC., NEEDLES NESOI, CATHETERS, CANNULAE AND THE LIKE; PARTS AND ACCESSORIES THEROF.
901841	DENTAL DRILL ENGINES, WHETHER OR NOT COMBINED ON A SINGLE BASE WITH OTHER DENTAL EQUIPMENT, AND PARTS AND ACCESSORIES THEREOF.
901849	INSTRUMENTS AND APPLIANCES USED IN DENTAL SCIENCES, NESOI, AND PARTS AND ACCESSORIES THEREOF.
901850	OPHTHALMIC INSTRUMENTS AND APPLIANCES, NESOI, AND PARTS AND ACCESSORIES THEREOF.
901890	INSTRUMENTS AND APPLIANCES FOR MEDICAL, SURGICAL OR VETERINARY SCIENCES, NESOI, AND PARTS AND ACCESSORIES THEREOF.
901910	MECHANO-THERAPY APPLIANCES; MASSAGE APPARATUS; PSYCHOLOGICAL APTITUDE-TESTING APPARATUS; PARTS AND ACCESSORIES THEREOF.
901920	OZONE THERAPY, OXYGEN THERAPY, AEROSOL THERAPY, ARTIFICAL RESPIRATION OR OTHER THERAPEUTIC RESPIRATION APPARATUS; PARTS AND ACCESSORIES THEREOF.
902000	BREATHING APPLIANCES NESOI AND GAS MASKS HAVING MECHANICAL PARTS AND/OR REPLACEABLE FILTERS; PARTS AND ACCESSORIES THEREOF.
902110	ORTHOPEDIC OR FRACTURE APPLIANCES; PARTS AND ACCESSORIES THEREOF.
902121	ARTIFICIAL TEETH; AND PARTS AND ACCESSORIES THEREOF.
902129	DENTAL FITTINGS; AND PARTS AND ACCESSORIES THEREOF.
902131	ARTIFICIAL JOINTS AND PARTS AND ACCESSORIES THEREOF.
902139	ARTIFICIAL JOINTS AND PARTS AND ACCESSORIES THEREOF, NESOI.
902140	HEARING AIDS.
902150	PACEMAKERS FOR STIMULATING HEART MUSCLES.
902190	ARTIFICIAL PARTS OF THE BODY NESOI; AND PARTS AND ACCESSORIES THEREOF.
902212	COMPUTED TOMOGRAPHY APPARATUS.
902213	APPARATUS BASE ON THE USE OF X-RAYS FOR DENTAL, USES, INCLUDING RADIOGRAPHY OR RADIOTHERAPY APPARATUS.
902214	APPARATUS BASED ON THE USE OF X-RAYS FOR MEDICAL, SURGICAL, OR VETERINARY USES, INCLUDING RADIOGRAPHY OR RADIOTHERAPY APPARATUS, NESOI.
902219	APPARATUS BASED ON THE USE OF X-RAYS FOR USES OTHER THAN MEDICAL, SURGICAL, DENTAL OR VETERINARY, INCLUDING INDUSTRIAL X-RAY APPARATUS.
902221	APPARATUS BASED ON THE USE OF ALPHA, BETA OR GAMMA RADIATIONS FOR MEDICAL, SURGICAL, DENTAL OR VETERINARY USES.
902229	APPARATUS BASED ON THE USE OF ALPHA, BETA OR GAMMA RADIATIONS FOR OTHER THAN MEDICAL, SURGICAL, DENTAL OR VETERINARY USES.
902230	X-RAY TUBES.
902290	X-RAY GENERATORS, HIGH TENSION GENERATORS, CONTROL PANELS AND DESKS, SCREENS, EXAMINATION OR TREATMENT TABLES, CHAIRS ETC.; PARTS AND ACCESSORIES.
902300	INSTRUMENTS, APPARATUS AND MODELS, DESIGNED FOR DEMONSTRATIONAL PURPOSES, UNSUITABLE FOR OTHER USES, AND PARTS AND ACCESSORIES THEREOF.
902410	MACHINES AND APPLIANCES FOR TESTING METALS.
902480	MACHINES AND APPLIANCES NESOI FOR TESTING THE HARDNESS, STRENGTH, COMPRESSIBILITY, ELASTICITY OR OTHER SPECIFIC PROPERTIES OF MATERIALS.
902490	PARTS AND ACCESSORIES OF MACHINES OR APPLIANCES FOR TESTING HARDNESS, STRENGTH, COMPRESSIBILITY, ELASTICITY OR OTHER SPECIFIC PROPERTIES OF MATERIALS.

HTS–6 code	HTS description
902511	THERMOMETERS AND PYROMETERS, NOT COMBINED WITH OTHER INSTRUMENTS, LIQUID-FILLED, FOR DIRECT READING.
902519	THERMOMETERS AND PYROMETERS, NOT COMBINED WITH OTHER INSTRUMENTS, NESOI.
902580	HYDROMETERS AND SIMILAR FLOATING INSTRUMENTS, HYGROMETERS AND PSYCHROMETERS, NESOI.
902590	PARTS AND ACCESSORIES FOR HYDROMETERS AND SIMILAR FLOATING INSTRUMENTS, THERMOMETERS, PYROMETERS, BAROMETERS, HYGROMETERS AND PSYCHROMETERS.
902610	INSTRUMENTS AND APPARATUS FOR MEASURING OR CHECKING THE FLOW OR LEVEL OF LIQUIDS, NESOI.
902620	INSTRUMENTS AND APPARATUS FOR MEASURING OR CHECKING PRESSURE OF LIQUIDS OR GASES, NESOI.
902680	INSTRUMENTS AND APPARATUS FOR MEASURING OR CHECKING OTHER VARIABLES OF LIQUIDS OR GASES, NESOI.
902690	PARTS AND ACCESSORIES FOR INSTRUMENTS AND APPARATUS FOR MEASURING OR CHECKING THE FLOW, LEVEL, PRESSURE OR OTHER VARIABLES OF LIQUIDS OR GASES, NESOI.
902710	GAS OR SMOKE ANALYSIS APPARATUS.
902720	CHROMATOGRAPHS AND ELECTROPHORESIS INSTRUMENTS.
902730	SPECTROMETERS, SPECTROPHOTOMETERS AND SPECTROGRAPHS USING OPTICAL RADIATIONS (ULTRAVIOLET, VISIBLE, INFRARED).
902750	INSTRUMENTS AND APPARATUS FOR PHYSICAL OR CHEMICAL ANALYSIS USING OPTICAL RADIATIONS (ULTRAVIOLET, VISIBLE, INFRARED), NESOI.
902781	INSTRUMENTS AND APPARATUS FOR PHYSICAL OR CHEMICAL ANALYSIS, NESOI.
902789	INSTRUMENTS AND APPARATUS FOR PHYSICAL OR CHEMICAL ANALYSIS, NESOI.
902790	MICROTOMES; PARTS AND ACCESSORIES FOR INSTRUMENTS AND APPARATUS FOR PHYSICAL OR CHEMICAL ANALYSIS.
902810	GAS SUPPLY OR PRODUCTION METERS.
902820	LIQUID SUPPLY OR PRODUCTION METERS.
902830	ELECTRICITY SUPPLY OR PRODUCTION METERS.
902890	PARTS AND ACCESSORIES OF GAS, LIQUID OR ELECTRICITY SUPPLY OR PRODUCTION METERS, INCLUDING CALIBRATING METERS THEREFOR.
902910	REVOLUTION COUNTERS, PRODUCTION COUNTERS, TAXIMETERS, ODOMETERS, PEDOMETERS AND THE LIKE.
902920	SPEEDOMETERS AND TACHOMETERS; STROBOSCOPES.
902990	PARTS AND ACCESSORIES FOR REVOLUTION COUNTERS, PRODUCTION COUNTERS, TAXIMETERS, ODOMETERS, PEDOMETERS ETC., SPEEDOMETERS, TACHOMETERS AND STROBOSOPES.
903010	INSTRUMENTS AND APPARATUS FOR MEASURING OR DETECTING IONIZING RADIATIONS.
903020	CATHODE-RAY OSCILLOSCOPES AND CATHODE-RAY OSCILLOGRAPHS.
903031	MULTIMETERS, WITHOUT A RECORDING DEVICE.
903032	MULTIMETERS WITH A RECORDING DEVICE.
903033	INSTRUMENTS AND APPARATUS, FOR MEASURING OR CHECKING VOLTAGE, CURRENT, RESISTANCE OR POWER, WITHOUT A RECORDING DEVICE, NESOI.
903039	INSTRUMENTS AND APPARATUS FOR MEASURING OR CHECKING VOLTAGE, CURRENT, RESISTANCE OR POWER, WITHOUT A RECORDING DEVICE (EXCLUDING MULTIMETERS), NESOI.
903040	INSTRUMENTS AND APPARATUS NESOI, SPECIALLY DESIGNED FOR TELECOMMUNICATIONS (FOR EXAMPLE, CROSS-TALK METERS, GAIN MEASURING INSTRUMENTS ETC.).
903082	INST & APP W/A RECORDING DEVICE DESIGNED TO CHECK OR MEASURE SEMICONDUCTOR WAFERS & DEVICES (SUCH AS PROBE TESTERS, RESISTIVITY CHECKERS, LOGIC ANALYZERS.
903084	INSTRUMENTS AND APPARATUS, WITH A RECORDING DEVICE, NESOI.
903089	INSTRUMENTS AND APPARATUS NESOI, WITHOUT A RECORDING DEVICE FOR MEASURING OR CHECKING ELECTRICAL QUANTITIES.

HTS–6 code	HTS description
903090	PARTS AND ACCESSORIES OF INSTRUMENTS AND APPARATUS FOR MEASURING, CHECKING OR DETECTING ELECTRICAL QUANTITIES, OR IONIZING RADIATIONS, NESOI.
903110	MEASURING OR CHECKING MACHINES FOR BALANCING MECHANICAL PARTS, NESOI.
903120	TEST BENCHES.
903141	OPTICAL INSTRUMENTS FOR INSPECTING SEMICONDUCTOR WAFERS OR DEVICES OR FOR INSPECTING PHOTOMASKS OR RETICLES USED IN MANUFG SEMICONDUCTOR DEVICES.
903149	MEASURING OR CHECKING INSTRUMENTS, APPLIANCES AND MACHINES, N.E.S.O.I.
903180	MEASURING OR CHECKING INSTRUMENTS, APPLIANCES AND MACHINES, NESOI.
903190	PARTS AND ACCESSORIES FOR MEASURING OR CHECKING INSTRUMENTS, APPLIANCES AND MACHINES, NESOI; PARTS AND ACCESSORIES FOR PROFILE PROJECTORS.
903210	THERMOSTATS.
903220	MANOSTATS.
903281	HYDRAULIC OR PNEUMATIC AUTOMATIC REGULATING OR CONTROLLING INSTRUMENTS AND APPARATUS.
903289	AUTOMATIC REGULATING OR CONTROLLING INSTRUMENTS AND APPARATUS (EXCLUDING THERMOSTATS, MANOSTATS AND HYDRAULIC TYPES), NESOI.
903290	PARTS AND ACCESSORIES OF AUTOMATIC REGULATING OR CONTROLLING INSTRUMENTS AND APPARATUS.
903300	PARTS AND ACCESSORIES (NOT SPECIFIED OR INCLUDED ELSEWHERE IN THIS CHAPTER) FOR MACHINES, APPLIANCES, INSTRUMENTS OR APPARATUS OF CHAPTER 90.
930200	REVOLVERS AND PISTOLS, DESIGNED TO FIRE LIVE AMMUNITION.
930310	MUZZLE-LOADING FIREARMS.
930320	SPORTING, HUNTING OR TARGET-SHOOTING SHOTGUNS, INCLUDING COMBINATION SHOTGUN-RIFLES, EXCEPT MUZZLE-LOADING FIREARMS.
930330	SPORTING, HUNTING OR TARGET-SHOOTING RIFLES, EXCEPT MUZZLE-LOADING FIREARMS AND COMBINATION SHOTGUN-RIFLES.
930390	DEVICES DESIGNED TO PROJECT ONLY SIGNAL FLARES; PISTOLS AND REVOLVERS FOR FIRING BLANK AMMUNITION; CAPTIVE-BOLT HUMANE KILLERS; LINE-THROWING GUNS.
930400	ARMS NESOI (INCLUDING SPRING, AIR OR GAS GUNS AND PISTOLS, BUT EXCLUDING SWORDS, BAYONETS AND SIMILAR ARMS).
930510	PARTS AND ACCESSORIES OF REVOLVERS OR PISTOLS.
930520	PARTS AND ACCESSORIES OF SHOTGUNS OR RIFLES OF HEADING 9303.
930599	PARTS AND ACCESSORIES OF ARTICLES OF HEADINGS 9303 TO 9304, NESOI.
930621	SHOTGUN CARTRIDGES.
930629	AIR GUN PELLETS AND PARTS OF SHOTGUN CARTRIDGES.
930630	CARTRIDGES AND PARTS THEREOF, NESOI.
930690	BOMBS, GRENADES, TORPEDOES, MINES, MISSILES AND SIMILAR MUNITIONS OF WAR AND PARTS THEREOF; OTHER AMMUNITION AND PROJECTILES AND PARTS THEREOF, NESOI.
930700	SWORDS, CUTLASSES, BAYONETS, LANCES AND SIMILAR ARMS AND PARTS THEREOF AND SCABBARDS AND SHEATHS THEREFOR.
940110	SEATS OF A KIND USED FOR AIRCRAFT.
940120	SEATS OF A KIND USED FOR MOTOR VEHICLES.
940330	WOODEN FURNITURE (EXCEPT SEATS) OF A KIND USED IN OFFICES.
940610	PREFABRICATED BUILDINGS OF WOOD.
940620	PREFABRICATED BUILDINGS, OTHER THAN OF WOOD.
940690	PREFABRICATED BUILDINGS, OTHER THAN OF WOOD.
950300	TRICYCLES, SCOOTERS, PEDAL CARS AND SIMILAR WHEELED TOYS; DOLLS' CARRIAGES; DOLLS; OTHER TOYS; ETC.
960350	BRUSHES NESOI, CONSTITUTING PARTS OF MACHINES, APPLIANCES OR VEHICLES.
960390	HAND-OPERATED MECHANICAL (NOT MOTORIZED) FLOOR SWEEPERS, MOPS AND FEATHER DUSTERS; PREPARED KNOTS AND TUFTS FOR BROOM OR BRUSH MAKING, NESOI.
960610	PRESS-FASTENERS, SNAP-FASTENERS AND PRESS-STUDS AND PARTS THEREFOR.

HTS–6 code	HTS description
960621	BUTTONS OF PLASTICS, NOT COVERED WITH TEXTILE MATERIAL.
960622	BUTTONS OF BASE METAL, NOT COVERED WITH TEXTILE MATERIAL.
960629	BUTTONS, NESOI.
960630	BUTTONS MOLDS AND OTHER PARTS OF BUTTONS; BUTTON BLANKS.
960891	PEN NIBS AND NIB POINTS.
961220	INK-PADS, WHETHER OR NOT INKED.

[88 FR 12183, Feb. 27, 2023, as amended at 88 FR 33430, May 23, 2023; 89 FR 4812, Jan. 25, 2024; 89 FR 51665, June 18, 2024]

SUPPLEMENT NO. 5 TO PART 746—'LUXURY GOODS' SANCTIONS FOR RUSSIA AND BELARUS PURSUANT TO §746.8(a)(7)

(a) The source for the Harmonized Tariff Schedule (HTS)-6 codes and descriptions in this list is the United States International Trade Commission (USITC)'s Harmonized Tariff Schedule of the United States (2023). The items described in supplement no. 5 to part 746 include any modified or designed ''components,'' ''parts,'' ''accessories,'' and ''attachments'' therefor regardless of the HTS Code or HTS Description of the ''components,'' ''parts,'' ''accessories,'' and ''attachments,'' apart from any ''part'' or minor ''component'' that is a fastener (*e.g.*, screw, bolt, nut, nut plate, stud, insert, clip, rivet, pin), washer, spacer, insulator, grommet, bushing, spring, wire, or solder. The exclusion of fasteners from this control does not apply to fasteners that are designated under an HTS Code under this supplement. Although generally fasteners (*e.g.*, screws, bolts, nuts, nut plates, studs, inserts, clips, rivets, pins), and washers, spacers, insulators, grommets, bushings, springs, wires, and solder are excluded from the scope of this supplement, see part 744 of the EAR for license requirements for Russia and Belarus that apply to all items ''subject to the EAR,'' *e.g.*, §744.21 and the Entity List license requirements, which in most cases extend to all items ''subject to the EAR.'' This supplement includes two columns consisting of the HTS Code and HTS Description and Per Unit Wholesale Price in the U.S. if applicable to assist exporters, reexporters, and transferors in identifying the products in this supplement. For information on HTS codes in general, you may contact a local import specialist at U.S. Customs and Border Protection at the nearest port. HTS–6 Codes 590500, 840710, 840721, 840729, 840731, 840732, 840733, 840734, 840790, 840810, 840820, 840890, 840910, 840991, 840999, 841111, 841112, 841121, 841122, 841181, 841182, 841191, 841199, 841229, 841290, 841451, 841459, 841460, 841510, 841810, 841821, 841829, 841830, 841840, 841981, 842211, 842310, 842860, 843139, 844312, 844331, 844332, 844339, 845011, 845012, 845019, 845121, 845210, 847010, 847021, 847029, 847030, 847130, 847141, 847149, 847150, 847160, 847170, 847180, 847190, 847290, 847960, 848310, 848320, 848330, 848340, 848350, 848360, 848390, 850811, 850819, 850860, 850980, 851110, 851120, 851130, 851140, 851150, 851180, 851190, 851220, 851230, 851240, 851631, 851650, 851660, 851671, 851672, 851679, 851711, 851713, 851718, 851761, 851762, 851769, 851920, 851930, 851981, 851989, 852110, 852190, 852691, 852712, 852713, 852719, 852721, 852729, 852791, 852792, 852799, 852871, 852872, 852910, 853110, 854370, 854430, 870310, 870321, 870322, 870323, 870324, 870331, 870332, 870333, 870340, 870350, 870360, 870370, 870380, 870390, and 902000 are listed in both this supplement and supplement no. 4 to this part, so exporters, reexporters, and transferors must comply with the license requirements under both §746.8(a)(5) and (7) as applicable.

(b) The items identified in the HTS–6 Code column of this supplement are subject to the license requirement under §746.8(a)(7). The other column—HTS Description—is intended to assist exporters with their AES filing responsibilities. The license requirements extend to HTS Codes at the 8 and 10 digit level (HTS-8 and HTS-10 codes, respectively) when such longer HTS Codes begin with the HTS-6 Codes as their first 6 numbers. When a description mentions parts related to one or more numerical headings, this means parts related to any HS codes that begin with the digits in the range specified. For example, 'headings 8524 to 8528' means any HS code, HTS code, or Schedule B which has 8524, 8525, 8526, 8527, or 8528 as the first four digits.

HTS-6 Code	HTS-6 Description and per unit wholesale price in the U.S. if applicable
220300	BEER MADE FROM MALT.
220410	SPARKLING WINE OF FRESH GRAPES.

HTS-6 Code	HTS-6 Description and per unit wholesale price in the U.S. if applicable
220421	WINE OF FRESH GRAPES (OTHER THAN SPARKLING WINE) AND GRAPE MUST WITH FERMENTATION PREVENTED, ETC. BY ADDING ALCOHOL, CONTAINERS OF NOT OVER 2 LITERS.
220422	WINE, GRAPE MUST WITH FERMENTATION PREVENTED OR ARRESTED BY THE ADDITION OF ALCOHOL IN CONTAINERS HOLDING MORE THAN 2 LITERS BUT NO MORE THAN 10 LITER.
220429	WINE OF FRESH GRAPES (OTHER THAN SPARKLING WINE) AND GRAPE MUST WITH FERMENTATION PREVENTED, ETC. BY ADDING ALCOHOL, CONTAINERS HOLDING OVER 2 LITERS.
220430	GRAPE MUST, PARTIALLY FERMENTED, HAVING AN ALCOHOLIC STRENGTH BY VOLUME EXCEEDING 0.5% VOL., NESOI.
220510	VERMOUTH AND OTHER WINE OF FRESH GRAPES FLAVORED WITH PLANTS OR AROMATIC SUBSTANCES, IN CONTAINERS HOLDING 2 LITERS OR LESS.
220590	VERMOUTH AND OTHER WINE OF FRESH GRAPES FLAVORED WITH PLANTS OR AROMATIC SUBSTANCES, IN CONTAINERS HOLDING OVER 2 LITERS.
220600	FERMENTED BEVERAGES, NESOI (INCL CIDER, PERRY & MEAD); MIXTURES OF FERMENTED BEVERAGES & MIXTURES OF FERMENTED BEVERAGES & NON-ALCOHOL BEVERAGE NESOI.
220710	ETHYL ALCOHOL, UNDENATURED, OF AN ALCOHOLIC STRENGTH BY VOLUME OF 80% OR HIGHER.
220820	SPIRITS OBTAINED BY DISTILLING GRAPE WINE OR GRAPE MARC (GRAPE BRANDY).
220830	WHISKIES.
220840	RUM AND TAFIA.
220850	GIN AND GENEVA.
220860	VODKA.
220870	LIQUEURS AND CORDIALS.
220890	SPIRITUOUS BEVERAGES, NESOI, INCLUDING CORDIALS, LIQUEURS, KIRSHWASSER, RATAFIA AND VODKA.
240110	TOBACCO, NOT STEMMED/STRIPPED.
240120	TOBACCO, PARTLY OR WHOLLY STEMMED/STRIPPED.
240130	TOBACCO REFUSE (WASTE).
240210	CIGARS, CHEROOTS AND CIGARILLOS, CONTAINING TOBACCO.
240220	CIGARETTES CONTAINING TOBACCO.
240290	CIGARS, CHEROOTS, CIGARILLOS AND CIGARETTES OF TOBACCO SUBSTITUTES, NOT CONTAINING TOBACCO.
240311	WATER PIPE TOBACCO SPECIFIED IN SUBHEADING NOTE 1 TO CHAPTER 24.
240319	SMOKING TOBACCO, WHETHER OR NOT CONTAINING TOBACCO SUBSTITUTES IN ANY PROPORTION, OTHER THAN WATER PIPE TOBACCO.
240391	HOMOGENIZED OR RECONSTITUTED TOBACCO.
240399	MANUFACTURED TOBACCO AND ITS SUBSTITUTES, NESOI; TOBACCO EXTRACTS AND ESSENCES.
240411	MANUFACTURED TOBACCO AND ITS SUBSTITUTES, NESOI; TOBACCO EXTRACTS AND ESSENCES.
240412	CHEMICAL PRODUCTS AND PREPARATIONS OF THE CHEMICAL OR ALLIED INDUSTRIES, N.E.S.O.I.; RESIDUAL PRODUCTS OF THE CHEMICAL OR ALLIED INDUSTRIES, N.E.S.O.I.
240419	MANUFACTURED TOBACCO AND ITS SUBSTITUTES, NESOI; TOBACCO EXTRACTS AND ESSENCES.
240491	FOOD PREPARATIONS NESOI.
240492	CHEMICAL PRODUCTS AND PREPARATIONS OF THE CHEMICAL OR ALLIED INDUSTRIES, N.E.S.O.I.; RESIDUAL PRODUCTS OF THE CHEMICAL OR ALLIED INDUSTRIES, N.E.S.O.I.
240499	CHEMICAL PRODUCTS AND PREPARATIONS OF THE CHEMICAL OR ALLIED INDUSTRIES, N.E.S.O.I.; RESIDUAL PRODUCTS OF THE CHEMICAL OR ALLIED INDUSTRIES, N.E.S.O.I.
330290	MIXTURES OF ODORIFEROUS SUBSTANCES AND MIXTURES (INCLUDING ALCOHOLIC SOLUTIONS) BASED ON ONE OR MORE OF THESE SUBSTANCES USED AS RAW MATERIALS, NESOI.
330300	PERFUMES AND TOILET WATERS.
330410	LIP MAKE-UP PREPARATIONS.
330420	EYE MAKE-UP PREPARATIONS.
330491	POWDER MAKE-UP OR SKIN CARE PREPARATIONS, INCLUDING FACE POWDER, ROUGE, BABY POWDER AND BATH POWDER.
330499	BEAUTY OR MAKE-UP PREPARATIONS AND PREPARATIONS FOR CARE OF THE SKIN (EXCLUDING MEDICAMENTS) NESOI, INCLUDING SUNSCREENS AND SUNTAN PREPARATIONS.
330790	DEPILATORIES AND OTHER PERFUMERY, COSMETIC OR TOILET PREPARATIONS, NESOI.
391690	MONOFILAMENT WITH A CROSS-SECTIONAL DIMENSION OVER 1 MM, RODS, STICKS AND PROFILE SHAPES OF PLASTICS, NESOI, NOT MORE THAN SURFACE-WORKED.
392620	ARTICLES OF APPAREL AND CLOTHING ACCESSORIES (INCLUDING GLOVES, MITTENS, AND MITTS), NESOI, OF PLASTICS.
392640	STATUETTES AND OTHER ORNAMENTAL ARTICLES, OF PLASTICS.
392690	ARTICLES OF PLASTICS, NESOI.
420211	TRUNKS, SUITCASES, VANITY CASES AND SIMILAR CONTAINERS, WITH OUTER SURFACE OF LEATHER OR OF COMPOSITION LEATHER.
420212	TRUNKS, SUITCASES, VANITY CASES AND SIMILAR CONTAINERS, WITH OUTER SURFACE OF PLASTICS OR OF TEXTILE MATERIALS.
420219	TRUNKS, SUITCASES, VANITY CASES AND SIMILAR CONTAINERS, WITH OUTER SURFACE OF MATERIALS OTHER THAN LEATHER, PLASTICS OR TEXTILES.

HTS-6 Code	HTS-6 Description and per unit wholesale price in the U.S. if applicable
420221	HANDBAGS, WHETHER OR NOT WITH SHOULDER STRAP OR HANDLES, WITH OUTER SURFACE OF LEATHER OR OF COMPOSITION LEATHER.
420222	HANDBAGS, WHETHER OR NOT WITH SHOULDER STRAP OR HANDLES, WITH OUTER SURFACE OF PLASTIC SHEETING OR OF TEXTILE MATERIALS.
420229	HANDBAGS, WHETHER OR NOT WITH SHOULDER STRAP OR HANDLES, WITH OUTER SURFACE OF MATERIALS NESOI.
420231	ARTICLES NORMALLY CARRIED IN THE POCKET OR HANDBAG, WITH OUTER SURFACE OF LEATHER OR OF COMPOSITION LEATHER.
420232	ARTICLES NORMALLY CARRIED IN THE POCKET OR HANDBAG, WITH OUTER SURFACE OF SHEETING OF PLASTICS OR OF TEXTILE MATERIALS.
420239	ARTICLES NORMALLY CARRIED IN THE POCKET OR HANDBAG, WITH OUTER SURFACE OF MATERIALS NESOI.
420291	CONTAINERS, BAGS, BOXES, CASES, SATCHELS ETC. WITH OUTER SURFACE OF LEATHER OR OF COMPOSITION LEATHER, NESOI.
420299	CONTAINER BAGS, BOXES, CASES AND SATCHELS NESOI, WITH OUTER SURFACE OF MATERIALS NESOI.
420340	CLOTHING ACCESSORIES NESOI, OF LEATHER OR OF COMPOSITION LEATHER.
430110	MINK FURSKINS, RAW, WHOLE, WITH OR WITHOUT HEAD, TAIL OR PAWS.
430130	ASTRAKHAN, BROADTAIL, CARACUL, PERSIAN AND SIMILAR LAMB, INDIAN, CHINESE, MONGOLIAN OR TIBETAN LAMB, FURSKINS, RAW, WHOLE, WITH OR WITHOUT HEAD, ETC.
430160	FOX FURSKINS, RAW, WHOLE, WITH OR WITHOUT HEAD, TAIL OR PAWS.
430180	FURSKINS NESOI, RAW, WHOLE, WITH OR WITHOUT HEAD, TAIL OR PAWS.
430190	HEADS, TAILS, PAWS AND OTHER PIECES OR CUTTINGS, OF FURSKINS, RAW, SUITABLE FOR FURRIERS' USE.
430211	MINK FURSKINS, WHOLE, WITH OR WITHOUT HEAD, TAIL OR PAWS, TANNED OR DRESSED, NOT ASSEMBLED.
430219	FURSKINS NESOI, WHOLE, WITH OR WITHOUT HEAD, TAIL OR PAWS, TANNED OR DRESSED, NOT ASSEMBLED.
430220	FURSKIN HEADS, TAILS, PAWS AND OTHER PIECES OR CUTTINGS, TANNED OR DRESSED, NOT ASSEMBLED.
430230	FURSKINS, WHOLE AND PIECES OR CUTTINGS THEREOF, TANNED OR DRESSED, ASSEMBLED.
430310	ARTICLES OF APPAREL AND CLOTHING ACCESSORIES OF FURSKINS.
430390	ARTICLES OF FURSKINS, NESOI.
430400	ARTIFICIAL FUR AND ARTICLES THEREOF.
442011	STATUETTES AND OTHER ORNAMENTS, OF WOOD.
442019	STATUETTES AND OTHER ORNAMENTS, OF WOOD.
490700	UNUSED POSTAGE, STAMP-IMPRESSED PAPER, CHECK FORMS, BANK NOTES, STOCK, SHARE OR BOND CERTIFICATES AND SIMILAR DOCUMENTS OF TITLE, ETC.
500100	SILKWORM COCOONS SUITABLE FOR REELING, AND VALUED AT $300 OR GREATER PER UNIT WHOLESALE PRICE IN THE U.S.
500200	RAW SILK (NOT THROWN), AND VALUED AT $300 OR GREATER PER UNIT WHOLESALE PRICE IN THE U.S.
500300	SILK WASTE (INCLUDING COCOONS UNSUITABLE FOR REELING, YARN WASTE AND GARNETTED STOCK), AND VALUED AT $300 OR GREATER PER UNIT WHOLESALE PRICE IN THE U.S.
500400	SILK YARN (OTHER THAN SPUN FROM SILK WASTE) NOT PUT UP FOR RETAIL SALE, AND VALUED AT $300 OR GREATER PER UNIT WHOLESALE PRICE IN THE U.S.
500500	YARN SPUN FROM SILK WASTE, NOT PUT UP FOR RETAIL SALE, AND VALUED AT $300 OR GREATER PER UNIT WHOLESALE PRICE IN THE U.S.
500600	SILK YARN AND YARN SPUN FROM SILK WASTE, PUT UP FOR RETAIL SALE; SILK WORM GUT, AND VALUED AT $300 OR GREATER PER UNIT WHOLESALE PRICE IN THE U.S.
500710	WOVEN FABRICS OF NOIL SILK, AND VALUED AT $300 OR GREATER PER UNIT WHOLESALE PRICE IN THE U.S.
500720	WOVEN FABRICS CONTAINING 85% OR MORE BY WEIGHT OF SILK OR SILK WASTE OTHER THAN NOIL SILK, AND VALUED AT $300 OR GREATER PER UNIT WHOLESALE PRICE IN THE U.S.
500790	WOVEN FABRICS OF SILK OR SILK WASTE, NESOI, AND VALUED AT $300 OR GREATER PER UNIT WHOLESALE PRICE IN THE U.S.
560394	NONWOVENS, WHETHER OR NOT IMPREGNATED, COATED, COVERED OR LAMINATED, (NOT OF MANMADE FILAMENTS), WEIGHING MORE THAN 150 G/M2, AND VALUED AT $300 OR GREATER PER UNIT WHOLESALE PRICE IN THE U.S.
570110	CARPETS AND OTHER TEXTILE FLOOR COVERINGS, KNOTTED (WHETHER OR NOT MADE-UP), OF WOOL OR FINE ANIMAL HAIR, AND VALUED AT $300 OR GREATER PER UNIT WHOLESALE PRICE IN THE U.S.
570190	CARPETS AND OTHER TEXTILE FLOOR COVERINGS, KNOTTED (WHETHER OR NOT MADE UP), OF TEXTILE MATERIALS, OTHER THAN WOOL OR FINE ANIMAL HAIR, AND VALUED AT $300 OR GREATER PER UNIT WHOLESALE PRICE IN THE U.S.
570210	KELEM, SCHUMACKS, KARAMANIE, AND SIMILAR HAND-WOVEN RUGS, AND VALUED AT $300 OR GREATER PER UNIT WHOLESALE PRICE IN THE U.S.
570220	FLOOR COVERINGS OF COCONUT FIBERS (COIR), WOVEN, NOT TUFTED OR FLOCKED, WHETHER OR NOT MADE-UP, AND VALUED AT $300 OR GREATER PER UNIT WHOLESALE PRICE IN THE U.S.

HTS-6 Code	HTS-6 Description and per unit wholesale price in the U.S. if applicable
570231	CARPETS AND OTHER TEXTILE FLOOR COVERINGS, WOVEN, NOT TUFTED OR FLOCKED, NESOI, OF PILE CONSTRUCTION, NOT MADE-UP, OF WOOL OR FINE ANIMAL HAIR, AND VALUED AT $300 OR GREATER PER UNIT WHOLESALE PRICE IN THE U.S.
570232	CARPETS AND OTHER TEXTILE FLOOR COVERINGS, WOVEN, NOT TUFTED OR FLOCKED, NESOI, OF PILE CONSTRUCTION, NOT MADE-UP, OF MANMADE TEXTILE MATERIALS, AND VALUED AT $300 OR GREATER PER UNIT WHOLESALE PRICE IN THE U.S.
570239	CARPETS AND OTHER TEXTILE FLOOR COVERINGS, WOVEN, NOT TUFTED OR FLOCKED, NESOI, OF PILE CONSTRUCTION, NOT MADE-UP, OF TEXTILE MATERIALS NESOI, AND VALUED AT $300 OR GREATER PER UNIT WHOLESALE PRICE IN THE U.S.
570241	CARPETS AND OTHER TEXTILE FLOOR COVERINGS, WOVEN, NOT TUFTED OR FLOCKED, NESOI, OF PILE CONSTRUCTION, MADE-UP, OF WOOL OR FINE ANIMAL HAIR, AND VALUED AT $300 OR GREATER PER UNIT WHOLESALE PRICE IN THE U.S.
570242	CARPETS AND OTHER TEXTILE FLOOR COVERINGS, WOVEN, NOT TUFTED OR FLOCKED, NESOI, OF PILE CONSTRUCTION, MADE-UP, OF MANMADE TEXTILE MATERIALS, AND VALUED AT $300 OR GREATER PER UNIT WHOLESALE PRICE IN THE U.S.
570249	CARPETS AND OTHER TEXTILE FLOOR COVERINGS, WOVEN, NOT TUFTED OR FLOCKED, NESOI, OF PILE CONSTRUCTION, MADE-UP, OF TEXTILE MATERIALS NESOI, AND VALUED AT $300 OR GREATER PER UNIT WHOLESALE PRICE IN THE U.S.
570250	CARPETS AND OTHER TEXTILE FLOOR COVERINGS, WOVEN, NOT TUFTED OR FLOCKED, NOT OF PILE CONSTRUCTION, NOT MADE-UP, AND VALUED AT $300 OR GREATER PER UNIT WHOLESALE PRICE IN THE U.S.
570291	CARPETS AND OTHER TEXTILE FLOOR COVERINGS, WOVEN, NOT TUFTED OR FLOCKED, NESOI, NOT OF PILE CONSTRUCTION, MADE-UP, OF WOOL OR FINE ANIMAL HAIR, AND VALUED AT $300 OR GREATER PER UNIT WHOLESALE PRICE IN THE U.S.
570292	CARPETS AND OTHER TEXTILE FLOOR COVERINGS, WOVEN, NOT TUFTED OR FLOCKED, NESOI, NOT OF PILE CONSTRUCTION, MADE-UP, OF MANMADE TEXTILE MATERIALS, AND VALUED AT $300 OR GREATER PER UNIT WHOLESALE PRICE IN THE U.S.
570299	CARPETS AND OTHER TEXTILE FLOOR COVERINGS, WOVEN, NOT TUFTED OR FLOCKED, NESOI, NOT OF PILE CONSTRUCTION, MADE-UP, OF TEXTILE MATERIALS NESOI, AND VALUED AT $300 OR GREATER PER UNIT WHOLESALE PRICE IN THE U.S.
570310	CARPETS AND OTHER TEXTILE FLOOR COVERINGS, TUFTED (WHETHER OR NOT MADE-UP), OF WOOL OR FINE ANIMAL HAIR, AND VALUED AT $300 OR GREATER PER UNIT WHOLESALE PRICE IN THE U.S.
570321	CARPETS AND OTHER TEXTILE FLOOR COVERINGS, TUFTED (WHETHER OR NOT MADE-UP), OF NYLON OR OTHER POLYAMIDES, AND VALUED AT $300 OR GREATER PER UNIT WHOLESALE PRICE IN THE U.S.
570329	CARPETS AND OTHER TEXTILE FLOOR COVERINGS, TUFTED (WHETHER OR NOT MADE-UP), OF NYLON OR OTHER POLYAMIDES, AND VALUED AT $300 OR GREATER PER UNIT WHOLESALE PRICE IN THE U.S.
570331	CARPETS AND OTHER TEXTILE FLOOR COVERINGS, TUFTED (WHETHER OR NOT MADE-UP), OF MANMADE TEXTILE MATERIALS OTHER THAN NYLON OR OTHER POLYAMIDES, AND VALUED AT $300 OR GREATER PER UNIT WHOLESALE PRICE IN THE U.S.
570339	CARPETS AND OTHER TEXTILE FLOOR COVERINGS, TUFTED (WHETHER OR NOT MADE-UP), OF MANMADE TEXTILE MATERIALS OTHER THAN NYLON OR OTHER POLYAMIDES, AND VALUED AT $300 OR GREATER PER UNIT WHOLESALE PRICE IN THE U.S.
570390	CARPETS AND OTHER TEXTILE FLOOR COVERINGS, TUFTED (WHETHER OR NOT MADE-UP), OF TEXTILE MATERIALS NESOI, AND VALUED AT $300 OR GREATER PER UNIT WHOLESALE PRICE IN THE U.S.
570410	TEXTILE FLOOR COVERINGS, OF FELT, NOT TUFTED OR FLOCKED, TILES HAVING A MAXIMUM SURFACE AREA OF 0.30 M2, AND VALUED AT $300 OR GREATER PER UNIT WHOLESALE PRICE IN THE U.S.
570420	TEXTILE FLOOR COVERINGS, OF FELT, NOT TUFTED OR FLOCKED, OTHER THAN TILES HAVING A MAXIMUM SURFACE AREA EXCEEDING 0.3M2 NOT EXC 1 M2, AND VALUED AT $300 OR GREATER PER UNIT WHOLESALE PRICE IN THE U.S.
570490	CARPETS AND OTHER TEXTILE FLOOR COVERINGS, OF FELT, NOT TUFTED OR FLOCKED (WHETHER OR NOT MADE-UP), OTHER THAN TILES WITH A MAXIMUM AREA OF 0.30 M2, AND VALUED AT $300 OR GREATER PER UNIT WHOLESALE PRICE IN THE U.S.
570500	CARPETS AND OTHER TEXTILE FLOOR COVERINGS (WHETHER OR NOT MADE-UP), NESOI, AND VALUED AT $300 OR GREATER PER UNIT WHOLESALE PRICE IN THE U.S.
580500	HANDWOVEN TAPESTRIES SIMILAR TO GOBELINS, FLANDERS, AUBUSSON OR BEAUVAIS AND NEEDLEWORKED TAPESTRIES (PETIT POINT, CROSS-STITCH ETC.), MADE-UP OR NOT.
580639	NARROW WOVEN FABRICS NESOI, NOT OVER 30 CM IN WIDTH, OF TEXTILE MATERIALS NESOI.
590500	TEXTILE WALL COVERINGS.
611030	SWEATERS, PULLOVERS, SWEATSHIRTS, VESTS AND SIMILAR ARTICLES OF MANMADE FIBERS, KNITTED OR CROCHETED, AND VALUED AT $300 OR GREATER PER UNIT WHOLESALE PRICE IN THE U.S.
611211	TRACK SUITS, WARM-UP SUITS AND JOGGING SUITS OF COTTON, KNITTED OR CROCHETED, AND VALUED AT $300 OR GREATER PER UNIT WHOLESALE PRICE IN THE U.S.
611212	TRACK SUITS, WARM-UP SUITS AND JOGGING SUITS OF SYNTHETIC FIBERS, KNITTED OR CROCHETED, AND VALUED AT $300 OR GREATER PER UNIT WHOLESALE PRICE IN THE U.S.
611219	TRACK SUITS, WARM-UP SUITS AND JOGGING SUITS OF TEXTILE MATERIALS NESOI, KNITTED OR CROCHETED, AND VALUED AT $300 OR GREATER PER UNIT WHOLESALE PRICE IN THE U.S.

HTS-6 Code	HTS-6 Description and per unit wholesale price in the U.S. if applicable
611220	SKI SUITS, KNITTED OR CROCHETED, AND VALUED AT $300 OR GREATER PER UNIT WHOLESALE PRICE IN THE U.S.
611231	MEN'S OR BOYS' SWIMWEAR OF SYNTHETIC FIBERS, KNITTED OR CROCHETED, AND VALUED AT $300 OR GREATER PER UNIT WHOLESALE PRICE IN THE U.S.
611239	MEN'S OR BOYS' SWIMWEAR OF TEXTILE MATERIALS NESOI, KNITTED OR CROCHETED, AND VALUED AT $300 OR GREATER PER UNIT WHOLESALE PRICE IN THE U.S.
611241	WOMEN'S OR GIRLS' SWIMWEAR OF SYNTHETIC FIBERS, KNITTED OR CROCHETED, AND VALUED AT $300 OR GREATER PER UNIT WHOLESALE PRICE IN THE U.S.
611249	WOMEN'S OR GIRLS' SWIMWEAR OF TEXTILE MATERIALS NESOI, KNITTED OR CROCHETED, AND VALUED AT $300 OR GREATER PER UNIT WHOLESALE PRICE IN THE U.S.
620610	WOMEN'S OR GIRLS' BLOUSES, SHIRTS AND SHIRT-BLOUSES OF SILK OR SILK WASTE, NOT KNITTED OR CROCHETED, AND VALUED AT $300 OR GREATER PER UNIT WHOLESALE PRICE IN THE U.S.
621111	MEN'S OR BOYS' SWIMWEAR, NOT KNITTED OR CROCHETED, AND VALUED AT $300 OR GREATER PER UNIT WHOLESALE PRICE IN THE U.S.
621112	WOMEN'S OR GIRLS' SWIMWEAR, NOT KNITTED OR CROCHETED, AND VALUED AT $300 OR GREATER PER UNIT WHOLESALE PRICE IN THE U.S.
621120	SKI-SUITS, NOT KNITTED OR CROCHETED, AND VALUED AT $300 OR GREATER PER UNIT WHOLESALE PRICE IN THE U.S.
621390	HANDKERCHIEFS, OF TEXTILE MATERIALS NESOI, AND VALUED AT $300 OR GREATER PER UNIT WHOLESALE PRICE IN THE U.S.
621410	SHAWLS, SCARVES, MUFFLERS, MANTILLAS, VEILS AND THE LIKE, OF SILK OR SILK WASTE, NOT KNITTED OR CROCHETED, AND VALUED AT $300 OR GREATER PER UNIT WHOLESALE PRICE IN THE U.S.
621510	TIES, BOW TIES AND CRAVATS, OF SILK OR SILK WASTE, NOT KNITTED OR CROCHETED, AND VALUED AT $300 OR GREATER PER UNIT WHOLESALE PRICE IN THE U.S.
630120	BLANKETS (OTHER THAN ELECTRIC BLANKETS) AND TRAVELING RUGS, OF WOOL OR FINE ANIMAL HAIR, AND VALUED AT $300 OR GREATER PER UNIT WHOLESALE PRICE IN THE U.S.
630130	BLANKETS (OTHER THAN ELECTRIC BLANKETS) AND TRAVELING RUGS, OF COTTON, AND VALUED AT $300 OR GREATER PER UNIT WHOLESALE PRICE IN THE U.S.
630140	BLANKETS (OTHER THAN ELECTRIC BLANKETS) AND TRAVELING RUGS, OF SYNTHETIC FIBERS, AND VALUED AT $300 OR GREATER PER UNIT WHOLESALE PRICE IN THE U.S.
630190	BLANKETS (OTHER THAN ELECTRIC BLANKETS) AND TRAVELING RUGS, OF TEXTILE MATERIALS NESOI, AND VALUED AT $300 OR GREATER PER UNIT WHOLESALE PRICE IN THE U.S.
630622	TENTS, OF SYNTHETIC FIBERS, AND VALUED AT $300 OR GREATER PER UNIT WHOLESALE PRICE IN THE U.S.
630629	TENTS, OF TEXTILE MATERIALS NESOI, AND VALUED AT $300 OR GREATER PER UNIT WHOLESALE PRICE IN THE U.S.
630630	SAILS FOR BOATS, SAILBOARDS OR LANDCRAFT, AND VALUED AT $300 OR GREATER PER UNIT WHOLESALE PRICE IN THE U.S.
630690	CAMPING GOODS MADE OF TEXTILES, OTHER THAN TENTS AND PNEUMATIC MATTRESSES, AND VALUED AT $300 OR GREATER PER UNIT WHOLESALE PRICE IN THE U.S.
630720	LIFE JACKETS AND LIFE BELTS, OF TEXTILE MATERIALS, AND VALUED AT $300 OR GREATER PER UNIT WHOLESALE PRICE IN THE U.S.
630800	NEEDLECRAFT SETS, OF WOVEN FABRIC AND YARN, WITH OR WITHOUT ACCESSORIES, FOR MAKING RUGS, TAPESTRIES OR EMBROIDERED ARTICLES, PACKAGED FOR RETAIL SALE, AND VALUED AT $300 OR GREATER PER UNIT WHOLESALE PRICE IN THE U.S.
640192	WATERPROOF FOOTWEAR WITH BONDED OR CEMENTED OUTER SOLES AND UPPERS OF RUBBER OR PLASTICS NESOI, COVERING THE ANKLE BUT NOT COVERING THE KNEE, AND VALUED AT $300 OR GREATER PER UNIT WHOLESALE PRICE IN THE U.S.
640212	OTHER FOOTWEAR WITH OUTER SOLES AND UPPERS OF RUBBER OR PLASTICS: SPORTS FOOTWEAR: SKI-BOOTS AND CROSS-COUNTRY SKI FOOTWEAR AND SNOWBOARD BOOTS, AND VALUED AT $300 OR GREATER PER UNIT WHOLESALE PRICE IN THE U.S.
640219	SPORTS FOOTWEAR, OTHER THAN SKI-BOOTS AND CROSS-COUNTRY SKI FOOTWEAR, WITH OUTER SOLES AND UPPERS OF RUBBER OR PLASTICS NESOI, AND VALUED AT $300 OR GREATER PER UNIT WHOLESALE PRICE IN THE U.S.
640299	FOOTWEAR, WITH OUTER SOLES AND UPPERS OF RUBBER OR PLASTICS NESOI, NOT COVERING THE ANKLE, AND VALUED AT $300 OR GREATER PER UNIT WHOLESALE PRICE IN THE U.S.
640312	FOOTWEAR WITH UPPERS OF LEATHER, SKI-BOOTS AND CROSS-COUNTRY SKI FOOTWEAR AND SNOWBOARD BOOTS, AND VALUED AT $300 OR GREATER PER UNIT WHOLESALE PRICE IN THE U.S.
640319	SPORTS FOOTWEAR (OTHER THAN SKI FOOTWEAR) NESOI, WITH OUTER SOLES OF RUBBER, PLASTICS, LEATHER OR COMPOSITION LEATHER AND UPPERS OF LEATHER, AND VALUED AT $300 OR GREATER PER UNIT WHOLESALE PRICE IN THE U.S.
640320	FOOTWEAR, WITH OUTER SOLES OF LEATHER AND UPPERS WHICH CONSIST OF LEATHER STRAPS ACROSS THE INSTEP AND AROUND THE BIG TOE, AND VALUED AT $300 OR GREATER PER UNIT WHOLESALE PRICE IN THE U.S.
640340	FOOTWEAR, WITH OUTER SOLES OF RUBBER, PLASTICS, LEATHER OR COMPOSITION LEATHER AND UPPERS OF LEATHER, INCORPORATING A PROTECTIVE METAL TOE-CAP, AND VALUED AT $300 OR GREATER PER UNIT WHOLESALE PRICE IN THE U.S.
640351	FOOTWEAR, WITH OUTER SOLES AND UPPERS OF LEATHER NESOI, COVERING THE ANKLE, AND VALUED AT $300 OR GREATER PER UNIT WHOLESALE PRICE IN THE U.S.

HTS-6 Code	HTS-6 Description and per unit wholesale price in the U.S. if applicable
640359	FOOTWEAR, WITH OUTER SOLES AND UPPERS OF LEATHER NESOI, NOT COVERING THE ANKLE, AND VALUED AT $300 OR GREATER PER UNIT WHOLESALE PRICE IN THE U.S.
640391	FOOTWEAR, WITH OUTER SOLES OF RUBBER, PLASTICS OR COMPOSITION LEATHER AND UPPERS OF LEATHER NESOI, COVERING THE ANKLE, AND VALUED AT $300 OR GREATER PER UNIT WHOLESALE PRICE IN THE U.S.
640399	FOOTWEAR, WITH OUTER SOLES OF RUBBER, PLASTICS OR COMPOSITION LEATHER AND UPPERS OF LEATHER NESOI, NOT COVERING THE ANKLE, AND VALUED AT $300 OR GREATER PER UNIT WHOLESALE PRICE IN THE U.S.
640411	SPORTS FOOTWEAR, INCLUDING TENNIS SHOES, BASKETBALL SHOES AND GYM SHOES, WITH OUTER SOLES OF RUBBER OR PLASTICS AND UPPERS OF TEXTILE MATERIALS, AND VALUED AT $300 OR GREATER PER UNIT WHOLESALE PRICE IN THE U.S.
640420	FOOTWEAR, WITH OUTER SOLES OF LEATHER OR COMPOSITION LEATHER AND UPPERS OF TEXTILE MATERIALS, AND VALUED AT $300 OR GREATER PER UNIT WHOLESALE PRICE IN THE U.S.
640510	FOOTWEAR NESOI, WITH UPPERS OF LEATHER OR COMPOSITION LEATHER, AND VALUED AT $300 OR GREATER PER UNIT WHOLESALE PRICE IN THE U.S.
650610	SAFETY (INCLUDING SPORTS) HEADGEAR, WHETHER OR NOT LINED OR TRIMMED, AND VALUED AT $300 OR GREATER PER UNIT WHOLESALE PRICE IN THE U.S.
650699	HEADGEAR NESOI, WHETHER OR NOT LINED OR TRIMMED, OF MATERIALS NESOI, AND VALUED AT $300 OR GREATER PER UNIT WHOLESALE PRICE IN THE U.S.
670100	SKINS AND OTHER PARTS OF BIRDS WITH THEIR FEATHERS OR DOWN, BLEACHED, DYED OR PROCESSED AND ARTICLES OF FEATHERS OR DOWN NESOI.
691110	CERAMIC TABLEWARE AND KITCHENWARE, OF PORCELAIN OR CHINA, AND VALUED AT $300 OR GREATER PER UNIT WHOLESALE PRICE IN THE U.S.
691190	CERAMIC HOUSEHOLD AND TOILET ARTICLES NESOI, OF PORCELAIN OR CHINA, AND VALUED AT $300 OR GREATER PER UNIT WHOLESALE PRICE IN THE U.S.
691310	CERAMIC STATUETTES AND OTHER ORNAMENTAL ARTICLES, OF PORCELAIN OR CHINA, AND VALUED AT $300 OR GREATER PER UNIT WHOLESALE PRICE IN THE U.S.
691390	CERAMIC STATUETTES AND OTHER ORNAMENTAL ARTICLES, OF OTHER THAN PORCELAIN OR CHINA, AND VALUED AT $300 OR GREATER PER UNIT WHOLESALE PRICE IN THE U.S.
691410	CERAMIC ARTICLES NESOI, OF PORCELAIN OR CHINA, AND VALUED AT $300 OR GREATER PER UNIT WHOLESALE PRICE IN THE U.S.
691490	CERAMIC ARTICLES NESOI, OF OTHER THAN PORCELAIN OR CHINA, AND VALUED AT $300 OR GREATER PER UNIT WHOLESALE PRICE IN THE U.S.
701322	STEMWARE DRINKING GLASSES OTHER THAN OF GLASS-CERAMICS OF LEAD CRYSTAL, AND VALUED AT $300 OR GREATER PER UNIT WHOLESALE PRICE IN THE U.S.
701333	DRINKING GLASSES, OTHER HTAN OF GLASS-CERAMICS, OF LEAD CRYSTAL, NES, AND VALUED AT $300 OR GREATER PER UNIT WHOLESALE PRICE IN THE U.S.
701341	TABLE OR KITCHEN GLASSWARE NESOI (OTHER THAN DRINKING GLASSES), OF LEAD CRYSTAL, AND VALUED AT $300 OR GREATER PER UNIT WHOLESALE PRICE IN THE U.S.
701391	GLASSWARE (INCLUDING GLASSWARE OF A KIND USED FOR TOILET, OFFICE, INDOOR DECORATION OR SIMILAR PURPOSES) NESOI, OF LEAD CRYSTAL, AND VALUED AT $300 OR GREATER PER UNIT WHOLESALE PRICE IN THE U.S.
710110	NATURAL PEARLS, NOT MOUNTED OR SET.
710121	CULTURED PEARLS, UNWORKED.
710122	CULTURED PEARLS, WORKED, NOT SET.
710210	DIAMONDS, UNSORTED.
710310	PRECIOUS STONES (OTHER THAN DIAMONDS) AND SEMIPRECIOUS STONES, UNWORKED OR SIMPLY SAWN OR ROUGHLY SHAPED.
710391	RUBIES, SAPPHIRES AND EMERALDS, OTHERWISE WORKED.
710399	SEMIPRECIOUS STONES, OTHERWISE WORKED.
710429	SYNTHETIC OR RECONSTRUCTED GEMSTONES, UNWORKED OR SIMPLY SAWN OR ROUGHLY SHAPED.
710499	SYNTHETIC OR RECONSTRUCTED PRECIOUS OR SEMIPRECIOUS STONES NESOI, OTHERWISE WORKED.
710691	SILVER, UNWROUGHT NESOI (OTHER THAN POWDER).
710692	SILVER, SEMIMANUFACTURED.
710812	GOLD, NONMONETARY, UNWROUGHT NESOI (OTHER THAN POWDER).
710813	GOLD, NONMONETARY, SEMIMANUFACTURED FORMS NESOI (OTHER THAN POWDER).
711311	JEWELRY AND PARTS THEREOF, OF SILVER.
711319	JEWELRY AND PARTS THEREOF, OF PRECIOUS METAL OTHER THAN SILVER.
711320	JEWELRY AND PARTS THEREOF, OF BASE MATEL CLAD WITH PRECIOUS METAL.
711419	ARTICLES OF GOLD OR PLATINUM (OTHER THAN JEWELRY), WHETHER OR NOT PLATED OR CLAD WITH OTHER PRECIOUS METAL.
711420	ARTICLES OF GOLDSMITHS' OR SILVERSMITHS' WARES (OTHER THAN JEWELRY) AND PARTS THEREOF, OF BASE METAL CLAD WITH PRECIOUS METAL.
711590	ARTICLES NESOI, OF PRECIOUS METAL OR OF METAL CLAD WITH PRECIOUS METAL.
711610	ARTICLES OF NATURAL OR CULTURED PEARLS.
711620	ARTICLES OF PRECIOUS OR SEMIPRECIOUS STONES (NATURAL, SYNTHETIC OR RECONSTRUCTED).
711719	IMITATION JEWELRY NESOI, OF BASE METAL, WHETHER OR NOT PLATED WITH PRECIOUS METAL.
711810	COIN (OTHER THAN GOLD COIN), NOT BEING LEGAL TENDER.
711890	COIN, NESOI.

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732690	ARTICLES OF IRON OR STEEL, NESOI, AND VALUED AT $300 OR GREATER PER UNIT WHOLESALE PRICE IN THE U.S.
830621	STATUETTES AND OTHER ORNAMENTS, AND PARTS THEREOF, OF BASE METAL PLATED WITH PRECIOUS METAL.
830629	STAUETTES AND OTHER ORNAMENTS, AND PARTS THEREOF, OF BASE METAL NOT PLATED WITH PRECIOUS METAL.
840710	AIRCRAFT SPARK-IGNITION RECIPROCATING OR ROTARY INTERNAL COMBUSTION PISTON ENGINES.
840721	OUTBOARD ENGINES FOR MARINE PROPULSION.
840729	INBOARD ENGINES FOR MARINE PROPULSION.
840731	SPARK-IGNITION RECIPROCATING PISTON ENGINES FOR PROPULSION OF VEHICLES EXCEPT RAILWAY OR TRAMWAY STOCK, NOT OVER 50 CC CYLINDER CAPACITY.
840732	SPARK-IGNITION RECIPROCATING PISTON ENGINES FOR PROPULSION OF VEHICLES EXCEPT RAILWAY OR TRAMWAY STOCK, OVER 50 BUT NOT OVER 250 CC CYLINDER CAPACITY.
840733	SPARK-IGNITION RECIPROCATING PISTON ENGINES FOR PROPULSION OF VEHICLES EXCEPT RAIL OR TRAMWAY STOCK, OVER 250 BUT NOT OVER 1,000 CC CYLINDER CAPACITY.
840734	SPARK-IGNITION RECIPROCATING PISTON ENGINES FOR PROPULSION OF VEHICLES EXCEPT RAILWAY OR TRAMWAY STOCK, OVER 1,000 CC CYLINDER CAPACITY.
840790	SPARK-IGNITION RECIPROCATING OR ROTARY INTERNAL COMBUSTION PISTON ENGINES, NESOI.
840810	MARINE COMPRESSION-IGNITION INTERNAL COMBUSTION PISTON ENGINES (DIESEL OR SEMI-DIESEL ENGINES).
840820	COMPRESSION-IGNITION INTERNAL COMBUSTION PISTON ENGINES (DIESEL OR SEMI-DIESEL), FOR THE PROPULSION OF VEHICLES EXCEPT RAILWAY OR TRAMWAY STOCK.
840890	COMPRESSION-IGNITION INTERNAL COMBUSTION PISTON ENGINES (DIESEL OR SEMI-DIESEL ENGINES), NESOI.
840910	PARTS FOR SPARK-IGNITION OR ROTARY INTERNAL COMBUSTION PISTON ENGINES OR COMPRESSION-IGNITION INTERNAL COMBUSTION PISTON ENGINES, FOR AIRCRAFT.
840991	PARTS FOR USE WITH SPARK-IGNITION INTERNAL COMBUSTION PISTON ENGINES (INCLUDING ROTARY ENGINES), NESOI.
840999	PARTS FOR USE WITH COMPRESSION-IGNITION INTERNAL COMBUSTION PISTON ENGINES, NESOI.
841111	TURBOJETS OF A THRUST NOT EXCEEDING 25 KN.
841112	TURBOJETS OF A THRUST EXCEEDING 25 KN.
841121	TURBOPROPELLERS OF A POWER NOT EXCEEDING 1,100 KW.
841122	TURBOPROPELLERS OF A POWER EXCEEDING 1,100 KW.
841181	GAS TURBINES, EXCEPT TURBOJETS AND TURBOPROPELLERS, OF A POWER NOT EXCEEDING 5,000 KW.
841182	GAS TURBINES, EXCEPT TURBOJETS AND TURBOPROPELLERS, OF A POWER EXCEEDING 5,000 KW.
841191	PARTS OF TURBOJETS OR TURBOPROPELLERS.
841199	PARTS OF GAS TURBINES, NESOI (OTHER THAN PARTS FOR TURBOJETS OR TURBOPROPELLERS).
841229	HYDRAULIC POWER ENGINES AND MOTORS, EXCEPT LINEAR ACTING (CYLINDERS).
841290	PARTS FOR ENGINES AND MOTORS, NESOI.
841451	FANS, TABLE, FLOOR, WALL, WINDOW, CEILING OR ROOF, WITH SELF-CONTAINED ELECTRIC MOTOR OF AN OUTPUT NOT EXCEEDING 125 W.
841459	FANS, NESOI.
841460	VENTILATING OR RECYCLING HOODS INCORPORATING A FAN, HAVING A MAXIMUM HORIZINTAL SIDE NOT EXCEEDING 120 CM.
841510	AIR CONDITIONING MACHINES, WINDOW OR WALL TYPES, SELF-CONTAINED OR ''SPLIT-SYSTEM''.
841810	COMBINED REFRIGERATOR-FREEZERS FITTED WITH SEPARATE EXTERNAL DOORS.
841821	REFRIGERATORS, HOUSEHOLD, COMPRESSION TYPE.
841829	REFRIGERATORS, HOUSEHOLD TYPE, NESOI.
841830	FREEZERS, CHEST TYPE, CAPACITY NOT EXCEEDING 800 LITERS.
841840	FREEZERS, UPRIGHT TYPE, CAPACITY NOT EXCEEDING 900 LITERS.
841981	MACHINERY, PLANT OR EQUIPMENT FOR MAKING HOT DRINKS OR FOR COOKING OR HEATING FOOD.
842211	DISHWASHING MACHINES, HOUSEHOLD TYPE.
842310	PERSONAL WEIGHING MACHINES, INCLUDING BABY SCALES; HOUSEHOLD SCALES.
842860	TELEFERICS, CHAIR LIFTS, SKI DRAGLINES; TRACTION MECHANISMS FOR FUNICULARS.
843139	PARTS FOR LIFTING, HANDLING, LOADING OR UNLOADING MACHINERY, NESOI.
844312	OFFSET PRINTING MACHINERY, SHEET-FED, OFFICE TYPE (SHEET SIZE NOT EXCEEDING 22X36 CM).
844331	MACHINES WHICH PERFORM TWO OR MORE OF THE FUNCTIONS OF PRINTING, COPYING OR FAX TRANSMISSION, CAPABLE OF CONNECTING TO AN ADP MACHINE OR TO A NETWORK.
844332	PRINTERS, COPYING MACHINES AND FACSIMILE MACHINES, NOT COMBINED, CAPABLE OF CONNECTING TO AN AUTOMATIC DATA PROCESSING MACHINE OR TO A NETWORK.
844339	PRINTERS, COPYING MACHINES AND FACSIMILE MACHINES, NOT COMBINED, NESOI.
845011	HOUSEHOLD- OR LAUNDRY-TYPE WASHING MACHINES, FULLY AUTOMATIC, WITH A DRY LINEN CAPACITY NOT EXCEEDING 10 KG.
845012	HOUSEHOLD- OR LAUNDRY-TYPE WASHING MACHINES, NOT FULLY AUTOMATIC, WITH A BUILT-IN CENTRIFUGAL DRYER, WITH A DRY LINEN CAPACITY NOT EXCEEDING 10 KG.

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845019	HOUSEHOLD- OR LAUNDRY-TYPE WASHING MACHINES, WITH A DRY LINEN CAPACITY NOT EXCEEDING 10 KG, NESOI.
845121	DRYING MACHINES (EXCEPT CENTRIFUGAL TYPE) FOR TEXTILE YARNS, FABRICS OR MADE UP TEXTILE ARTICLES, WITH A DRY LINEN CAPACITY NOT EXCEEDING 10 KG.
845210	SEWING MACHINES OF THE HOUSEHOLD TYPE.
847010	ELECTRONIC CALCULATORS CAPABLE OF OPERATION WITHOUT AN EXTERNAL SOURCE OF POWER.
847021	ELECTRONIC CALCULATING MACHINES, NESOI, INCORPORATING A PRINTING DEVICE.
847029	ELECTRONIC CALCULATING MACHINES, NESOI, NOT INCORPORATING A PRINTING DEVICE.
847030	CALCULATING MACHINES, EXCEPT ELECTRONIC.
847130	PORTABLE DIGTL AUTOMATIC DATA PROCESSING MACHINES, WEIGHT NOT MORE THAN 10 KG, CONSISTING OF AT LEAST A CENTRAL PROCESSING UNIT, KEYBOARD & A DISPLAY.
847141	DIGITAL ADP MACHINES COMPRISING IN SAME HOUSING AT LEAST A CENTRAL PROCESSING UNIT AND AN INPUT AND OUTPUT UNIT, WHETHER OR NOT COMBINED, N.E.S.O.I.
847149	DIGITAL AUTOMATIC DATA PROCESSING MACHINES AND UNITS THEREOF PRESENTED IN THE FORM OF SYSTEMS, N.E.S.O.I.
847150	DIGITAL PROCESSING UNITS OTHER THAN THOSE OF 8471.41 AND 8471.49, N.E.S.O.I.
847160	AUTOMATIC DATA PROCESSING INPUT OR OUTPUT UNITS, WHETHER OR NOT CONTAINING STORAGE UNITS IN THE SAME HOUSING, N.E.S.O.I.
847170	AUTOMATIC DATA PROCESSING STORAGE UNITS, N.E.S.O.I.
847180	AUTOMATIC DATA PROCESSING UNITS, N.E.S.O.I.
847190	AUTOMATIC DATA PROCESSING UNTS THEREOF; MAGNETIC/OPTICAL READERS, MACH FOR TRANSCRIBING DATA TO DATA MEDIA IN CODED FORM & MACH FOR PROC DATA, NESOI.
847290	OFFICE MACHINES NESOI (INCLUDING AUTOMATIC BANKNOTE DISPENSERS, COIN-SORTING MACHINES, PENCIL-SHARPENING MACHINES, PERFORATING OR STAPLING MACHINES).
847960	EVAPORATIVE AIR COOLERS.
848310	TRANSMISSION SHAFTS (INCLUDING CAMSHAFTS AND CRANKSHAFTS) AND CRANKS.
848320	HOUSED BEARINGS, INCORPORATING BALL OR ROLLER BEARINGS.
848330	BEARING HOUSINGS; PLAIN SHAFT BEARINGS.
848340	GEARS AND GEARING (EXCEPT TOOTHED WHEELS, CHAIN SPROCKETS, ETC.); BALL OR ROLLER SCREWS; GEAR BOXES AND OTHER SPEED CHANGERS, INCL TORQUE CONVERTERS.
848350	FLYWHEELS AND PULLEYS, INCLUDING PULLEY BLOCKS.
848360	CLUTCHES AND SHAFT COUPLINGS (INCLUDING UNIVERSAL JOINTS).
848390	TOOTHED WHEELS, CHAIN SPROCKETS AND OTHER TRANSMISSION ELEMENTS PRESENTED SEPARATELY; PARTS.
850811	VACUUM CLEANERS WITH SELF-CONTAINED ELECTRIC MOTOR, OF A POWER LT=1500 W AND HAVING A DUST BAG OR OTHER RECEPTACLE CAPACITY LT=20 L.
850819	VACUUM CLEANERS WITH SELF-CONTAINED ELECTRIC MOTOR, NESOI.
850860	VACUUM CLEANERS WITHOUT SELF-CONTAINED ELECTRIC MOTOR.
850980	ELECTROMECHANICAL DOMESTIC APPLIANCES, WITH SELF-CONTAINED ELECTRIC MOTOR, NESOI.
851110	INTERNAL COMBUSTION ENGINE SPARK PLUGS.
851120	INTERNAL COMBUSTION ENGINE IGNITION MAGNETOS, MAGNETO-DYNAMOS AND MAGNETIC FLYWHEELS.
851130	INTERNAL COMBUSTION ENGINE DISTRIBUTORS AND IGNITION COILS.
851140	INTERNAL COMBUSTION ENGINE STARTER MOTORS AND DUAL PURPOSE STARTER-GENERATORS.
851150	INTERNAL COMBUSTION ENGINE GENERATORS, NESOI.
851180	ELECTRICAL IGNITION OR STARTING EQUIPMENT USED FOR INTERNAL COMBUSTION ENGINES, NESOI, AND EQUIPMENT USED IN CONJUNCTION WITH SUCH ENGINES, NESOI.
851190	PARTS FOR ELECTRICAL IGNITION OR STARTING EQUIPMENT USED FOR INTERNAL COMBUSTION ENGINES; PARTS FOR GENERATORS AND CUT-OUTS USED WITH SUCH EQUIPMENT.
851220	ELECTRICAL LIGHTING OR VISUAL SIGNALING EQUIPMENT, FOR USE ON CYCLES OR MOTOR VEHICLES, EXCEPT FOR USE ON BICYCLES.
851230	ELECTRICAL SOUND SIGNALING EQUIPMENT USED FOR CYCLES OR MOTOR VEHICLES.
851240	ELECTRICAL WINDSHIELD WIPERS, DEFROSTERS AND DEMISTERS USED FOR CYCLES OR MOTOR VEHICLES.
851631	ELECTRIC HAIR DRYERS.
851650	MICROWAVE OVENS.
851660	ELECTRIC OVENS, COOKING STOVES, RANGES, COOKING PLATES, BOILING RINGS, GRILLERS AND ROASTERS, NESOI.
851671	ELECTRIC COFFEE OR TEA MAKERS.
851672	ELECTRIC TOASTERS.
851679	ELECTROTHERMIC DOMESTIC APPLIANCES, NESOI.
851711	LINE TELEPHONE SETS WITH CORDLESS HANDSETS.
851713	TELEPHONES FOR CELLULAR NETWORKS OR FOR OTHER WIRELESS NETWORKS.
851718	TELEPHONE SETS, NESOI.
851761	BASE STATIONS.
851762	MACHINES FOR THE RECEPTION, CONVERSION AND TRANSMISSION OR REGENERATION OF VOICE, IMAGES OR OTHER DATA, INCLUDING SWITCHING AND ROUTING APPARATUS.
851769	APPARATUS FOR THE TRANSMISSION OR RECEPTION OF VOICE, IMAGES OR OTHER DATA, INCLUDING SWITCHING AND ROUTING APPARATUS, NESOI.
851920	SOUND RECORDING OR REPRODUCING APPARATUS OPERATED BY COINS, BANKNOTES, BANK CARDS, TOKENS OR BY OTHER MEANS OF PAYMENT.

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851930	TURNTABLES (RECORD-DECKS).
851981	SOUND RECORDING OR REPRODUCING APPARATUS, USING MAGNETIC, OPTICAL OR SEMI-CONDUCTOR MEDIA, NESOI.
851989	SOUND RECORDING OR REPRODUCING APPARATUS, NESOI.
852110	VIDEO RECORDING OR REPRODUCING APPARATUS (WHETHER OR NOT INCORPORATING A VIDEO TUNER), MAGNETIC TAPE-TYPE.
852190	VIDEO RECORDING OR REPRODUCING APPARATUS (WHETHER OR NOT INCORPORATING A VIDEO TURNER), OTHER THAN MAGNETIC TAPE-TYPE.
852691	RADIO NAVIGATIONAL AID APPARATUS.
852712	POCKET-SIZE RADIO CASSETTE PLAYERS.
852713	RADIOBROADCAST RECEIVERS CAPABLE OF OPERATING WITHOUT AN EXTERNAL SOURCE OF POWER, COMBINED WITH SOUND RECORDING OR REPRODUCING APPARATUS, N.E.S.O.I.
852719	RADIOBROADCAST RECEIVERS, BATTERY TYPE, NESOI.
852721	RADIOBROADCAST RECEIVERS FOR MOTOR VEHICLES, COMBINED WITH SOUND RECORDING OR REPRODUCING APPARATUS, NOT CAPABLE OF OPERATING WITHOUT OUTSIDE POWER.
852729	RADIOBROADCAST RECEIVERS FOR MOTOR VEHICLES, NOT CAPABLE OF OPERATING WITHOUT OUTSIDE POWER, NESOI.
852791	RECEPTION APPARATUS FOR RADIO-BROADCASTING, COMBINED WITH SOUND RECORDING OR REPRODUCING APPARATUS, NESOI.
852792	RECEPTION APPARATUS FOR RADIO-BROADCASTING, COMBINED WITH A CLOCK, NESOI.
852799	RECEPTION APPARATUS FOR RADIO-BROADCASTING, NESOI.
852871	RECEPTION APPARATUS FOR TELEVISION, NOT DESIGNED TO INCORPORATE A VIDEO DISPLAY OR SCREEN.
852872	RECEPTION APPARATUS FOR TELEVISION, COLOR, NESOI.
852910	ANTENNAS AND ANTENNA REFLECTORS AND PARTS THEREOF.
853110	BURGLAR OR FIRE ALARMS AND SIMILAR APPARATUS.
854370	ELECTRICAL MACHINES AND APPARATUS, HAVING INDIVIDUAL FUNCTIONS, NESOI.
854430	INSULATED IGNITION WIRING SETS AND OTHER WIRING SETS FOR VEHICLES, AIRCRAFT AND SHIPS.
870310	PASSENGER MOTOR VEHICLES SPECIALLY DESIGNEED FOR TRAVELING ON SNOW; GOLF CARTS AND SIMILAR VEHICLES.
870321	PASSENGER MOTOR VEHICLES WITH SPARK-IGNITION INTERNAL COMBUSTION RECIPROCATING PISTON ENGINE, CYLINDER CAPACITY NOT OVER 1,000 CC.
870322	PASSENGER MOTOR VEHICLES WITH SPARK-IGNITION INTERNAL COMBUSTION RECIPROCATING PISTON ENGINE, CYLINDER CAPACITY OVER 1,000 CC BUT NOT OVER 1,500 CC.
870323	PASSENGER MOTOR VEHICLES WITH SPARK-IGNITION INTERNAL COMBUSTION RECIPROCATING PISTON ENGINE, CYLINDER CAPACITY OVER 1,500 CC BUT NOT OVER 3,000 CC.
870324	PASSENGER MOTOR VEHICLES WITH SPARK-IGNITION INTERNAL COMBUSTION RECIPROCATING PISTON ENGINE, CYCLINDER CAPACITY OVER 3,000 CC.
870331	PASSENGER MOTOR VEHICLES WITH COMPRESSION-IGNITION INTERNAL COMBUSTION PISTON ENGINE (DIESEL), CYLINDER CAPACITY NOT OVER 1,500 CC.
870332	PASSENGER MOTOR VEHICLES WITH COMPRESSION-IGNITION INTERNAL COMBUSTION PISTON ENGINE (DIESEL), CYLINDER CAPACITY OVER 1,500 CC BUT NOT OVER 2,500 CC.
870333	PASSENGER MOTOR VEHICLES WITH COMPRESSION-IGNITION INTERNAL COMBUSTION PISTON ENGINE (DIESEL), CYLINDER CAPACITY OVER 2,500 CC.
870340	PASSENGER MOTOR VEHICLES, WITH BOTH APRK-IG INTRNL COMBUST AND ELECTRIC MOTOR, OTHER THAN THOSE CHARGES BY PLUGGIN TO EXTERNAL ELECTRIC POWER.
870350	MOTOR VEHICLES, WITH BOTH COMPRES-IG INTERNAL COMBUS PISTON ENGINE (DIESEL/SEMI-DIESEL) AND ELECTRIC MOTOR, NOT CHARGED BY PLUG.
870360	MOTOR VEHICLES WITH BOTH SPARK-IG AND ELECTRIC MOTOR, CAPABLE OF CHARGE BY PLUGGING TO EXTNL PWR.
870370	MOTOR VEHICLES, WITH BOTH COMPRESSION-IGNITION INTERNAL COMBUSTION (DIESEL/SEMI-DIESEL AND ELECTRIC MOTOR, CAPABLE OF CHARGED BY PLUGGING.
870380	MOTOR VEHICLES WITH ONLY ELECTRIC MOTOR, NESOI.
870390	PASSENGER MOTOR VEHICLES, NESOI.
870600	CHASSIS FITTED WITH ENGINES FOR TRACTORS, MOTOR VEHICLES FOR PASSENGERS, GOODS TRANSPORT VEHICLES AND SPECIAL PURPOSE MOTOR VEHICLES, AND VALUED AT $50000 OR GREATER PER UNIT WHOLESALE PRICE IN THE U.S.
870710	BODIES (INCLUDING CABS) FOR MOTOR CARS AND OTHER VEHICLES PRINCIPALLY DESIGNED FOR TRANSPORT OF PERSONS (EXCEPT PUBLIC-TRANSPORT OF PASSENGERS), AND VALUED AT $50000 OR GREATER PER UNIT WHOLESALE PRICE IN THE U.S.
871120	MOTORCYCLES AND CYCLES WITH AN AUXILIARY MOTOR, WITH RECIPROCATING INTERNAL COMBUSTION PISTON ENGINE, CYLINDER CAPACITY OVER 50 CC BUT NOT OVER 250 CC, AND VALUED AT $5000 OR GREATER PER UNIT WHOLESALE PRICE IN THE U.S.
871130	MOTORCYCLES AND CYCLES WITH AN AUXILIARY MOTOR, WITH RECIPROCATING INTERNAL COMBUSTION PISTOL ENGINE, CYLINDER CAPACITY OVER 250 CC NOT OVER 500 CC, AND VALUED AT $5000 OR GREATER PER UNIT WHOLESALE PRICE IN THE U.S.
871140	MOTORCYCLES AND CYCLES WITH AN AUXILIARY MOTOR, WITH RECIPROCATING INTERNAL COMBUSTION PISTON ENGINE, CYLINDER CAPACITY OVER 500 CC NOT OVER 800 CC, AND VALUED AT $5000 OR GREATER PER UNIT WHOLESALE PRICE IN THE U.S.
871150	MOTORCYCLES AND CYCLES WITH AN AUXILIARY MOTOR WITH RECIPROCATING INTERNAL COMBUSTION PISTON ENGINE, CYLINDER CAPACITY OVER 800 CC, AND VALUED AT $5000 OR GREATER PER UNIT WHOLESALE PRICE IN THE U.S.

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871160	MOTORCYCLES WITH ELECTRIC MOTOR FOR PROPULSION, AND VALUED AT $5000 OR GREATER PER UNIT WHOLESALE PRICE IN THE U.S.
871190	MOTORCYCLES AND CYCLES FITTED WITH AN AUXILIARY MOTORS, NESOI; SIDE-CARS, AND VALUED AT $5000 OR GREATER PER UNIT WHOLESALE PRICE IN THE U.S.
871410	PARTS AND ACCESSORIES OF MOTORCYCLES (INCLUDING MOPEDS), AND VALUED AT $5000 OR GREATER PER UNIT WHOLESALE PRICE IN THE U.S.
902000	BREATHING APPLIANCES NESOI AND GAS MASKS HAVING MECHANICAL PARTS AND/OR REPLACEABLE FILTERS; PARTS AND ACCESSORIES THEREOF.
910111	WRIST WATCHES, BATTERY POWERED, WITH CASES OF PRECIOUS METAL (OR OF METAL CLAD WITH PRECIOUS METAL), WITH MECHANICAL DISPLAY ONLY, AND VALUED AT $300 OR GREATER PER UNIT WHOLESALE PRICE IN THE U.S.
910119	WRIST WATCHES, BATTERY POWERED, WITH CASES OF PRECIOUS METAL (OR OF METAL CLAD WITH PRECIOUS METAL), WITH DISPLAY NESOI, AND VALUED AT $300 OR GREATER PER UNIT WHOLESALE PRICE IN THE U.S.
910121	WRIST WATCHES, NOT BATTERY POWERED, WITH CASES OF PRECIOUS METAL (OR OF METAL CLAD WITH PRECIOUS METAL), WITH AUTOMATIC WINDING, AND VALUED AT $300 OR GREATER PER UNIT WHOLESALE PRICE IN THE U.S.
910129	WRIST WATCHES, NOT BATTERY POWERED, WITH CASES OF PRECIOUS METAL (OR OF METAL CLAD WITH PRECIOUS METAL), WITHOUT AUTOMATIC WINDING, AND VALUED AT $300 OR GREATER PER UNIT WHOLESALE PRICE IN THE U.S.
910191	POCKET WATCHES AND OTHER WATCHES, EXCEPT WRIST WATCHES, WITH CASES OF PRECIOUS METAL (OR OF METAL CLAD WITH PRECIOUS METAL), ELECTRICALLY POWERED, AND VALUED AT $300 OR GREATER PER UNIT WHOLESALE PRICE IN THE U.S.
910199	POCKET WATCHES AND OTHER WATCHES, EXCEPT WRIST WATCHES, WITH CASES OF PRECIOUS METAL (OR OF METAL CLAD WITH PRECIOUS METAL), NOT BATTERY POWERED, AND VALUED AT $300 OR GREATER PER UNIT WHOLESALE PRICE IN THE U.S.
911110	WATCH CASES OF PRECIOUS METAL OR OF METAL CLAD WITH PRECIOUS METAL, AND VALUED AT $300 OR GREATER PER UNIT WHOLESALE PRICE IN THE U.S.
911190	PARTS FOR WATCH CASES OF PRECIOUS METAL, BASE METAL OR OF OTHER MATERIALS, AND VALUED AT $300 OR GREATER PER UNIT WHOLESALE PRICE IN THE U.S.
911310	WATCH STRAPS, WATCH BANDS AND WATCH BRACELETS, AND PARTS THERE OF, OF PRECIOUS METAL OR OF METAL CLAD WITH PRECIOUS METAL, AND VALUED AT $300 OR GREATER PER UNIT WHOLESALE PRICE IN THE U.S.
920120	GRAND PIANOS.
960110	WORKED IVORY AND ARTICLES OF IVORY.
960190	WORKED BONE, TORTOISE-SHELL, HORN, ANTLERS, CORAL, MOTHER-OF-PEARL AND OTHER ANIMAL CARVING MATERIAL, AND ARTICLES OF THESE MATERIALS, NESOI.
960200	WORKED VEGETABLE OR MINERAL CARVING MATERIALS ETC.; MOLDED OR CARVED ARTICLES OF WAX, STEARIN, GUM, RESIN ETC. NESOI; UNHARDENED GELATIN AND ARTICLES.
960330	ARTISTS' BRUSHES, WRITING BRUSHES AND SIMILAR BRUSHES FOR THE APPLICATION OF COSMETICS.
960830	FOUNTAIN PENS, STYLOGRAPH PENS AND OTHER PENS.
961620	POWDER PUFFS AND PADS FOR APPLYING COSMETICS AND TOILET PREPARATIONS.
970121	PAINTINGS, DRAWINGS AND PASTELS, HAND EXECUTED WORKS OF ART, FRAMED OR NOT FRAMED, AND VALUED AT $300 OR GREATER PER UNIT WHOLESALE PRICE IN THE U.S.
970122	COLLAGES AND SIMILAR DECORATIVE PLAQUES, FRAMED OR NOT FRAMED, AND VALUED AT $300 OR GREATER PER UNIT WHOLESALE PRICE IN THE U.S.
970129	COLLAGES AND SIMILAR DECORATIVE PLAQUES, FRAMED OR NOT FRAMED, AND VALUED AT $300 OR GREATER PER UNIT WHOLESALE PRICE IN THE U.S.
970191	PAINTINGS, DRAWINGS AND PASTELS, HAND EXECUTED WORKS OF ART, FRAMED OR NOT FRAMED, AND VALUED AT $300 OR GREATER PER UNIT WHOLESALE PRICE IN THE U.S.
970192	COLLAGES AND SIMILAR DECORATIVE PLAQUES, FRAMED OR NOT FRAMED, AND VALUED AT $300 OR GREATER PER UNIT WHOLESALE PRICE IN THE U.S.
970199	COLLAGES AND SIMILAR DECORATIVE PLAQUES, FRAMED OR NOT FRAMED, AND VALUED AT $300 OR GREATER PER UNIT WHOLESALE PRICE IN THE U.S.
970210	ORIGINAL ENGRAVINGS, PRINTS AND LITHOGRAPHS, FRAMED OR NOT FRAMED, AND VALUED AT $300 OR GREATER PER UNIT WHOLESALE PRICE IN THE U.S.
970290	ORIGINAL ENGRAVINGS, PRINTS AND LITHOGRAPHS, FRAMED OR NOT FRAMED, AND VALUED AT $300 OR GREATER PER UNIT WHOLESALE PRICE IN THE U.S.
970310	ORIGINAL SCULPTURES AND STATUARY, IN ANY MATERIAL, AND VALUED AT $300 OR GREATER PER UNIT WHOLESALE PRICE IN THE U.S.
970390	ORIGINAL SCULPTURES AND STATUARY, IN ANY MATERIAL, AND VALUED AT $300 OR GREATER PER UNIT WHOLESALE PRICE IN THE U.S.
970400	POSTAGE OR REVENUE STAMPS, STAMP-POSTMARKS, FIRST-DAY COVERS, POSTAL STATIONARY (STAMPED) ETC., USED, OR IF UNUSED NOT OF CURRENT OR NEW ISSUE, AND VALUED AT $300 OR GREATER PER UNIT WHOLESALE PRICE IN THE U.S.
970510	COLLECTIONS AND COLLECTORS' PIECES OF ZOOLOGICAL, BOTANICAL, MINERALOGICAL, HISTORICAL, ARCHAELOGICAL, NUMISMATIC OR OTHER INTEREST, AND VALUED AT $300 OR GREATER PER UNIT WHOLESALE PRICE IN THE U.S.
970521	COLLECTIONS AND COLLECTORS' PIECES OF ZOOLOGICAL, BOTANICAL, MINERALOGICAL, HISTORICAL, ARCHAELOGICAL, NUMISMATIC OR OTHER INTEREST, AND VALUED AT $300 OR GREATER PER UNIT WHOLESALE PRICE IN THE U.S.

HTS-6 Code	HTS-6 Description and per unit wholesale price in the U.S. if applicable
970522	COLLECTIONS AND COLLECTORS' PIECES OF ZOOLOGICAL, BOTANICAL, MINERALOGICAL, HISTORICAL, ARCHAELOGICAL, NUMISMATIC OR OTHER INTEREST, AND VALUED AT $300 OR GREATER PER UNIT WHOLESALE PRICE IN THE U.S.
970529	COLLECTIONS AND COLLECTORS' PIECES OF ZOOLOGICAL, BOTANICAL, MINERALOGICAL, HISTORICAL, ARCHAELOGICAL, NUMISMATIC OR OTHER INTEREST, AND VALUED AT $300 OR GREATER PER UNIT WHOLESALE PRICE IN THE U.S.
970531	COLLECTIONS AND COLLECTORS' PIECES OF ZOOLOGICAL, BOTANICAL, MINERALOGICAL, HISTORICAL, ARCHAELOGICAL, NUMISMATIC OR OTHER INTEREST, AND VALUED AT $300 OR GREATER PER UNIT WHOLESALE PRICE IN THE U.S.
970539	COLLECTIONS AND COLLECTORS' PIECES OF ZOOLOGICAL, BOTANICAL, MINERALOGICAL, HISTORICAL, ARCHAELOGICAL, NUMISMATIC OR OTHER INTEREST, AND VALUED AT $300 OR GREATER PER UNIT WHOLESALE PRICE IN THE U.S.
970610	ANTIQUES OF AN AGE EXCEEDING ONE HUNDRED YEARS, AND VALUED AT $300 OR GREATER PER UNIT WHOLESALE PRICE IN THE U.S.
970690	ANTIQUES OF AN AGE EXCEEDING ONE HUNDRED YEARS, AND VALUED AT $300 OR GREATER PER UNIT WHOLESALE PRICE IN THE U.S.

[88 FR 33460, May 23, 2023, as amended at 89 FR 4815, Jan. 25, 2024; 89 FR 51677, June 18, 2024]

SUPPLEMENT NO. 6 TO PART 746—RUSSIAN AND BELARUSIAN INDUSTRY SECTOR SANCTIONS PURSUANT TO §746.8(a)(6)

The items identified in this supplement are a subset of items that are otherwise designated as EAR99 under the Commerce Control List (CCL) in supplement no. 1 to part 774. These items may be useful for Russia's chemical and biological weapons production capabilities or may be diverted from Belarus to Russia for these or other activities of concern. These items consist of discrete chemicals, biologics, fentanyl and its precursors, and related equipment. BIS has specified Chemical Abstract Numbers (CAS) where applicable in this supplement to assist exporters, reexporters, and transferors in classifying these items. In addition, paragraph (g) of supplement no. 6 to part 746 identifies equipment and other items that BIS has determined are not manufactured in Russia or are otherwise important to Russia in developing advanced production and development capabilities to enable advanced manufacturing across a number of industries or may be diverted from Belarus to Russia for these or other activities of concern. This supplement does not include any item that meets the definition of ''medicine'' in §772.1 of the EAR.

(a) Chemicals in concentrations of 95% weight or greater, as follows:
(1) Ethylene dichloride (CAS 107–06–2);
(2) Nitromethane (CAS 75–52–5);
(3) Picric acid (CAS 88–89–1);
(4) Aluminum chloride (CAS 7446–70–0);
(5) Arsenic (CAS 7440–38–2);
(6) Arsenic trioxide (CAS 1327–53–3);
(7) Bis(2-chloroethyl)ethylamine hydrochloride (CAS 3590–07–6);
(8) Bis(2-chloroethyl)methylamine hydrochloride (CAS 55–86–7);
(9) Tris(2-chloroethyl)amine hydrochloride (CAS 817–09–4);
(10) Tributylphosphite (CAS 102–85–2);
(11) Isocyanatomethane (CAS 624–83–9);
(12) Quinaldine (CAS 91–63–4);
(13) 2-bromochloroethane (CAS 107–04–0);
(14) Benzil (CAS 134–81–6);
(15) Diethyl ether (CAS 60–29–7);
(16) Dimethyl ether (CAS 115–10–6);
(17) Dimethylaminoethanol (CAS 108–01–0);
(18) 2-methoxyethanol (CAS 109–86–4);
(19) Butyrylcholinesterase (BCHE);
(20) Diethylenetriamine (CAS 111–40–0);
(21) Dichloromethane (CAS 75–09–2);
(22) Dimethylaniline (CAS 121–69–7);
(23) Ethyl bromide (CAS 74–96–4);
(24) Ethyl chloride (CAS 75–00–3);
(25) Ethylamine (CAS 75–04–7);
(26) Hexamine (CAS 100–97–0);
(27) Isopropanol (CAS 67- 63–0);
(28) Isopropyl bromide (CAS 75–26–3);
(29) Isopropyl ether (CAS 108–20–3);
(30) Methylamine (CAS 74–89–5);
(31) Methyl bromide (CAS 74–83–9);
(32) Monoisopropylamine (CAS 75–31–0);
(33) Obidoxime chloride (CAS 114–90–9);
(34) Potassium bromide (CAS 7758–02–3);
(35) Pyridine (CAS 110–86–1);
(36) Pyridostigmine bromide (CAS 101–26–8);
(37) Sodium bromide (CAS 7647–15–6);
(38) Sodium metal (CAS 7440–23–5);
(39) Tributylamine (CAS 102–82–9);
(40) Triethylamine (CAS 121–44–8);
(41) Trimethylamine (CAS 75–50–3);
(42) Lithium chloride (CAS 7447–41–8);
(43) Lithium chloride hydrate (CAS 85144–11–2);
(44) Lithium chloride monohydrate (CAS 16712–20–2); or
(45) Lithium carbonate (CAS 554–13–2).

(b) Chemicals in concentrations of 90% weight or greater, as follows:
(1) Acetone (CAS 67–64–1);
(2) Acetylene (CAS 74–86–2);
(3) Ammonia (CAS 7664–41–7);
(4) Antimony (CAS 7440–36–0);
(5) Benzaldehyde (CAS 100–52–7);
(6) Benzoin (CAS 119–53–9);

(7) 1-Butanol (CAS 71–36–3);
(8) 2-Butanol (CAS 78–92–2);
(9) Iso-Butanol (CAS 78–83–1);
(10) Tert-Butanol (CAS 75–65–0);
(11) Calcium carbide (CAS 75–20–7);
(12) Carbon monoxide (CAS 630–08–0);
(13) Chlorine (CAS 7782–50–5);
(14) Cyclohexanol (CAS 108–93–0);
(15) Dicyclohexylamine (CAS 101–83–7);
(16) Ethanol (CAS 64–17–5);
(17) Ethylene (CAS 74–85–1);
(18) Ethylene oxide (CAS 75–21–8);
(19) Fluoroapatite (CAS 1306–05–4);
(20) Hydrogen chloride (CAS 7647–01–0);
(21) Hydrogen sulfide (CAS 7783–06–4);
(22) Mandelic acid (CAS 90–64–2);
(23) Methanol (CAS 67–56–1);
(24) Methyl chloride (CAS 74–87–3);
(25) Methyl iodide (CAS 74–88–4);
(26) Methyl mercaptan (CAS 74–93–1);
(27) Monoethyleneglycol (CAS 107–21–1);
(28) Oxalyl chloride (CAS 79–37–8);
(29) Potassium sulfide (CAS 1312–73–8);
(30) Potassium thiocyanate (CAS 333–20–0);
(31) Sodium hypochlorite (CAS 7681–52–9);
(32) Sulphur (CAS 7704–34–9);
(33) Sulphur dioxide (CAS 7446–09–5);
(34) Sulphur trioxide (CAS 7446–11–9);
(35) Thiophosphoryl chloride (CAS 3982–91–0);
(36) Tri-isobutyl phosphite (CAS 1606–96–8);
(37) White phosphorus (CAS 12185–10–3); or
(38) Yellow phosphorus (CAS 7723–14–0).

(c) *Fentanyl and its derivatives Alfentanil, Sufentanil, Remifentanil, Carfentanil,* thiafentanil *and salts thereof.*

NOTE 1 TO PARAGRAPH (c): The items in paragraph (c) are from the EU list, as X.C.IX.002.

NOTE 2 TO PARAGRAPH (c): Consistent with EU List X.C.IX.002, paragraph (c) does not control products identified as consumer goods packaged for retail sale for personal use or packaged for individual use.

(d) *Chemical precursors to Central Nervous System Acting Chemicals, as follows:*
(1) 4-anilino-N-phenethylpiperidine (CAS 21409–26–7);
(2) N-phenethyl-4-piperidone (CAS 39742–60–4);
(3) Tert-butyl 4-(phenylamino) piperidine-1-carboxylate (CAS 125541–22–2);
(4) N-phenyl-N-(piperidin-4-yl)propionamide (Norfentanyl) (CAS 1609–66–1); or
(5) N-phenyl-4-piperidinamine (CAS 504–24–5).

NOTE 3 TO PARAGRAPH (d): The items in paragraph (d) are from the EU list, as X.C.IX.003.

NOTE 4 TO PARAGRAPH (d): Consistent with EU List X.C.IX.003, paragraph (d) does not control ''chemical mixtures'' containing one or more of the chemicals specified in paragraph (d) (and consistent with EU List entry X.C.IX.003) in which no individually specified chemical constitutes more than 1% by the weight of the mixture.

NOTE 5 TO PARAGRAPH (d): Consistent with EU List X.C.IX.003, paragraph (d) does not control products identified as consumer goods packaged for retail sale for personal use or packaged for individual use.

(e) Biologics: This paragraph (e) identifies certain biologics and biological equipment. The control on these items is intended to hinder Russia bioweapons production capabilities.
(1) Butyrylcholinesterase (BCHE);
(2) Cell culture materials, including cell lines, vectors, plasmids, and cell culture media, n.e.s.;
(3) Assay kits and reagents for nucleotide or peptide isolation, extraction, or purification, n.e.s.;
(4) Isolated or purified nucleotides and oligonucleotides, n.e.s.;
(5) Isolated or purified amino acids, peptides and proteins, n.e.s.;
(6) Reagents and materials for oligonucleotide synthesis, n.e.s.; or
(7) Resins, reagents, and materials for peptide synthesis, n.e.s.

(f) *Equipment and consumable ''materials.* This paragraph (f) identifies additional equipment and consumable ''materials'' that BIS has determined are not manufactured in Russia. Therefore, the implementation of restrictive export controls on these items by the United States and our allies will economically impact Russia and significantly hinder Russia's CBW production capabilities.
(1) Reaction vessels, agitators, heat exchangers, condensers, pumps (including single seal pumps), valves, storage tanks, containers, receivers, and distillation or absorption columns, n.e.s.;
(2) Vacuum pumps with a manufacturer's specified maximum flow-rate greater than 1 m^3/h (under standard temperature and pressure conditions), casings (pump bodies), preformed casing-liners, impellers, rotors, and jet pump nozzles designed for such pumps; n.e.s.;
(3) Laboratory equipment, including ''components,'' ''parts,'' ''accessories,'' and consumable ''materials'' for such equipment, for the analysis or detection, destructive or non-destructive, of chemical substances, n.e.s.;
(4) Whole chlor-alkali electrolysis cells (mercury, diaphragm, and membrane) and ''components'' ''specially designed'' therefor as follows:
(i) Electrodes;
(ii) Diaphragms; and
(iii) Ion exchange membranes;
(5) Compressors ''specially designed'' to compress wet or dry chlorine, regardless of material of construction;
(6) Class II biosafety cabinets and glove boxes, n.e.s.;

(7) Floor-mounted fume hoods (walk-in style) with a minimum nominal width of 2.5 meters, n.e.s.;
(8) Full face-mask air-purifying and air-supplying respirators n.e.s.;
(9) Conventional or turbulent air-flow clean-air rooms and self-contained fan-HEPA filter units that may be used for P3 or P4 (BSL 3, BSL 4, L3, L4) containment facilities;
(10) Microwave reactors;
(11) Well plates and microarrays;
(12) Fermenters and components therefor, n.e.s.;
(13) Centrifuges and ultracentrifuges capable of separating biological samples, with a maximum capacity of 5L, ''components'' and ''accessories'' therefor, n.e.s., including centrifuge tubes and concentrators;
(14) Filtration equipment, ''components,'' ''parts,'' and ''accessories,'' capable of use in handling biological materials, n.e.s.;
(15) Nucleic acid synthesizers and assemblers, ''components,'' ''parts,'' and ''accessories,'' n.e.s.;
(16) Polymerase chain reaction (PCR) and quantitative PCR (qPCR) instruments ''components,'' ''parts,'' and ''accessories;''
(17) Robotic liquid handling instruments, ''components,'' ''parts,'' and ''accessories,'' n.e.s.;
(18) Chromatography and spectrometry ''components,'' ''parts,'' and ''accessories,'' n.e.s.;
(19) Nucleic acid sequencers, ''components,'' ''parts,'' and ''accessories;''
(20) Aerosol inhalation testing equipment, components, parts and accessories, n.e.s.;
(21) Flow cytometry equipment, components, parts and accessories, n.e.s.;
(22) Probe sonicators, cell disruptors and tissue homogenizers;
(23) 'Continuous flow reactors' and their 'modular components,' ''parts,'' and ''accessories,'' n.e.s;
TECHNICAL NOTES FOR PARAGRAPH (f)(23): 1. Consistent with EU List X.B.X.001, for purposes of paragraph (f)(23) 'continuous flow reactors' consist of plug and play systems where reactants are continuously fed into the reactor and the resultant product is collected at the outlet.
2. Consistent with EU List X.B.X.001, for purposes of paragraph (f)(23) 'modular components' are fluidic modules, liquid pumps, valves, packed-bed modules, mixer modules, pressure gauges, liquid-liquid separators, etc.
(24)—(26) [Reserved]
(27) Peptide synthesizers, ''components,'' ''parts,'' and ''accessories.''

NOTE 6 TO PARAGRAPH (f): Consistent with the definitions in part 772 of the EAR, ''components,'' ''parts,'' ''accessories,'' and ''materials'' include consumables.

(g) Quantum computing and advanced manufacturing: This paragraph (g) identifies additional equipment and other items that are believed to not be manufactured in Russia or are otherwise important to Russia in developing advanced production and development capabilities.
(1) 'Quantum Computers', and ''specially designed'' ''electronic assemblies'' and ''components'' therefor, as follows:
(i) Quantum processing units, qubit circuits, and qubit devices;
(ii) Quantum control ''components'' and quantum measurement devices.

NOTE 7 TO PARAGRAPH (g)(1): Quantum processing units, qubit circuits and qubit devices include but are not limited to semiconductor, superconducting, Ion Trap, photonic interaction, silicon/spin, cold atoms.
NOTE 8 TO PARAGRAPH (g)(1): Quantum control ''components'' and quantum measurement devices applies to items designed for calibrating, initializing, manipulating or measuring the resident qubits of a quantum computer.

(2) 'Cryogenic refrigeration systems' designed to maintain temperatures below 1.1k for 48hrs or more and ''specially designed'' cryogenic refrigeration equipment and ''components'' as follows:
(i) Pulse Tubes;
(ii) Cryostats;
(iii) Dewars;
(iv) Gas Handling System (GHS);
(v) Compressors;
(vi) Control Units;
NOTE 9 TO PARAGRAPH (g)(2): 'Cryogenic refrigeration systems' include but are not limited to Dilution Refrigeration, Adiabatic Demagnisation Refrigerators and Laser Cooling Systems.
(3) Ultra-High Vacuum (UHV) equipment as follows:
(i) UHV pumps (sublimation, turbomolecular, diffusion, cryogenic, ion-getter);
(ii) UHV pressure gauges.

NOTE 10 TO PARAGRAPH (g)(3): UHV means 100 nanoPascals (nPa) or lower.

(4) High Quantum Efficiency (QE) photodetectors and sources with a QE greater than 80% in the wavelength range exceeding 300nm but not exceeding 1700nm;
(5) Manufacturing equipment as follows:
(i) Additive manufacturing equipment for the production of metal parts;

NOTE 11 TO PARAGRAPH (g)(5)(i): This entry identified under paragraph (5)(i) only applies to the following systems:
1. Powder-bed systems using Selective Laser Melting (SLM), laser cusing; Direct Metal Laser Sintering (DMLS) or Electron Beam Melting (ELB), or
2. Powder-fed systems using laser cladding, direct energy deposition or laser metal deposition.

(ii) Additive manufacturing equipment for ''energetic materials'', including equipment using ultrasonic extrusion;
(iii) Vat photopolymerisation additive manufacturing equipment using Stereo Lithography (SLA) or Direct Light Processing (DLP)
(6) Metal powders and metal alloy powders ''specially designed'' for the additive manufacturing equipment specified in 3a.
(7) Microscopes, related equipment and detectors, as follows:
(i) Scanning Electron Microscopes (SEM);
(ii) Scanning Auger Microscopes;
(iii) Transmission Electron Microscopes (TEM);
(iv) Atomic Force Microscopes (AFM);
(v) Scanning Force Microscopes (SFM);
(vi) Equipment and detectors ''specially designed'' for use with the microscopes specified in a. to e., employing any of the following:
(A) X-ray Photo Spectroscopy (XPS):
(B) Energy-Dispersive X-ray Spectroscopy (EDX, EDS);
(C) Electron Back Scatter Detector (EBSD) systems;
(D) Electron Spectroscopy for Chemical Analysis (ESCA).
(8) 'Decapsulation' equipment for semiconductor devices.

NOTE 12 TO PARAGRAPH (g)(8): 'Decapsulation' is the removal of a cap, lid, or encapsulating material from a packaged integrated circuit by mechanical, thermal, or chemical methods.

(9) ''Software'' ''specially designed'' or modified for the ''development'', ''production'' or ''use'' of the items specified in paragraphs (g)(1) through (8) of this supplement.
(10) ''Software'' for Digital Twins (DT) of additive manufacture products or for the determination of the reliability of additive manufacture products.
(11) ''Technology'' for the ''development'', ''production'' or ''use'' of the items specified in paragraphs (g)(1) through (10) of this supplement.
(h) Riot Control Agents which are isomers of CS (o-Chlorobenzylidenemalononitrile or o-Chlorobenzalmalononitrile) (CAS 2698–41–1); CN (Phenylacyl chloride or w-Chloroacetophenone) (CAS 532–27–4); or Oleoresin Capsicum (CAS 8023–77–6) as follows:
(1) 8-Methyl-N-vanillyl-trans-6-nonenamide (Capsaicin) (CAS 404–86–4);
(2) 8-Methyl-N-vanillylnonamide (Dihydrocapsaicin) (CAS 19408–84–5);
(3) N-Vanillylnonamide (Pseudocapsaicin, PAVA) (CAS 2444–46–4);
(4) N-Vanillyl-9-methyldec-7-(E)-enamide (Homocapsaicin) (CAS 58493–48–4);
(5) N-Vanillyl-9-methyldecanamide (Homodihydrocapsaicin) (CAS 20279–06–5);
(6) N-Vanillyl-7-methyloctanamide (Nordihydrocapsaicin) (CAS 28789–35–7);
(7) 2′-chloroacetophenone (CAS 2142–68–9);
(8) 3′-chloroacetophenone (CAS 99–02–5);
(9) α-chlorobenzylidenemalononitrile (CAS 18270–61–6); *and*
(10) Cis-4-acetylaminodicyclohexylmethane (CAS 37794–87–9).
(i) Pre-cursors for riot control agents and chloropicrin as follows:
(1) Malononitrile (CAS 109–77–3);
(2) 2-Chlorobenzaldehyde (CAS 89–98–5);
(3) 2-Chlorobenzyl Alcohol (CAS 17849–38–6);
(4) 2-Chlorobenzylamine (CAS 89–97–4);
(5) Benzene, 1-chloro-2-(dimethoxymethyl) (CAS 70380–66–4);
(6) Acetophenone (CAS 98–86–2);
(7) Chloroacetyl Chloride (CAS 79–04–9);
(8) Chloroform (CAS 67–66–3); *and*
(9) o-Aminophenol (CAS 95–55–6).

[87 FR 57104, Sept. 16, 2022, as amended at 88 FR 12204, Feb. 27, 2023; 88 FR 33469, May 23, 2023; 89 FR 4815, Jan 25, 2024; 89 FR 51678, June 18, 2024; 89 FR 87282, Nov. 1, 2024]

SUPPLEMENT NO. 7 TO PART 746—ITEMS THAT REQUIRE A LICENSE UNDER §746.6 WHEN DESTINED TO THE TEMPORARILY OCCUPIED CRIMEA REGION OF UKRAINE, UNDER §746.7 WHEN DESTINED TO IRAN, AND UNDER §746.8 WHEN DESTINED TO RUSSIA OR BELARUS

The items identified in this supplement are a subset of items that are identified in specific Export Control Classification Numbers or designated as EAR99 under the Commerce Control List (CCL) in supplement no. 1 to part 774 of the EAR. Also see paragraph (f) of §734.9 of the EAR for the Russia/Belarus/Temporarily occupied Crimea region of Ukraine Foreign Direct Product (FDP) rule and paragraph (j) for the Iran FDP rule. Both of these FDP rules include the items identified in this supplement as part of the criteria for what foreign made items are subject to the EAR.

(a) The source for the Harmonized Tariff Schedule (HTS)-6 codes and descriptions in this list is the United States International Trade Commission (USITC)'s Harmonized Tariff Schedule of the United States (2023). The items described in this supplement include any modified or designed ''components,'' ''parts,'' ''accessories,'' and ''attachments'' therefor regardless of the HTS Code or HTS Description of the ''components,'' ''parts,'' ''accessories,'' and ''attachments,'' apart from any ''part'' or minor ''component'' that is a fastener (*e.g.*, screw, bolt, nut, nut plate, stud, insert, clip, rivet, pin), washer, spacer, insulator, grommet, bushing, spring, wire, or solder. The exclusion of fasteners from this control does not apply to fasteners that are designated under an HTS Code under this supplement. Although generally fasteners (*e.g.*, screws, bolts, nuts, nut

plates, studs, inserts, clips, rivets, pins), and washers, spacers, insulators, grommets, bushings, springs, wires, and solder are excluded from the scope of this supplement, see part 744 of the EAR for license requirements for Russia and Belarus that apply to all items ''subject to the EAR,'' *e.g.*, §744.21 of the EAR and the Entity List license requirements, which in most cases extend to all items ''subject to the EAR.'' This supplement includes two columns consisting of the HTS Code and HTS Description to assist exporters, reexporters, and transferors in identifying the products in this supplement. For information on HTS codes in general, you may contact a local import specialist at U.S. Customs and Border Protection at the nearest port.

(b) The items classified under the provisions identified in the HTS-6 Code column of this supplement are subject to the license requirements under §§746.6(a)(1)(ii), 746.7(a)(1)(ii) and (iii), and 746.8(a)(2). The other column—HTS Description—is intended to assist exporters with their AES filing responsibilities. The license requirements extend to HTS Codes at the 8 and 10 digit level when those HTS–8 and HTS–10 codes begin with the HTS–6 Codes as the first 6 numbers of those longer HS Codes.

HTS–6 codes	HTS description
840710 ..	Aircraft spark-ignition reciprocating or rotary internal combustion piston engines.
840890 ..	Compression-ignition internal combustion piston engines (diesel or semi-diesel engines), NESOI.
840910 ..	Parts for spark-ignition or rotary internal combustion piston engines or compression-ignition internal combustion piston engines, for aircraft.
845710 ..	Machining centers for working metal.
845811 ..	Horizontal lathes for removing metal, numerically controlled.
845891 ..	Lathes, excluding horizontal, for removing metal, numerically controlled.
845961 ..	Milling machines, not knee type, for removing metal, numerically controlled.
846693 ..	Parts and accessories for machine tools, for laser operation, metalworking machining centers, lathes and drilling machines, etc., NESOI.
847150 ..	Processing units other than those of subheading 8471.41 or 8471.49, whether or not containing in the same housing one or two of the following types of unit: storage units, input units, output units.
847180 ..	Automatic data processing units, NESOI.
848210 ..	Ball bearings.
848220 ..	Tapered roller bearings, including cone and tapered roller assemblies.
848230 ..	Spherical roller bearings.
848250 ..	Cylindrical roller bearings NESOI.
848610 ..	Machines and apparatus for the manufacture of boules or wafers.
848620 ..	Machines and apparatus for the manufacture of semiconductor devices or of electronic integrated circuits.
848640 ..	Machines and apparatus for the manufacture or repair of masks and reticles; for assembling semiconductors devices; for lifting, handling, loading or unloading of semi-conductor devices.
850440 ..	Electrical static converters; power supplies for ADP machines or units of 8471.
851762 ..	Machines for the reception, conversion and transmission or regeneration of voice, images or other data, including switching and routing apparatus.
851769 ..	Apparatus for the transmission or reception of voice, images or other data, including switching and routing apparatus, NESOI.
852589 ..	Television cameras, digital cameras and video camera recorders.
852691 ..	Radio navigational aid apparatus.
852910 ..	Antennas and antenna reflectors and parts thereof.
852990 ..	Parts (except antennas and reflectors) sfor use with radio transmission, radar, radio navigational aid, reception and television apparatus, NESOI.
853221 ..	Tantalum capacitors.
853224 ..	Fixed capacitors NESOI, multilayer ceramic dielectric.
853400 ..	Printed circuits.
853669 ..	Electric plugs and sockets for a voltage not exceeding 1,000 V.
853690 ..	Electrical apparatus for switching, protecting or making connections to or in electrical circuits, for a voltage not exceeding 1,000 V, NESOI.
854110 ..	Diodes, other than photosensitive or light-emitting diodes.
854121 ..	Transistors, other than photosensitive, with a dissipation rate of less than 1W.
854129 ..	Transistors, other than photosensitive, NESOI.
854130 ..	Thyristors, diacs and triacs, other than photosensitive devices.
854149 ..	Photosensitive semiconductor devices, excluding photovoltaic generators and cells.
854151 ..	Semiconductor-based transducers, NESOI.
854159 ..	Semiconductor devices NESOI.
854160 ..	Mounted piezoelectric crystals.
854231 ..	Processors and controllers, whether or not combined with memories, converters, logic circuits, amplifiers, clock and timing circuits, or other circuits.
854232 ..	Memories.
854233 ..	Amplifiers.
854239 ..	Other electronic integrated circuits.
854320 ..	Electrical signal generators.
854800 ..	Electrical parts of machinery or apparatus, NESOI
880730 ..	Other parts of airplanes, helicopters or unmanned aircraft.
901310 ..	Telescopic sights for fitting to arms; periscopes; telescopes designed to form parts of machines, appliances, instruments or apparatus of this chapter or Section XVI.
901380 ..	Other optical devices, appliances and instruments not elsewhere specified.
901420 ..	Instruments and appliances for aeronautical or space navigation (other than compasses).
901480 ..	Other navigational instruments and appliances.
902750 ..	Other instruments and apparatus using optical radiations (ultraviolet, visible, infrared).
903020 ..	Oscilloscopes and oscillographs.
903032 ..	Multimeters with recording device.
903039 ..	Instruments and apparatus for measuring or checking voltage, current, resistance or electrical power, with recording device.
903082 ..	Oscilloscopes, spectrum analyzers and other instruments and apparatus for measuring or checking electrical quantities, for measuring or checking semiconductor wafers or devices.

[88 FR 12155, Feb. 27, 2023, as amended at 88 FR 33469, May 23, 2023; 89 FR 4815, Jan. 25, 2024; 89 FR 29256, Apr. 22, 2024; 89 FR 51678, June 18, 2024]

PART 747 [RESERVED]

PART 748—APPLICATIONS (CLASSIFICATION, ADVISORY, AND LICENSE) AND DOCUMENTATION

Sec.

748.1 General provisions.
748.2 Obtaining forms; mailing addresses.
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SUPPLEMENT NO. 10 TO PART 748—DATA CENTER VEU AUTHORIZATION GUIDELINES

AUTHORITY: 50 U.S.C. 4801–4852; 50 U.S.C. 4601 *et seq.;* 50 U.S.C. 1701 *et seq.;* E.O. 13026, 61 FR 58767, 3 CFR, 1996 Comp., p. 228.

§748.1 General provisions.

(a) *Scope.* In this part, references to the Export Administration Regulations or EAR are references to 15 CFR chapter VII, subchapter C. The provisions of this part involve requests for classifications and advisory opinions, export license applications, reexport license applications, and certain license exception notices subject to the EAR. All terms, conditions, provisions, and instructions, including the applicant and consignee certifications, contained in electronic or paper form(s) are incorporated as part of the EAR. For the purposes of this part, the term ''application'' refers to both electronic applications and the Form BIS–748P: Multipurpose Application.

(b) *BIS responses.* BIS will give a formal classification, advisory opinion or licensing decision only through the review of a properly completed application supported by all relevant facts and required documentation submitted in writing or electronically to BIS.

(c) *Confidentiality.* Consistent with section 12(c) of the Export Administration Act, as amended, information obtained for the purpose of considering license applications, and other information obtained by the U.S. Department of Commerce concerning license applications, will not be made available to the public without the approval of the Secretary of Commerce or of the Under Secretary for Industry and Security.

(d) *Electronic filing required.* All export and reexport license applications, License Exception AGR notifications, requests to authorize use of License Exception STA for ''600 series'' end items (which are currently submitted as export license applications) and classification requests and their accompanying documents must be filed

via BIS's Simplified Network Application Processing system (SNAP–R), unless BIS authorizes submission via the paper forms BIS 748–P (Multipurpose Application Form), BIS–748P–A (Item Appendix) and BIS–748P–B, (End-User Appendix). Only original paper forms may be used. Facsimiles or reproductions are not acceptable.

(1) *Reasons for authorizing paper submissions.* BIS will process paper applications notices or requests if the submitting party meets one or more of the following criteria:

(i) BIS has received no more than one submission (*i.e.* the total number of export license applications, reexport license applications, license exception AGR notifications, *and* classification requests) from that party in the twelve months immediately preceding its receipt of the current submission;

(ii) The party does not have access to the Internet;

(iii) BIS has rejected the party's electronic filing registration or revoked its eligibility to file electronically;

(iv) BIS has requested that the party submit a paper copy for a particular transaction; or

(v) BIS has determined that urgency, a need to implement U.S. government policy or a circumstance outside the submitting party's control justify allowing paper submissions in a particular instance.

(2) *Procedure for requesting authorization to file paper applications, notifications, or requests.* The applicant must state in Block 24 or as an attachment to the paper application (Form BIS 748–P) which of the criteria in paragraph (d)(1) of this section it meets and the facts that support such statement. Submit the completed application, notification or request to Bureau of Industry and Security, U.S. Department of Commerce, 14th Street and Pennsylvania, NW., Room 2099B, Washington DC 20230.

(3) *BIS decision.* If BIS authorizes or requires paper filing pursuant to this section, it will process the application, notification or request in accordance with part 750 of the EAR. If BIS rejects a request to file using paper, it will return the Form BIS–748P and all attachments to the submitting party without action and will state the reason for its decision.

[61 FR 12812, Mar. 25, 1996, as amended at 70 FR 8249, Feb. 18, 2005; 73 FR 49329, Aug. 21, 2008; 75 FR 36499, June 25, 2010; 78 FR 13469, Feb. 28, 2013; 78 FR 22723, Apr. 16, 2013; 80 FR 51730, Aug. 26, 2015; 81 FR 64676, Sept. 20, 2016; 81 FR 87426, Dec. 5, 2016]

§ 748.2 Obtaining forms; mailing addresses.

(a) You may obtain the forms required by the EAR from any U.S. Department of Commerce District Office; or in person or by telephone or facsimile from the following BIS offices:

(1) Outreach and Educational Services Division, U.S. Department of Commerce, 14th Street and Pennsylvania Ave., NW., Room H1099D, Washington, DC 20230, Tel: (202) 482–4811, Fax: (202) 482–2927, or

(2) Bureau of Industry and Security, Western Regional Office, U.S. Department of Commerce, 2302 Martin St., Suite 330, Irvine, CA 92612, Tel: (949) 660–0144, Fax: (949) 660–9347, or

(3) Bureau of Industry and Security, Western Regional Office, Northern California Branch, U.S. Department of Commerce, 160 W. Santa Clara Street, Suite 725, San Jose, CA 95113, Tel: (408) 998–8806, Fax: (408) 998–8677.

(b) For the convenience of foreign consignees and other foreign parties, certain BIS forms may be obtained at U.S. Embassies and Consulates throughout the world.

[61 FR 12812, Mar. 25, 1996, as amended at 69 FR 5690, Feb. 6, 2004; 70 FR 22249, Apr. 29, 2005; 72 FR 3945, Jan. 29, 2007; 73 FR 36, Jan. 2, 2008; 73 FR 49330, Aug. 21, 2008; 76 FR 40604, July 11, 2011; 78 FR 13469, Feb. 28, 2013; 79 FR 32626, June 5, 2014]

§ 748.3 Classification requests and advisory opinions.

(a) *Introduction.* You may ask BIS to provide you with the correct Export Control Classification Number (ECCN) down to the paragraph (or subparagraph) level, if appropriate. BIS will issue you a determination that each item identified in your classification request is either described by an ECCN in the Commerce Control List (CCL) in supplement no. 1 to part 774 of the EAR or not described by an ECCN and, therefore, an ''EAR99'' item. These

classification determinations issued by BIS are not U.S. Government determinations that the items described therein are ''subject to the EAR,'' as this term is defined in §734.3 of the EAR. Those who request commodity classifications and advisory opinions should have determined that the items at issue are not subject to the exclusive export control jurisdiction of one of the other U.S. Government agencies listed in §734.3(b) of the EAR. If requested, for a given end-use, end-user, and/or destination, BIS will advise you whether a license is required, or likely to be granted, for a particular transaction. Note that these responses do not bind BIS to issuing a license in the future. This type of request, along with requests for guidance regarding other interpretations of the EAR, is commonly referred to as an ''Advisory Opinion.'' The encryption provisions in the EAR require the submission of a classification request in accordance with §740.17(d) of the EAR in order for certain items to be eligible for export and reexport under License Exception ENC (see §740.17 of the EAR) or to be released from ''EI'' controls (see §§740.17(b)(2) and 740.17(b)(3) of the EAR).

(b) *Classification requests.* Submit classification requests in accordance with the procedures in §748.1.

(1) Each Classification Request must be limited to six items. Exceptions may be granted by BIS on a case-by-case basis for several related items if the relationship between the items is satisfactorily substantiated in the request. Classification requests must be supported by any descriptive literature, brochures, precise technical specifications or papers that describe the items in sufficient technical detail to enable classification by BIS submitted as PDF files attached to the SNAP–R submission unless a paper submission is authorized pursuant to §748.1 of the EAR.

(2) When submitting a classification request, you must complete Blocks 1 through 5, 14, 22(a), (b), (c), (d), and (i), 24, and 25 on the application. You must provide a recommended classification in Block 22(a) and explain the basis for your recommendation based on the technical parameters specified in the appropriate ECCN in Block 24. If you are unable to determine a recommended classification for your item, include an explanation in Block 24, identifying the ambiguities or deficiencies that precluded you from making a recommended classification.

(3) BIS assigns each of its commodity classifications a Commodity Classification Automated Tracking System (CCATS) number. Neither the BIS classification nor the CCATS number may be relied upon or cited as evidence that the U.S. Government has determined that the items described in the commodity classification determination are subject to the EAR (See 15 CFR 734.3).

(c) *Advisory opinions.* Advisory opinion requests must be made in writing, and may be delivered to BIS by mail, by email, or through the BIS website. If delivering a request by mail, submit to the address listed in §748.1(d)(2). Both your letter and envelope must be marked ''Advisory Opinion.'' If submitting by email, submit to *RPD2@bis.doc.gov* with the subject title ''Advisory Opinion.'' If submitting through the BIS website, see *http://www.bis.doc.gov*.

(1) Your submission must contain the following information if you are requesting guidance regarding interpretations of the EAR:

(i) The name, title, and telephone and facsimile numbers of the person to contact,

(ii) Your complete address comprised of street address, city, state, country, and postal code; and

(2) If you are requesting BIS to determine whether a license is required, or the licensing policy related to a particular end-use, end-user, and/or destination, in addition to the information required in §748.3(c)(1) you must also include:

(i) All available information on the parties to the transaction and the proposed end-use or end-user,

(ii) The model number for each item, where appropriate,

(iii) The Export Control Classification Number, if known, for each item; and

(iv) Any descriptive literature, brochures, technical specifications or papers that describe the items in sufficient technical detail to enable BIS to verify the correct classification.

(3) Requests for Validated End-User authorization should be submitted in accordance with the provisions set forth in §748.15 and supplement nos. 8 and 9 to this part.

(4) To request an addition or modification to or removal from the approved integrated circuit designers list in supplement no. 6 to part 740 of the EAR or the approved ''OSAT'' companies list in supplement no. 7 to part 740 of the EAR, see §748.16 of this part.

(5) Advisory opinions are limited in scope to BIS's interpretation of EAR provisions. Advisory opinions differ from commodity classifications in that advisory opinions are not limited to the interpretation of provisions contained in the Commerce Control List. Advisory opinions may not be relied upon or cited as evidence that the U.S. Government has determined that the items described in the advisory opinion are not subject to the export control jurisdiction of another agency of the U.S. Government (See 15 CFR 734.3).

(d) *Classification requests for encryption items.* A classification request associated with encryption items transferred from the U.S. Munitions List consistent with Executive Order 13026 of November 15, 1996 (3 CFR, 1996 Comp., p. 228) and pursuant to the Presidential Memorandum of that date may be required to determine eligibility under License Exception ENC or for release from ''EI'' controls. Refer to supplement no. 6 to part 742 of the EAR for a complete list of technical information that is required for encryption classification requests. Refer to §740.17(e)(3) and supplement no. 8 to part 742 of the EAR for information that is required to be submitted in a self-classification report. Refer to §740.17(b) of the EAR for instructions regarding mass market encryption commodities and software, including self-classifications and classification requests. Refer to §740.17 of the EAR for the provisions of License Exception ENC, including encryption self-classifications, classification requests and sales reporting. All classification requests, notifications and reports submitted to BIS pursuant to §§740.17 and 742.15(b) of the EAR will be reviewed by the ENC Encryption Request Coordinator, Ft. Meade, MD.

(e) *Classification requests to confirm that a ''part,'' ''component,'' ''accessory,'' ''attachment,'' or ''software'' is not ''specially designed''*—(1) *Scope.* If you have a ''part,'' ''component,'' ''accessory,'' ''attachment,'' or ''software'' that is ''specially designed'' on the basis of paragraph (a)(1) or (2) of the ''specially designed'' definition in §772.1 of the EAR, you may submit a request in accordance with the procedures in §748.1 to confirm that the item is not ''specially designed'' provided you meet the following criteria:

(i) The ''part,'' ''component,'' ''accessory,'' ''attachment,'' or ''software'' does not meet the criteria of exclusion paragraph (b)(3) of the ''specially designed'' definition, but would meet the criteria if the minor changes in form or fit were determined to be insignificant by the U.S. Government.

(ii) The performance capabilities of the ''part,'' ''component,'' ''accessory,'' ''attachment,'' or ''software'' are the same as those of a ''part,'' ''component,'' ''accessory,'' ''attachment,'' or ''software'' that would meet the criteria of exclusion paragraph (b)(3) of the definition of ''specially designed'' in §772.1 of the EAR.

(2) *Information to be provided.* Applicants wishing to submit a CCATS requesting confirmation that a ''part,'' ''component,'' ''accessory,'' ''attachment,'' or ''software'' is not ''specially designed'' must submit classification requests in accordance with the procedures in §748.1 and general provisions regarding submitting classification requests in §748.3(b). In addition, applicants must submit additional information identified in this paragraph (e)(2).

(i) The classification request must indicate in Block 24 or in a separate PDF attachment included with the CCATS submission that the ''part,'' ''component,'' ''accessory,'' ''attachment'' or ''software'' would meet the criteria in paragraph (e)(1)(i) and (ii) of this section;

(ii) A detailed explanation must be provided regarding all changes in form and fit; *and*

(iii) A rationale must be provided that explains why such changes in form and fit should be treated as minor or insignificant in terms of their role in the performance capabilities of the enumerated item.

(3) *U.S. Government Review.* Commodity classification requests submitted pursuant to §748.3(e) are reviewed by the Departments of Commerce, State and Defense. A consensus determination is required to confirm that a ''part,'' ''component,'' ''accessory,'' ''attachment,'' or ''software'' is not ''specially designed'' on the basis of this paragraph. The interagency review process will ensure U.S. national security and foreign policy interests are evaluated prior to any confirmation pursuant to §748.3(e). The interagency review will consider on a case-by-case basis whether a particular ''part,'' ''component,'' ''accessory,'' ''attachment,'' or ''software'' is ''specially designed'' taking into account all the following:

(i) The insignificance of the changes in form and fit;

(ii) The overall role of the ''part,'' ''component,'' ''accessory,'' ''attachment,'' or ''software'' in the performance capabilities of the enumerated or otherwise described item that it is used in or with;

(iii) How substantively common it is to the other ''part,'' ''component,'' ''accessory,'' ''attachment,'' or ''software'' that would meet the paragraph (b)(3) criteria;

(iv) Whether such a confirmation would be consistent with U.S. Government multilateral export control regime commitments; *and*

(v) Any other criteria that may be relevant in determining whether the ''part,'' ''component,'' ''accessory,'' ''attachment,'' or ''software'' is ''specially designed,'' including an evaluation of how such a confirmation may affect U.S. national security and foreign policy interests.

(4) *CCATS response.* The BIS response to the CCATS request will reflect the interagency consensus determination and the response will be made in accordance with the procedures in §§748.1 and 748.3(b). In addition, the BIS response will indicate one of the following:

(i) The ''part,'' ''component,'' ''accessory,'' ''attachment,'' or ''software'' is not ''specially designed'' on the basis of being within the scope of paragraph (b)(3) because the changes in form and fit have been determined by the U.S. Government to be minor or insignificant. In such cases, the new classification, which may be EAR99 or in another ECCN entry that does not use ''specially designed,'' will be provided as part of the BIS response;''

(ii) The request under §748.3(e) has been denied and the ''part,'' ''component,'' ''accessory,'' ''attachment,'' or ''software'' continues to be classified under a ''specially designed'' 'catch-all' (see the definition of ''specially designed'' in §772.1 of the EAR). The response will also include a determination regarding where the ''specially designed'' ''part,'' ''component,'' ''accessory,'' ''attachment,'' or ''software'' is classified on the CCL; or

(iii) Returned without action (RWA) because insufficient information was provided or information was not provided in a timely fashion. These requests will be reviewed closely, and they will likely require additional follow up questions of applicants, so responding to such requests in a timely fashion will be an important part of the process to ensure such requests are considered by the U.S. Government.

NOTE TO PARAGRAPH (e): Although these requests for confirmation that an item is not ''specially designed'' are also reviewed by the Departments of State and Defense, similar to §748.3(b)(3), the public is reminded that neither the BIS classification nor the CCATS number may be relied upon or cited as evidence that the U.S. Government has determined that the ''parts,'' ''components,'' ''accessories,'' ''attachments'' and ''software'' described in the commodity classification determination or a release made from ''specially designed'' pursuant to §748.3(e) are subject to the EAR (see §734.3 of the EAR).

(f) *Classification requests for artificial intelligence models.* Classification requests may be submitted to confirm that technology is not controlled under ECCN 4E091 because the artificial intelligence model has been trained utilizing fewer computational 'operations' than the number needed to train a model as capable, according to an average of widely used benchmarks, as the most advanced artificial intelligence

model that has been ''published'' as defined in §734.7(a) of the EAR. Refer to the technical notes to ECCN 4E091 for instructions regarding self-classifications of artificial intelligence models.

[61 FR 12812, Mar. 25, 1996, as amended at 61 FR 68585, Dec. 30, 1996; 62 FR 25461, May 9, 1997; 65 FR 62609, Oct. 19, 2000; 67 FR 38868, June 6, 2002; 68 FR 35785, June 17, 2003; 70 FR 8249, Feb. 18, 2005; 72 FR 33659, June 19, 2007; 73 FR 49330, Aug. 21, 2008; 75 FR 36499, June 25, 2010; 75 FR 45054, Aug. 2, 2010; 78 FR 22724, Apr. 16, 2013; 78 FR 61745, Oct. 3, 2013; 81 FR 64676, Sept. 20, 2016; 86 FR 54812, Oct. 5, 2021; 90 FR 4562, Jan. 15, 2025; 90 FR 5312, Jan. 16, 2025]

§ 748.4 Basic guidance related to applying for a license.

(a) *License applicant*—(1) *Export transactions.* Only a person in the United States may apply for a license to export items from the United States. The applicant must be the exporter, who is the U.S. principal party in interest with the authority to determine and control the sending of items out of the United States, except for Encryption License Arrangements (ELA) (see §750.7(d) of the EAR). See definition of ''exporter'' in part 772 of the EAR.

(2) *Routed export transactions.* The U.S. principal party in interest or the duly authorized U.S. agent of the foreign principal party in interest may apply for a license to export items from the United States. Prior to submitting an application, the agent that applies for a license on behalf of the foreign principal party in interest must obtain a power of attorney or other written authorization from the foreign principal party in interest. See §758.3(b) and (d) of the EAR.

(3) *Reexport transactions.* The U.S. or foreign principal party in interest, or the duly authorized U.S. agent of the foreign principal party in interest, may apply for a license to reexport controlled items from one country to another. Prior to submitting an application, an agent that applies for a license on behalf of a foreign principal party in interest must obtain a power-of-attorney or other written authorization from the foreign principal party in interest, unless there is a preexisting relationship by ownership, control, position of responsibility or affiliation. See power-of-attorney requirements in paragraph (b)(2) of this section.

(b) *Disclosure of parties on license applications and the power of attorney*—(1) *Disclosure of parties.* License applicants must disclose the names and addresses of all parties to a transaction. When the applicant is the U.S. agent of the foreign principal party in interest, the applicant must disclose the fact of the agency relationship, and the name and address of the agent's principal. If there is any doubt about which persons should be named as parties to the transaction, the applicant should disclose the names of all such persons and the functions to be performed by each in Block 24 of the application. Note that when the foreign principal party in interest is the ultimate consignee or end-user, the name and address need not be repeated in Block 24. See ''Parties to the transaction'' in §748.5.

(2) *Power of attorney or other written authorization*—(i) *Requirement.* An agent must obtain a power of attorney or other written authorization from the principal party in interest, unless there is a preexisting relationship by ownership, control, position of responsibility or affiliation, prior to preparing or submitting an application for a license, when acting as either:

(A) An agent, applicant, licensee and exporter for a foreign principal party in interest in a routed transaction; or

(B) An agent who prepares an application for export on behalf of a U.S. principal party in interest who is the actual applicant, licensee and exporter in an export transaction.

(ii) *Application.* Block 7 of the application (documents on file with applicant) must be marked ''other'' and Block 24 (Additional information) must be marked ''748.4(b)(2)'' to indicate that the power of attorney or other written authorization is on file with the agent. See §758.3(d) for power of attorney requirement, and see also part 762 of the EAR for recordkeeping requirements.

(c) *Prohibited from applying for a license.* No person subject to a denial order based on a conviction for a violation of any statute specified at 50 U.S.C. 4819(e)(1)(B) may apply for any license for a period up to 10 years from

the date of the conviction. The duration of the prohibition shall be included as a term of the denial order. See § 766.25 of the EAR.

(d) *Prior action on a shipment.* If you have obtained a license without disclosure of the facts described in this section, the license will be deemed to have been obtained without disclosure of all facts material to the granting of the license and the license so obtained will be deemed void. See part 764 of the EAR for other sanctions that may result in the event a violation occurs.

(1) *Licenses for items subject to detention or seizure.* If you submit a license application for items that you know have been detained or seized by the Office of Export Enforcement or by the U.S. Customs Service, you must disclose this fact to BIS when you submit your license application.

(2) *Licenses for items previously exported.* You may not submit a license application to BIS covering a shipment that is already laden aboard the exporting carrier, exported or reexported. If such export or reexport should not have been made without first securing a license authorizing the shipment, you must send a letter of explanation to the Office of Export Enforcement, U.S. Department of Commerce, 14th and Pennsylvania Avenue, N.W., H4520, Washington, D.C., 20230. The letter must state why a license was not obtained and disclose all facts concerning the shipment that would normally have been disclosed on the license application. You will be informed of any action and furnished any instructions by the Office of Export Enforcement.

(e) *Multiple shipments.* Your license application need not be limited to a single shipment, but may represent a reasonable estimate of items to be shipped throughout the validity of the license. Do not wait until the license you are using expires before submitting a new application. You may submit a new application prior to the expiration of your current license in order to ensure uninterrupted shipping.

(f) *Second application.* You may not submit a second license application covering the same proposed transaction while the first is pending action by BIS.

(g) *Resubmission.* If a license application is returned without action to you by BIS or your application represents a transaction previously denied by BIS, and you want to resubmit the license application, a new license application must be completed in accordance with the instructions contained in supplement no. 1 to part 748. Cite the Application Control Number on your original application in Block 24 on the new license application.

(h) *Emergency processing.* Applicants may request emergency processing of license applications by contacting the Outreach and Educational Services Division of the Office of Exporter Services by telephone on (202) 482–4811 or by facsimile on (202) 482–2927. Refer to the Application Control Number when making emergency processing requests. BIS will expedite its evaluation, and attempt to expedite the evaluations of other government agencies, of a license application when, in its sole judgement, the circumstances justify emergency processing. See § 750.7(g) of the EAR for the limit on the validity period of emergency licenses.

[61 FR 12812, Mar. 25, 1996, as amended at 65 FR 42569, July 10, 2000; 70 FR 8249, Feb. 18, 2005; 70 FR 22249, Apr. 29, 2005; 73 FR 49330, Aug. 21, 2008; 79 FR 32626, June 5, 2014; 80 FR 51730, Aug. 26, 2015; 85 FR 73413, Nov. 18, 2020]

§ 748.5 Parties to the transaction.

The following parties may be entered on the application. The definitions, which also appear in part 772 of the EAR, are set out here for your convenience to assist you in filling out your application correctly.

(a) *Applicant.* The person who applies for an export or reexport license, and who has the authority of a principal party in interest to determine and control the export or reexport of items. See § 748.4(a) and definition of ''exporter'' in part 772 of the EAR.

(b) *Other party authorized to receive license.* The person authorized by the applicant to receive the license. If a person and address is listed in Block 15 of the application, the Bureau of Industry and Security will send the license to that person instead of the applicant. Designation of another party to receive

the license does not alter the responsibilities of the applicant, licensee or exporter.

(c) *Purchaser*. The person abroad who has entered into the transaction to purchase an item for delivery to the ultimate consignee. In most cases, the purchaser is not a bank, forwarding agent, or intermediary. The purchaser and ultimate consignee may be the same entity.

(d) *Intermediate consignee*. The person that acts as an agent for a principal party in interest and takes possession of the items for the purpose of effecting delivery of the items to the ultimate consignee. The intermediate consignee may be a bank, forwarding agent, or other person who acts as an agent for a principal party in interest.

(e) *Ultimate consignee*. The principal party in interest located abroad who receives the exported or reexported items. The ultimate consignee is not a forwarding agent or other intermediary, but may be the end-user.

(f) *End-user*. The person abroad that receives and ultimately uses the exported or reexported items. The end-user is not a forwarding agent or intermediary, but may be the purchaser or ultimate consignee.

[65 FR 42569, July 10, 2000, as amended at 73 FR 49330, Aug. 21, 2008]

§ 748.6 General instructions for license applications.

(a) *Instructions*. (1) General instructions for filling out license applications are in supplement no. 1 to this part.

(2) License applications may require additional information due to the type of items requested in the application or the characteristics of the transaction. Special instructions for applications requiring such additional information are listed in § 748.8 and described fully in supplement no. 2 to this part.

(3) License applications may also require additional information for evaluation of the parties in the transaction. Special instructions for applications requiring such additional information are listed in §§ 748.9 through 748.13.

(b) *Application Control Number*. Each application has an application control number.The Application Control Number, consisting of a letter followed by six digits, is for use by BIS when processing applications, and by applicants when communicating with BIS concerning pending applications. This number is used for tracking purposes within the U.S. Government. The Application Control Number is not a license number.

(c) *Approval or denial in entirety*. License applications may be approved in whole or in part, denied in whole or in part, or returned without action. However, you may specifically request that your license application be considered as a whole and either approved or denied in its entirety.

(d) *Combining items on license applications*. Any items may be combined on a single application, however, if the items differ dramatically (e.g., computers and shotguns) the number of BIS offices to which a license application may be referred for review may increase significantly. Accordingly, it is recommended that you limit items on each license application to those that are similar and/or related.

(e) *Attachments to applications*. Documents required to be submitted with applications filed via SNAP–R must be submitted as PDF files using the procedures described in SNAP–R. Documents required to be submitted with paper applications must bear the application control number to which they relate and, if applicable, be stapled to the paper form. Where necessary, BIS may require you to submit additional information beyond that stated in the EAR confirming or amplifying information contained in your license application.

(f) *Changes in facts*. Answers to all items on the license application will be deemed to be continuing representations of the existing facts or circumstances. Any material or substantive change in the terms of the order, or in the facts relating to the transaction, must be promptly reported to BIS, whether a license has been granted or the license application is still under consideration. If a license has been granted and such changes are not excepted in § 750.7(c) of the EAR, they must be reported immediately to BIS, even though shipments against the license may be partially or wholly

completed, during the validity period of the license.

(g) *Request for extended license validity period.* An extended validity period will generally be granted if your transaction is related to a multi-year project, when production lead time will not permit export or reexport during the normal validity period or for other similar circumstances. A continuing requirement to supply spare or replacement parts will not normally justify an extended validity period. To request an extended validity period, include justification for your request in Block 24 on the application.

[61 FR 12812, Mar. 25, 1996, as amended at 73 FR 49330, Aug. 21, 2008; 80 FR 13217, Mar. 13, 2015]

§ 748.7 Registering for electronic submission of license applications and related documents.

(a) *Scope.* This section describes the procedures for registering to submit electronic documents to BIS. The procedures in this section apply to submission of export and reexport license applications, classification requests, and License Exception AGR notifications.

(b) *Registration and use of BIS's Simplified Network Applications System—Redesign (SNAP–R).* Parties wishing to submit electronically must log on to *https://snapr.bis.doc.gov/registration* to register. Upon initial registration, the party (the filing entity) will have to supply the name of the entity that will be submitting documents electronically and its address and the name, telephone number, facsimile number and e-mail address of the person who will act as account administrator. The person will be required to certify that the information so supplied is correct and complete, that the person has authority to register the entity that will be making electronic submissions and that the person has authority to act as an account administrator for that entity.

(c) *Role of account administrator.* The account administrator is able to add and remove individual users to and from the account of the filing entity for which it is the account administrator. The account administrator can also make individual users account administrators and can terminate an individual user's administrator status. The account administrator can deactivate the account of an individual user and reactivate the account of a previously deactivated individual user. The account administrator can update the filing entity's identifying information such as name and address and any individual user's identifying information such as name, telephone number, facsimile number and e-mail address. The account administrator can reset individual users' passwords.

(d) *Role of individual users.* An individual user may submit to BIS export and reexport license applications, classification requests, and License Exception AGR notifications.

(e) *Effect of submission to BIS.* BIS may refuse to accept an electronic submission if it has reason to believe that the individual user making the submission lacks authority to do so. However, BIS is not obligated to conduct any checks to determine whether an individual user has the necessary authority and will generally treat users as acting within their authority. Acting through their account administrators, parties have the ability to remove an individual user when that individual user is no longer authorized to make submissions on behalf of that party to BIS and should do so promptly.

(f) *Requirement to keep identifying information accurate and current*—(1) *Filing entities.* Filing entities must, through their account administrators, update their identifying information such as name, address and telephone number in their SNAP–R account as necessary to keep that information accurate and current.

(2) *Individual users.* Individual users must, through their account administrators, update their identifying information such as name, telephone number, facsimile number and e-mail address in their SNAP–R accounts as necessary to keep that information accurate and current.

[76 FR 7105, Feb. 9, 2011, as amended at 80 FR 51730, Aug. 26, 2015; 81 FR 64676, Sept. 20, 2016; 81 FR 87426, Dec. 5, 2016]

§ 748.8 Unique application and submission requirements.

In addition to the instructions contained in supplement no. 1 to this part

748, you must also ensure that the additional requirements for certain items or types of transactions described in this section are addressed in your license application. See supplement no. 2 to this part 748 if your application involves:

(a) Chemicals, medicinals, and pharmaceuticals.

(b) Communications intercepting devices.

(c) Digital computers, telecommunications, and related equipment.

(d) U.S. person support activities that require a license under § 744.6.

(e) Intransit shipments through the United States.

(f) Intransit shipments outside of the United States.

(g) Nuclear Nonproliferation items and end-uses.

(h) Numerical control devices, motion control boards, numerically controlled machine tools, dimensional inspection machines, direct numerical control systems, specially designed assemblies and specially designed software.

(i) Parts, components, and materials incorporated abroad into foreign-made products.

(j) Ship stores, plane stores, supplies, and equipment.

(k) Regional stability controlled items.

(l) Reexports.

(m) Robots.

(n) Short Supply controlled items.

(o) Technology.

(p) Temporary exports or reexports.

(q) Exports of chemicals controlled for CW reasons by ECCN 1C350 to countries not listed in supplement no. 2 to part 745 of the EAR.

(r) Encryption classification requests.

(s) Exports of firearms and certain shotguns temporarily in the United States.

(t) ''600 Series Major Defense Equipment.''

(u) Aircraft and vessels on temporary sojourn.

(v) In-country transfers.

(w) License Exception STA eligibility requests for ''600 series'' end items.

(x) License application for a transaction involving a 9x515 and ''600 series'' item that is equivalent to a transaction previously approved under an ITAR license or other approval.

(y) Satellite exports.

(z) Firearms.

(aa) Affiliates rule entities.

[61 FR 12812, Mar. 25, 1996, as amended at 64 FR 27146, May 18, 1999; 69 FR 64489, Nov. 5, 2004; 70 FR 8249, Feb. 18, 2005; 70 FR 54629, Sept. 16, 2005; 75 FR 36500, June 25, 2010; 78 FR 22724, Apr. 16, 2013; 79 FR 27436, May 13, 2014; 80 FR 2290, Jan. 16, 2015; 81 FR 64676, Sept. 20, 2016; 88 FR 73496, Oct. 25, 2023; 89 FR 34706, Apr. 30, 2024; 90 FR 47214, Sept. 30, 2025]

EFFECTIVE DATE NOTE: At 90 FR 50857, Nov. 12, 2025, in § 748.8, paragraph (aa) was stayed, effective until Nov. 9, 2026.

§ 748.9 Support documents for evaluation of foreign parties in license applications and/or for promoting compliance with license requirements.

(a) *Scope.* License applicants may be required to obtain support documents concerning the foreign parties and the disposition of the items intended for export, reexport, or transfer (in-country). Some support documents are issued by foreign governments, while other support documents are signed and issued by the purchaser and/or ultimate consignee. For support documents issued by foreign governments, any foreign legal restrictions or obligations exercised by the government issuing the support document are in addition to the conditions and restrictions placed on the transaction by BIS. However, the laws and regulations of the United States are in no way modified, changed, or superseded by the issuance of a support document by a foreign government.

(b) *Requirements to obtain support documents for license applications.* Unless an exception in paragraph (c) of this section applies, a support document is required for certain license applications for:

(1) The People's Republic of China (PRC) other than the Hong Kong Special Administrative Region (see §§ 748.10 and 748.11(a)(2));

(2) ''600 Series Major Defense Equipment'' (see § 748.11);

(3) Firearms and related commodities to member countries of the Organization of American States (see § 748.12); and

(4) The Hong Kong Special Administrative Region of the People's Republic of China (*see* § 748.13).

NOTE 1 TO PARAGRAPH (b): On a case-by-case basis, BIS may require license applicants to obtain a support document for any license application.

NOTE 2 TO PARAGRAPH (b): For End-Use Certificate requirements under the Chemical Weapons Convention, see § 745.2 of the EAR.

(c) *Exceptions to requirements to obtain support documents.* (1) Even if a support document requirement is imposed by paragraph (b) of this section, no support document is required for any of the following situations:

(i) The ultimate consignee or purchaser is an ''Agency of the United States Government'' (see § 740.11(b)(1) for definition). If either the ultimate consignee or purchaser is not an agency of the United States government, however, a support document may still be required from the non-U.S. governmental party;

(ii) The ultimate consignee or purchaser is a foreign government(s) or foreign government agency(ies), other than the government of the People's Republic of China. To determine whether the parties in a transaction meet the definition of ''foreign government agency,'' refer to the definition contained in part 772 of the EAR. If either the ultimate consignee or purchaser is not a foreign government or foreign government agency, however, a support document may still be required from the nongovernmental party;

(iii) The license application is filed by, or on behalf of, a relief agency registered with the Advisory Committee on Voluntary Foreign Aid, U.S. Agency for International Development, for export to a member agency in the foreign country;

(iv) The license application is submitted for commodities for temporary exhibit, demonstration, or testing purposes;

(v) The license application is submitted for commodities controlled for short supply reasons (see part 754 of the EAR);

(vi) [Reserved]

(vii) The license application is submitted for software or technology; or

(viii) The license application is submitted for encryption commodities controlled under ECCN 5A002, 5A004 or 5B002.

(2) BIS will consider granting an exception to the requirement for obtaining a support document where the requirements cannot be met due to circumstances beyond the applicant's control. An exception will not be granted contrary to the objectives of the U.S. export control laws and regulations. Refer to § 748.13 of this part for specific instructions on procedures for requesting an exception.

(d) *Content of support documents.* In addition to specific requirements described for each support document in §§ 748.10, 748.11, and 748.12, the use and submission of support documents must comply with the following requirements.

(1) *English translation.* All abbreviations, coded terms, or other expressions on support documents having special significance in the trade or to the parties to the transaction must be explained on an attachment to the document. Documents in a language other than English must be accompanied by an attachment giving an accurate English translation, either made by a translating service or certified by the applicant to be correct. Explanations or translations should be provided on a separate piece of paper, and not entered on the support documents themselves.

(2) *Responsibility for full disclosure.* (i) The license application covering the transaction discloses all facts pertaining to the transaction. Information contained in a support document obtained after submission of a license application and not submitted to BIS as part of the application cannot be construed as extending or expanding or otherwise modifying the specific information supplied in a license application or license issued by BIS. The authorizations contained in the resulting license are not extended by information contained in the support document regarding reexport from the country of destination, transfer (in-country), or any other facts relative to the transaction that are not reported on the license application.

(ii) Misrepresentations, either through failure to disclose facts, concealing a material fact, or furnishing

false information, may subject responsible parties to administrative or criminal action by BIS.

(iii) In obtaining the required support document, the applicant is not relieved of the responsibility for full disclosure of any other information concerning the ultimate destination, end use, or end user of which the applicant knows, even if inconsistent with the representations made in the applicable support document. The applicant is responsible for promptly notifying BIS of any change in the facts contained in the support document that comes to the applicant's attention.

(e) *Procedures for using support document with license application*—(1) *Timing for obtaining support document.* When a support document is required for a license application in §§ 748.10, 748.11, and 748.12, license applicants may submit the application prior to receipt of a copy of the support document, unless BIS informs the applicant that the support document must be submitted with the application. However, if the license is granted, items authorized on the license may not be exported, reexported, or transferred (in-country) until the license holder obtains a copy of the support document. The documents issued by the Government of the Hong Kong Special Administrative region that are required pursuant to § 748.13 are not used to evaluate license applications. They must be obtained before shipment and need not be obtained before submitting a license application.

(2) *Information necessary for license application.* When a support document is required for a license application, applicants should mark the appropriate box in Block 7, regardless of whether a copy of the support document is on file with the applicant at the time of submission.

(f) *Recordkeeping provisions.* License applicants must retain on file the original or a copy of any support document issued in support of a license application submitted to BIS. All recordkeeping provisions in part 762 of the EAR apply to this requirement.

(g) *Effect on license application review.* BIS reserves the right in all respects to determine to what extent any license will be issued covering items for which a support document has been issued. If a support document was issued by a foreign government, BIS will not seek or undertake to give consideration to recommendations from the foreign government as to the action to be taken on a license application. A support document will be only one of the factors upon which BIS will base its licensing action, since end uses and other considerations are important factors in the decision making process.

(h) *Grace period for complying with requirements following regulatory change.* (1) Whenever the requirement for a PRC End-User Statement, Statement by Ultimate Consignee or Purchaser, or Firearms Convention Import Certificate is imposed or extended by a change in the regulations, the license application need not conform to the new support documentation requirements for a period of 45 days after the effective date of the regulatory change published in the FEDERAL REGISTER.

(2) License applications filed during the 45-day grace period may require the submission of evidence available to the applicant that will support representations concerning the ultimate consignee, ultimate destination, and end use, such as copies of the order, letters of credit, correspondence between the applicant and ultimate consignee, or other documents received from the ultimate consignee. If such evidence is required, applicants must also identify the regulatory change (including its effective date) that justifies exercise of the 45-day grace period.

[80 FR 13217, Mar. 13, 2015, as amended at 80 FR 51730, Aug. 26, 2015; 81 FR 64676, Sept. 20, 2016; 82 FR 6218, Jan. 19, 2017]

§ 748.10 People's Republic of China (PRC) End-User Statement.

(a) *Requirement to obtain document.* Unless the provisions of § 748.9(c) or § 748.11(a)(2) apply, a PRC End-User Statement is required for license applications including any of the following commodities destined for the PRC:

(1) Cameras classified under ECCN 6A003 requiring a license to the PRC for any reason, and the value of such cameras exceeds $5,000;

(2) Computers requiring a license to the PRC for any reason, regardless of the value of the computers; or

(3) Any commodity(ies) requiring a license to the PRC for any reason on the Commerce Control List, and the total value of such commodity(ies) requiring a license exceeds $50,000.

NOTE 1 TO PARAGRAPH (a): If an order meets the commodity(ies) and value requirements listed above, then a PRC End-User Statement is required. An order may not be split into multiple license applications solely to avoid a requirement to obtain a PRC End-User Statement.

NOTE 2 TO PARAGRAPH (a): If an order includes both items that do require a license to the PRC and items that do not require a license to the PRC, the value of the latter items should not be factored into the value thresholds described above. Also, if a license application includes 6A003 cameras and other items requiring a license to the PRC, then the value of the 6A003 cameras should be factored into the value threshold described in paragraph (a)(3).

NOTE 3 TO PARAGRAPH (a): See §748.11(a)(2) for permissive use of a Statement by Ultimate Consignee and Purchaser in place of a PRC End-User Statement.

NOTE 4 TO PARAGRAPH (a): On a case-by-case basis, BIS may require license applicants to obtain a PRC End-User Statement for a license application that would not otherwise require a PRC End-User Statement under the requirements of paragraph (a) of this section.

NOTE 5 TO PARAGRAPH (a): This requirement to obtain an end-user statement from the PRC Ministry of Commerce does not apply to transactions destined to the PRC Special Administrative Region of Hong Kong.

(b) *Obtaining the document.* (1) If a PRC End-User Statement is required for any reason under paragraph (a) of this section, then applicants must request that the importer obtain a PRC End-User Statement for all items on a license application that require a license to the PRC for any reason listed on the CCL.

(2) PRC End-User Statements are issued and administered by the Ministry of Commerce; Department of Mechanic, Electronic and High Technology Industries; Export Control Division I; Chang An Jie No. 2; Beijing 100731 China; Phone: (86)(10) 6519 7366 or 6519 7390; Fax: (86)(10) 6519 7543; *http://zzyhzm.mofcom.gov.cn/.* See the BIS Web site (*www.bis.doc.gov*) for the current contact information.

(c) *Content of the document.* (1) The license applicant's name must appear on the PRC End-User Statement submitted to BIS as the applicant, supplier, or order party.

(2) License applicants must ensure that the following information is included on the PRC End-User Statement signed by an official of the Department of Mechanic, Electronic and High Technology Industries, Export Control Division I, of the PRC Ministry of Commerce (MOFCOM), with MOFCOM's seal affixed to it:

(i) Title of contract and contract number (optional);

(ii) Names of importer and exporter;

(iii) End user and end use;

(iv) Description of the commodity, quantity and dollar value; and

(v) Signature of the importer and date.

NOTE TO PARAGRAPH (c): The license applicant should furnish the consignee with the commodity description contained in the CCL to be used in applying for the PRC End-User Statement. It is also advisable to furnish a manufacturer's catalog, brochure, or technical specifications if the commodity is new.

(d) *Procedures for using document with license application*—(1) *Using a PRC End-User Statement for multiple applications.* A PRC End-User Statement may cover more than one purchase order and more than one item. Where the Statement includes items for which more than one license application will be submitted, the applicant should ensure that the total quantities on the license application(s) do not exceed the total quantities shown on the PRC End-User Statement.

(2) *Alterations.* After a PRC End-User Statement is issued by the Government of the People's Republic of China, no corrections, additions, or alterations may be made on the certificate by any person. Any necessary corrections, additions, or alterations should be noted by the applicant in a separate statement on file with the applicant.

(3) *Validity period.* A PRC End-User Statement is valid until the quantities of items identified on the Statement have been shipped.

[80 FR 13218, Mar. 13, 2015, as amended at 85 FR 83792, Dec. 23, 2020]

§ 748.11 Statement by Ultimate Consignee and Purchaser.

(a) *Requirement to obtain document*—(1) *General requirement for all countries*

excluding the People's Republic of China (PRC). Unless an exception in § 748.9(c) or paragraph (a)(3) of this section applies, a Statement by Ultimate Consignee and Purchaser is required if the license application includes ''600 Series Major Defense Equipment'' (600 series MDE) requiring a license for any reason on the Commerce Control List and such items are destined for a country other than the PRC.

(2) *Permissive substitute of Statement by Ultimate Consignee and Purchaser in place of PRC End-User Statement.* The requirement to obtain a support document for license applications involving the PRC is generally determined by § 748.10(a) of the EAR. However, a Statement by Ultimate Consignee and Purchaser may be substituted in place of a PRC End-User Statement when the commodities to be exported (*i.e.*, replacement parts and components) are valued at $75,000 or less and are for servicing previously exported commodities.

(3) *Exception to general requirement.* The general requirement described in paragraph (a)(1) of this section does not apply if the applicant is the same person as the ultimate consignee, provided the required statements are contained in Block 24 on the license application. This exemption does not apply, however, where the applicant and consignee are separate entities, such as parent and subsidiary, or affiliated or associated firms.

NOTE 1 TO PARAGRAPH (a): An order may not be split into multiple license applications solely to avoid a requirement to obtain a Statement by Ultimate Consignee and Purchaser.

NOTE 2 TO PARAGRAPH (a): On a case-by-case basis, BIS may require license applicants to obtain a Statement by Ultimate Consignee and Purchaser for a license application that would not otherwise require a Statement by Ultimate Consignee and Purchaser under the requirements of paragraph (a) of this section.

(b) *Obtaining the document.* (1) The ultimate consignee and purchaser must complete either a statement on company letterhead, or Form BIS–711, Statement by Ultimate Consignee and Purchaser, as described in paragraph (c) of this section. Unless otherwise specified, any reference in this section to ''Statement by Ultimate Consignee and Purchaser'' applies to both the statement on company letterhead and to Form BIS–711.

(2) If the consignee and purchaser elect to complete the statement on letterhead and both the ultimate consignee and purchaser are the same entity, only one statement is necessary.

(3) If the ultimate consignee and purchaser are separate entities, separate statements must be prepared and signed.

(4) If the ultimate consignee and purchaser elect to complete Form BIS–711, only one Form BIS–711 (containing the signatures of the ultimate consignee and purchaser) need be completed.

(5) Whether the ultimate consignee and purchaser sign a written statement or complete Form BIS–711, the following constraints apply:

(i) Responsible officials representing the ultimate consignee or purchaser must sign the statement. ''Responsible official'' is defined as someone with personal knowledge of the information included in the statement, and authority to bind the ultimate consignee or purchaser for whom they sign, and who has the power and authority to control the use and disposition of the licensed items.

(ii) The authority to sign the statement may not be delegated to any person (agent, employee, or other) whose authority to sign is not inherent in his or her official position with the ultimate consignee or purchaser for whom he or she signs. The signing official may be located in the United States or in a foreign country. The official title of the person signing the statement must also be included.

(iii) The consignee and/or purchaser must submit information that is true and correct to the best of their knowledge and must promptly send a new statement to the applicant if changes in the facts or intentions contained in their statement(s) occur after the statement(s) have been forwarded to the applicant. Once a statement has been signed, no corrections, additions, or alterations may be made. If a signed statement is incomplete or incorrect in any respect, a new statement must be prepared, signed and forwarded to the applicant.

(c) *Content of the document.* See supplement no. 3 to this part for the information necessary to complete a statement on company letterhead or on Form BIS–711.

(d) *Procedures for using document with license application*—(1) *Validity period.* (i) If a Statement by Ultimate Consignee and Purchaser is obtained prior to submission of the license application and the Statement is required to support one or more license applications, an applicant must submit the first license application within one year from the date the statement was signed.

(ii) All subsequent license applications supported by the same Statement by Ultimate Consignee and Purchaser must be submitted within four years of signature by the consignee or purchaser, whichever was last.

(2) [Reserved]

[80 FR 13219, Mar. 13, 2015]

§ 748.12 Firearms import certificate or import permit.

License applications for certain firearms and related commodities require support documents in accordance with this section. For destinations that are members of the Organization of American States (OAS), an FC Import Certificate, equivalent official document, or the electronic equivalent document officially issued by the foreign government is required in accordance with paragraphs (a) through (d) of this section. For other destinations that require a firearms import certificate or permit, the firearms import certificate or permit is required in accordance with paragraph (e) of this section.

(a) *Requirement to obtain and submit documentation for OAS member states.* Unless an exception in § 748.9(c) applies, an FC Import Certificate is required for license applications for firearms and related commodities, regardless of value, that are destined for member countries of the OAS. This requirement is consistent with the OAS Model Regulations described in § 742.17 of the EAR.

(1) *Items subject to requirement.* Firearms and related commodities are those commodities controlled for ''FC Column 1'' reasons under 0x5zz ECCNs.

(2) *Countries subject to requirement.* (i) OAS member countries include: Antigua and Barbuda, Argentina, Bahamas, Barbados, Belize, Bolivia, Brazil, Canada, Chile, Colombia, Costa Rica, Dominica, Dominican Republic, Ecuador, El Salvador, Grenada, Guatemala, Guyana, Haiti, Honduras, Jamaica, Mexico, Nicaragua, Panama, Paraguay, Peru, Saint Kitts and Nevis, Saint Lucia, Saint Vincent and the Grenadines, Suriname, Trinidad and Tobago, Uruguay, Venezuela, and any member country that has acceded in accordance with Chapter III of the Charter of the Organization of American States.

(ii) [Reserved]

(3) *Equivalent official document in place of an FC Import Certificate.* For those OAS member countries that have not yet established or implemented an FC Import Certificate procedure, BIS will accept an equivalent official document (*e.g.*, import license or letter of authorization) issued by the government of the importing country as supporting documentation for the export of firearms and related commodities.

(b) *Obtaining the document.* (1) Applicants must request that the importer (*e.g.*, ultimate consignee or purchaser) obtain the FC Import Certificate or an equivalent official document from the government of the importing country, and that it be issued covering the quantities and types of items that the applicant intends to export. Upon receipt of the FC Import Certificate, its official equivalent, or a copy, the importer must provide the original, official equivalent, or a certified copy to the license applicant.

(2) If the government of the importing country will not issue an FC Import Certificate or its official equivalent, the applicant must supply the information described in paragraphs (c)(1) and (c)(6) through (c)(8) of this section on company letterhead.

(c) *Content of the document.* The FC Import Certificate or its official equivalent must contain, as applicable, the following information:

(1) Applicant's name and address. The applicant may be either the exporter, supplier, or order party.

(2) FC Import Certificate Identifier/Number.

(3) Name of the country issuing the certificate or unique country code.

(4) Date the document was issued, in international date format (*e.g.*, 24/12/12 for 24 December 2012, or 3/1/99 for 3 January 1999).

(5) Name of the agency issuing the certificate, address, telephone and facsimile numbers, signing officer name, and signature.

(6) Name of the importer, address, telephone and facsimile numbers, country of residence, representative's name if commercial or government body, citizenship, and signature.

(7) Name of the end user(s), if known and different from the importer, address, telephone and facsimile numbers, country of residence, representative's name if commercial (authorized distributor or reseller) or government body, citizenship, and signature. Note that BIS does not require the identification of each end user when the firearms and related commodities will be resold by a distributor or reseller if unknown at the time of export.

(8) Description of the commodities approved for import including a technical description and total quantity of firearms, parts and components, ammunition and parts.

NOTE 1 TO PARAGRAPH (c)(8): You must furnish the consignee with a detailed technical description of each commodity to be given to the government for its use in issuing the FC Import Certificate. For example, for shotguns, provide the type, barrel length, overall length, number of shots, the manufacturer's name, and the country of manufacture. For ammunition, provide the caliber, velocity and force, type of bullet, manufacturer's name and country of manufacture.

(9) Expiration date of the FC Import Certificate in international date format (*e.g.*, 24/12/12) or the date the items must be imported, whichever is earlier.

(10) Name of the country of export (*i.e.*, United States).

(11) Additional information. Certain countries may require the tariff classification number, by class, under the Brussels Convention (Harmonized Tariff Code) or the specific technical description of a commodity. For example, shotguns may need to be described in barrel length, overall length, number of shots, manufacturer's name and country of manufacture. The technical description is not the Export Control Classification Number (ECCN).

(d) *Procedures for using document with license application*—(1) *Information necessary for license application.* The license application must include the same commodities as those listed on the FC Import Certificate or the equivalent official document.

(2) *Alterations.* After an FC Import Certificate or equivalent official document is used to support the issuance of a license, no corrections, additions, or alterations may be made on the FC Import Certificate by any person. Any necessary corrections, additions, or alterations should be noted by the applicant in a separate statement on file with the applicant.

(3) *Validity period.* FC Import Certificates or equivalent official documents issued by an OAS member country will be valid until the expiration date on the document or for a period of four years, whichever is shorter.

NOTE 2 TO PARAGRAPH (d)(3): Applicants for license applications for exports and reexports to an OAS member country must submit the initial FC Import Certificate with the license application. All BIS licenses for ECCNs 0A501, 0A505, 0A506, 0A507, and 0A509 except for 0A509.a for items for ECCN 0A502 or ECCN 0A508, and 0A509.d commodities will include a standard rider that requires that the applicant/exporter must have a current FC Import Certificate on file prior to export. While FC Import Certificates are usually valid for 1 year, BIS licenses are generally valid for 4 years. The text of the standard rider will generally be as follows: ''A current, complete, accurate and valid Firearms Convention (FC) Import Certificate (or equivalent official document) shall be obtained, if required by the government of the importing country, from the Ultimate Consignee and maintained in the exporter's file prior to any export of the item(s) listed on this license. A copy shall be provided to the U.S. Government upon request. (Refer to §742.17(b) of the EAR for guidance.)''

(e) *Requirement to obtain an import certificate or permit for other than OAS member states.* If the country to which firearms, parts, components, accessories, and attachments controlled under ECCN 0A501, or ammunition controlled under ECCN 0A505, are being exported or reexported requires that a government-issued certificate or permit be obtained prior to importing the commodity, the exporter or reexporter must obtain and retain on file the

original or a copy of that certificate or permit before applying for an export or reexport license unless:

(1) A license is not required for the export or reexport; or

(2) The exporter is required to obtain an import or end-user certificate or other equivalent official document pursuant to paragraphs (a) thorough (d) of this section and has, in fact, complied with that requirement.

(3)(i) The number or other identifying information of the import certificate or permit must be stated on the license application.

(ii) If the country to which the commodities are being exported does not require an import certificate or permit for firearms imports, that fact must be noted on any license application for ECCN 0A501 or 0A505 commodities.

NOTE 3 TO PARAGRAPH (e)(3): Applicants for license applications for exports and reexports to countries requiring that a government-issued certificate or permit be obtained prior to importing the commodity must have the initial government-issued certificate or permit prior to any export. All BIS licenses for ECCNs 0A501 and 0A505 commodities will include a standard rider that requires that the applicant/exporter have a government-issued certificate or permit on file prior to export. Note that while government-issued certificates or permits are usually valid for 1 year, BIS licenses are valid for 4 years. The text of the standard rider will generally be as follows: ''A current, complete, accurate and valid Firearms Convention (FC) Import Certificate (or equivalent official document) shall be obtained, if required by the government of the importing country, from the Ultimate Consignee and maintained in the Exporter's file prior to any export of the item(s) listed on this license. A copy shall be provided to the U.S. Government upon request. (Refer to §742.17(b) of the EAR for guidance.)''

NOTE 4 TO PARAGRAPH (e)(3): Obtaining a BIS Statement by Ultimate Consignee and Purchaser pursuant to §748.11 does not exempt the exporter or reexporter from the requirement to obtain a certification pursuant to paragraph (a) of this section because that statement is not issued by a government.

[80 FR 13219, Mar. 13, 2015, as amended at 85 FR 4177, Jan. 23, 2020; 86 FR 46594, Aug. 19, 2021; 89 FR 34706, Apr. 30, 2024; 90 FR 47193, Sept. 30, 2025]

§ 748.13 Hong Kong import and export licenses.

(a) *Requirement to obtain the document*—(1) *Exports and reexports to Hong Kong*. An exporter or reexporter must obtain the documents described in paragraph (a)(1)(i) or (a)(1)(ii) of this section before using a license issued by BIS to export or reexport to Hong Kong any item subject to the EAR and controlled on the CCL for NS, MT, NP column 1, or CB reasons. Collectively, the documents issued by Hong Kong must cover all of the items to be exported or reexported pursuant to a license.

(i) A copy of an import license issued to the Hong Kong importer by the Government of the Hong Kong Special Administrative Region, pursuant to the Hong Kong Import and Export (Strategic Commodities) Regulations, that covers the items to be exported or reexported pursuant to that BIS license for which a Hong Kong import license is required and that is valid on the date of the export or reexport that is subject to the EAR; or

(ii) A copy of a written statement issued by the Government of the Hong Kong Special Administrative Region that no import license is required to import into Hong Kong the item(s) to be exported or reexported to Hong Kong. The statement may have been issued directly to the Hong Kong importer or it may be a written statement available to the general public. The statement may be used for more than one export or reexport to Hong Kong so long as it remains an accurate statement of Hong Kong law.

(2) *Reexports from Hong Kong*. No license issued by BIS may be used to reexport from Hong Kong any item subject to the EAR controlled on the CCL for NS, MT, NP column 1, and/or CB reasons unless the reexporter has received either:

(i) An export license issued by the Government of the Hong Kong Special Administrative Region, pursuant to the Hong Kong Import and Export (Strategic Commodities) Regulations, that covers all items to be rexported pursuant to that BIS license for which a Hong Kong export license is required and that is valid on the date of the reexport that is subject to the EAR; or

(ii) A copy of a written statement issued by the Government of the Hong Kong Special Administrative Region that no export license is required from Hong Kong for the item(s) to be reexported. The statement may have been issued directly to the Hong Kong reexporter or it may be a written statement available to the general public. The statement may be used for more than one reexport from Hong Kong so long as it remains an accurate statement of Hong Kong law.

(b) *Recordkeeping*. The documents required to be obtained by paragraph (a) of this section must be retained and made available to the U.S. Government upon request in accordance with part 762 of the EAR.

[82 FR 6218, Jan. 19, 2017]

§ 748.14 Granting of exceptions to the support documentation requirements.

(a) *Overview*. A request for an exception to obtaining the required support documentation will be considered by BIS; however, an exception will not be granted contrary to the objectives of the U.S. export control program. A request for exception may involve either a single transaction or, where the reason necessitating the request is continuing in nature, multiple transactions. If satisfied by the evidence presented, BIS may waive the support document requirement and accept the license application for processing.

(b) *Procedure for requesting an exception*. The request for an exception must be submitted with the license application to which the request relates, and the reason(s) for requesting the exception must be described in Block 24 or referred to in Block 24. Where the request relates to more than one license application, it should be submitted with the first license application and referred to in Block 24 on any subsequent license application.

(c) *Action by BIS*—(1) *Single transaction request*. Where a single transaction is involved, BIS will act on the request for exception at the same time as the license application with which the request is submitted. In those instances where the related license application is approved, the issuance of the license will serve as an automatic notice to the applicant that the exception was approved. If any restrictions are placed on granting of the exception, these will appear on the approval. If the request for exception is not approved, BIS will advise the applicant.

(2) *Multiple transactions request*. Where multiple transactions are involved, BIS will advise the applicant of the action taken on the exception request. The response from BIS will contain any conditions or restrictions that BIS finds necessary to impose (including an exception termination date if appropriate). In addition, a written acceptance of these conditions or restrictions may be required from the parties to the transaction.

[80 FR 13220, Mar. 13, 2015. Redesignated at 82 FR 6218, Jan. 19, 2017]

§ 748.15 Authorization Validated End-User (VEU).

Validated end-users (VEU) are those who have been previously approved by BIS pursuant to the requirements of this section. To be eligible for authorization VEU, exporters, reexporters, and validated end-user applicants must adhere to the conditions and restrictions set forth in paragraphs (a) through (f) of this section. If a request for VEU Authorization for a particular end-user is not granted, no new license requirement is triggered. In addition, such a result does not render the end user ineligible for license approvals from BIS. There are two types of VEU authorization: General VEU Authorization and Data Center VEU Authorization. General VEU Authorizations permit the export, reexport, and transfer to validated end-users of any eligible items that will be used in a specific eligible destination. Data Center VEU Authorizations permit the export and reexport to validated end-users of any eligible items that will be used in specific data centers. A data center is a facility or ''facilities'' that house a multi-racked, networked computer system that include servers, storage devices, and networking equipment. Data Center VEU Authorizations may be either universal or national authorizations.

(a)(1) *Eligible end-users for General VEU Authorizations and Data Center VEU Authorizations*. The only end users

to whom eligible items may be exported, reexported, or transferred under a General VEU Authorization or a Data Center VEU Authorization are those validated end-users identified in supplement no. 7 to this part. Those entities were added as VEUs according to the provisions in this section and supplement nos. 8 and 9 to this part.

(2) *Requests for authorizations*—(i) *Advisory opinion.* To apply for a General VEU Authorization or Data Center VEU Authorization, requests for authorization must be submitted in the form of an advisory opinion request, as described in §748.3(c), and must include a list of items (except as excluded by paragraph (c) of this section), identified by ECCN, intended for export, reexport, or transfer (in-country) to an eligible end-user, once approved.

(ii) *Applications for Universal VEU (UVEU) Authorization*—(A) *Application Overview.* A UVEU authorization should be submitted by the owner of the advanced computing ICs. To qualify for UVEU authorization, the owner of the advanced computing ICs must certify that it will follow the guidelines in supplement no. 10 to this part. The owner of the advanced compute must certify that it will follow the guidelines in paragraphs 14, 15, and 18 of supplement no. 10 to this part on or before January 15, 2026. If the owner of the advanced computing ICs cannot certify to all of the guidelines in supplement no. 10 to this part, it must notify BIS in its application of the other entities involved in its operations. The applicant must also provide signed certifications from such entities as set forth in supplement no. 10 to this part. For UVEUs, if the operator of the advanced compute is different from the owner of the advanced compute, the operator must itself have an Authorization UVEU. As appropriate, BIS will adjudicate complete UVEU applications within 30 days of receipt. A UVEU will need to file a notification with BIS when building a datacenter in a new location 180 days before any exports, reexports, or transfers (in-country) to the new datacenter. The notification should include the physical address of the new data center location. BIS will use this information to update the eligible destination column in the validated end user list in supplement no. 7 to this part. The UVEU may choose whether to list a corporate address or a physical address of the new data center location. The UVEU may furnish its BIS authorization letter as proof of its authorization to receive exports, reexports, or transfers (in-country) prior to the publication of an amendment to supplement no. 7 to this part that includes a physical address, or where supplement no. 7 includes a corporate address but not a physical address. No other requirements may be placed on the UVEU beyond those described in supplement no. 10 to this part as a condition for granting the original UVEU application.

(B) *UVEU Compute Geographic Allocations.* UVEUs will be subject to the geographic allocations identified in paragraph 6 or supplement no. 10 to this part.

(iii) *Applications for National VEU (NVEU) Authorization*—(A) *Application Overview.* The NVEU Authorization will allow an entity to receive exports and reexports in a specific country as specified in their NVEU authorization. For every additional country in which the NVEU wants to operate, the owner of the advanced compute must obtain a separate NVEU authorization. To qualify for NVEU authorization, the owner of the advanced computing ICs must adhere to guidelines provided in supplement no. 10 to this part but, depending on its location and the national security and foreign policy risks associated with that location, may be subject to other requirements. The owner of the advanced compute must certify that it will follow the guidelines in paragraphs 14, 15, and 18 of supplement no. 10 to this part on or before January 15, 2026. If the owner of the advanced computing ICs cannot certify to all of the guidelines in supplement no. 10 to this part, it must notify BIS in its application of the other entities involved in its operations. Applicants must provide written assurances from those other entities consistent with supplement no. 10 to this part during the application review process. Government-to-Government assurances between the United States and the government of the country in which the NVEU wishes to operate may be sought before a

NVEU is granted. Where multiple entities will own and operate the NVEU they should submit a joint application. For NVEUs, if the operator of the advanced compute is different from the owner of the advanced compute, the operator must itself have its own Authorization NVEU. After receiving NVEU Authorization, the NVEU will be listed as such in supplement no. 7 to this part. The NVEU may inform BIS if it prefers that supplement no. 7 list a corporate address or a physical address of the new data center location. Once approved for Authorization NVEU by BIS, the NVEU may furnish its BIS authorization letter that includes physical addresses as proof of its authorization to receive exports, reexports, or transfers (in-country) prior to the publication of an amendment to supplement no. 7 that includes a physical address, or where supplement no. 7 includes a corporate address but not a physical address.

(B) *NVEU TPP Allocation*. NVEUs will be subject to a per-NVEU per-country installed base allocation of total processing performance (TPP), as measured by the collective computing power of items subject to ECCNs 3A090.a, 4A090.a, or corresponding .z paragraphs, as provided below:

TABLE 1 TO PARAGRAPH (a)(2)(iii)(B)

Quarter	Cumulative per-company per-country allocation in TPP
2025 Q1	633,000,000
2025 Q2	949,500,000
2025 Q3	1,266,000,000
2025 Q4	1,582,500,000
2026 Q1	1,899,000,000
2026 Q2	2,690,250,000
2026 Q3	3,481,500,000
2026 Q4	4,272,750,000
2027 Q1–4	5,064,000,000

These TPP allocations represent permitted cumulative installed base during a given quarter, not newly available TPP in addition to previous-quarter installed bases, and do not count towards or impact country allocations. Advanced computing ICs that suffer attrition due to factors such as loss, damage, failure, relocation, and resale do not count toward allocations.

(iv) *Information to include and address for submissions*. To ensure a thorough review, applications for Authorization VEU must include the information described in supplement no. 8 to this part. Applications for UVEU and NVEU should also include information demonstrating that the applicant can adhere to the guidelines described in supplement no. 10 to this part. Requests for authorization will be accepted from exporters, reexporters, or end users. Submit the request to: The Office of Exporter Services, Bureau of Industry and Security, U.S. Department of Commerce, 14th Street and Pennsylvania Avenue NW, Room 2099B, Washington, DC 20230. Mark the package ''Request for [insert ''General,'' ''Data Center—Universal,'' or ''Data Center—National'' as appropriate] Authorization Validated End-user.''

(3) *Conditions and Restrictions*. In evaluating an end user for eligibility under authorization VEU, the ERC will consider a range of information, including but not limited to such factors as: the end user's record of exclusive engagement in appropriate end-use activities; the end user's compliance with U.S. export controls; the need for an on-site review prior to approval; the end user's capability of complying with the requirements of authorization VEU, the ability of the end user to guard against both the misuse and diversion of computing resources; the end user's technology roadmap; the end user's technology control plan; the end user's agreement to on-site reviews by representatives of the U.S. Government to ensure adherence to the conditions of the VEU authorization; and the end user's relationships with U.S. and foreign companies. In addition, when evaluating the eligibility of an end user, the ERC will consider the status of the eligible destination country's export controls and the support and adherence to multilateral export control regimes of the government of the eligible destination.

(4) *VEU Status*. The VEU authorization is subject to revision, suspension, or revocation entirely or in part.

(5) *Continuing Representations*. Information submitted in a VEU request is

deemed to constitute continuing representations of existing facts or circumstances. Any material or substantive change relating to the authorization must be promptly reported to BIS, whether VEU authorization has been granted or is still under consideration.

(b) *Eligible destinations*—(1) *General VEU Authorizations.* General VEU Authorizations may be used for the following destinations:

(i) The People's Republic of China.

(ii) India.

(2) *Data Center VEU Authorizations.* (i) UVEU must be headquartered in, or have their ultimate parent company headquartered in, destinations listed in paragraph (a) of Supplement No. 5 to Part 740, and UVEU data centers may be located anywhere, except in Macau or destinations specified in Country Group D:5.

(ii) NVEU may be headquartered, have an ultimate parent headquartered, or located in a destination specified in Country Groups A, B, or D:1–D:4, except Macau or destinations specified in Country Group D:5. NVEU data centers can be built around the world, except in Macau or destinations specified in Country Group D:5.

(c) *Item restrictions.* (1) Items controlled under the EAR for missile technology (MT) and crime control (CC) reasons may not be exported or reexported under General or Data Center VEU Authorizations.

(2) Eligible items for Data Center VEU Authorizations are all those items on the Commerce Control List, that require a license to the destination excluding ''600 series'' items, and are necessary for a data center.

(d) *End-use restrictions*—(1) *General VEU Authorizations.* Items obtained under General VEU Authorizations in China may be used only for civil end uses and may not be used for any activities described in part 744 of the EAR. The restrictions of §§ 744.6(c)(2)(i) through (iii) and 744.23(a)(1) and (a)(2) of the EAR do not apply to VEUs identified in supplement no. 7 to part 748 as excluded from §§ 744.6(c)(2)(i) through (iii) and 744.23(a)(1) and (a)(2) of the EAR. Items obtained under General VEU Authorizations in India may be used for either civil or military end uses and may not be used for any activities described in part 744 of the EAR. Exports, reexports, or transfers made under authorization VEU may be made to an end user listed in supplement no. 7 to this part only if the items will be consigned to and for use by the validated end user. Eligible end-users who obtain items under VEU may only:

(i) Use such items at the end-user's own facility located in an eligible destination or at a facility located in an eligible destination over which the end-user demonstrates effective control;

(ii) Consume such items during use; or

(iii) Transfer or reexport such items only as authorized by BIS.

(2) *Data Center VEU Authorizations.* Items obtained under Data Center VEU Authorizations may not be used for any activities described in part 744 of the EAR. Eligible validated end users who obtain items under VEU may only:

(i) Use such items at the end user's own facility located in an authorized destination;

(ii) Consume such items during use; or

(iii) In-country transfers and reexports are not permitted under Data Center VEU Authorization unless the transfer (in-country) or reexport is to a VEU authorized location by the same VEU or a separate authorization is obtained.

NOTE 1 TO PARAGRAPH (d): Authorizations set forth in supplement no. 7 to this part are country-specific. Authorization as a validated end-user for one country specified in paragraph (b) of this section does not constitute authorization as a validated end-user for any other country specified in that paragraph.

(e) *Certification and recordkeeping.* Prior to an initial export or reexport to a validated end-user under General or Data Center VEU Authorization, exporters or reexporters must obtain certifications from the validated end-user regarding end-use and compliance with VEU requirements. Such certifications must include the contents set forth in supplement no. 8 to this part. Certifications and all records relating to VEU

must be retained by exporters or reexporters in accordance with the recordkeeping requirements set forth in part 762 of the EAR.

(f) *Reporting and review requirements*—(1) *Reports*—(i) *Reexport Information Required for both types of VEU authorizations.* Reexporters who make use of General VEU Authorizations are required to submit annual reports to BIS. Reexporters who make use of Data Center VEU Authorizations are required to submit semi-annual reports to BIS. For either authorization, reexporters must include, for each validated end user to whom the exporter or reexporter exported or reexported eligible items:

(A) The name and address of each validated end-user to whom eligible items were reexported;

(B) The eligible destination to which the items were reexported;

(C) The quantity of such items;

(D) The value of such items; and

(E) The ECCN(s) of such items.

(ii) *End user reports for Data Center VEU Authorizations.* End users who make use of Data Center VEU Authorizations must submit reports to BIS semi-annually. End users must submit the following information, including, as appropriate:

(A) A record of current inventory of eligible items received;

(B) Dates of when eligible items were received; and

(C) For NVEUs, a list of current customers.

(iii) *Deadlines.* For reexporters making use of General VEU Authorization, reports are due by February 15 of each year, and must cover the period from January 1 through December 31 of the prior year. For reexporters and end users making use of Data Center VEU Authorization, reports are due semi-annually:

(A) The first report is due July 15 of each year and must cover the period from January 1 through June 30;

(B) The second report is due January 15 of each year and must cover the period from July 1 to December 31 of the previous year.

(iv) *Addresses.* Reports must be sent to: Office of Exporter Services, Bureau of Industry and Security, U.S. Department of Commerce, 14th Street and Constitution Avenue NW, Room 2099B, Washington, DC 20230. Mark the package ''General Authorization Validated End-User Report'' or ''Data Center Authorization Validated End-user Report.''

(2) *Reviews.* Records related to activities covered by General or Data Center VEU Authorizations that are maintained by exporters, reexporters, transferors, and VEU will be reviewed on a periodic basis. Upon request by BIS, exporters, reexporters, transferors, and validated end-users must allow review of records, including on-site reviews covering the information set forth in paragraphs (e) and (f)(1) of this section.

(g) *Notification requirement.* Exporters and reexporters shipping under General or Data Center VEU Authorizations and persons transferring (in-country) under General VEU Authorization are required to provide the VEUs to which they are shipping or transferring notice of the shipment or transfer. Such notification must be conveyed to the VEU in writing and must include a list of the VEU-authorized contents of the shipment or transfer and a list of the ECCNs under which the VEU-authorized items in the shipment or transfer are classified, as well as a statement that the items are being, will be, or were shipped or transferred pursuant to relevant VEU Authorization. Notification of the export, reexport or transfer (in-country) to the VEU must be made within a timeframe agreed to in writing by the VEU and the person exporting, reexporting or transferring (in-country). The VEU and the person exporting, reexporting or transferring (in-country) must agree to the notification timeframe prior to the initial shipment or transfer under the VEU Authorizations. Depending on the agreement between the VEU and the person exporting, reexporting or transferring (in-country), a notification may be for individual shipments or for multiple shipments. Exporters, reexporters and VEUs are required to maintain the notifications they send or receive in accordance with their recordkeeping requirements.

(h) *Termination of Conditions on VEU Authorizations.* VEUs that are subject to item-specific conditions and have received items subject to such conditions

under General or Data Center VEU Authorizations are no longer bound by the conditions associated with the items if the items no longer require a license for export or reexport to the PRC, India, or data center location, as applicable, or become eligible for shipment under a license exception to the destination. Items that become eligible for a license exception are subject to the terms and conditions of the applicable license exception and the restrictions in §740.2 of the EAR. Items that become eligible for export without a license and that remain subject to the EAR may only be exported, reexported, transferred (in-country) or disposed of in accordance with the requirements of the EAR. Termination of VEU conditions does not relieve a validated end-user of its responsibility for violations that occurred prior to the availability of a license exception or prior to the removal of license requirements.

(i) *Records.* Records of items that were shipped under General or Data Center VEU Authorizations prior to the removal of a license requirement or the availability of a license exception remain subject to the review requirements of paragraph (f)(2) of this section on and after the date that the license requirement was removed or the license exception became applicable.

[89 FR 80083, Oct. 2, 2024, as amended at 90 FR 4562, Jan. 15, 2025]

§ 748.16 Approved integrated circuit designers list and approved "OSAT" companies list, addition, removal, or modification requests.

You must submit an advisory opinion, in accordance with §748.3 of this part and the provisions in this section, to request an addition or modification to or removal from the approved integrated circuit designers list in supplement no. 6 to part 740 of the EAR, or the approved ''OSAT'' companies list in supplement no. 7 to part 740 of the EAR. The advisory opinion request must adhere to the provisions in paragraphs (a) through (d) of this section. Denied requests do not result in new license requirements or render the applicant ineligible for license approvals from BIS, nor does a denied request preclude a company from submitting a subsequent request.

(a)(1) *Requests to be added.* Only entities not headquartered or having an ultimate parent headquartered in Macau or a destination specified in Country Group D:5 in supplement no. 1 to part 740 will be considered for addition to either list. Only entities that have designed, assembled, tested, or packaged integrated circuits, or have credible plans to do so, will be considered for addition to either list. To ensure a thorough review, requests to be added to either list must include the information in supplement no. 4 to this part.

(2) *Requests for removal or modification.* Any listed party may request to be removed from a list or have their listing modified. If a listed entity's legal status changes (*e.g.*, is dissolved), then they must request to be removed from the appropriate list. If control of the listed entity changes or the name changes, then the company must submit a modification request. If the company can no longer abide by the provisions of the EAR that pertain to approved entities, then they must request removal from the relevant list.

(3) *Submission of requests.* All requests should be emailed to *approved_supply_chain@bis.doc.gov* with a subject line stating, ''Approved supply chain entities request.''

(4) *Review of requests for addition, modification, or removal.* The End-user Review Committee (ERC) will review all requests (additions, modifications, and removals) to both lists.

(i) The ERC will consider a range of information for requests to be added to a list, potentially including but not limited to such factors as:

(A) the applicant's record of exclusive engagement in appropriate end-use activities;

(B) the applicant's compliance with U.S. export controls;

(C) the need for an on-site review prior to approval;

(D) the applicant's capability of complying with the requirements of being added to the approved integrated circuit designers list or approved ''OSAT'' companies list;

(E) the ability of the applicant to guard against both the misuse and diversion of computing resources; and

(F) the applicant's relationships with U.S. and foreign companies. In addition, when evaluating the application, the ERC will consider the status of the export controls of the country or countries where the applicant is headquartered, and these countries' support of and adherence to multilateral export control regimes.

(ii) Requests to modify a listing due to a change in ownership or other substantive change to the listed entity will be considered in light of all of the criteria listed above. Requests to modify a listing to correct clerical errors or non-substantive changes to the listed entity's information will typically be approved.

(iii) In reviewing requests to be removed from a list, BIS will consider facts regarding the entity's compliance with the requirements of its status and the entity's rationale for removing its status. In general, requests to be removed from a list will be approved.

(5) *Approval status.* Approved integrated circuit designer and approved ''OSAT'' company status (*i.e.*, listing) is subject to revision, suspension, or revocation entirely or in part.

(6) *Continuing representations.* Information submitted in an addition or modification request is deemed to constitute continuing representations of existing facts or circumstances. Any material or substantive change relating to the request must be promptly reported to the ERC, whether approved or still under consideration.

(b) *Recordkeeping.* Records relating to all requests must be retained by the requester in accordance with the recordkeeping requirements set forth in part 762 of the EAR.

(c) *Reporting requirements.* Authorized integrated circuit designers, to be eligible for that status consistent with Note 1 to ECCN 3A090.a, are required to submit certain information to the ''front-end fabricator,'' which the ''front-end fabricator'' must then report to BIS. See §743.9 of the EAR.

(d) *Termination of reporting requirements.* Approved integrated circuit designers and approved ''OSAT'' companies may request to be removed from a relevant list, however, the recordkeeping requirements in paragraph (b) of this section and the reporting requirements in paragraph (c) of this section must be adhered to until the listing is removed from the relevant list.

[90 FR 5312, Jan. 16, 2025]

SUPPLEMENT NO. 1 TO PART 748—BIS-748P, BIS-748P-A; ITEM APPENDIX, AND BIS-748P-B; END-USER APPENDIX; MULTIPURPOSE APPLICATION INSTRUCTIONS

All information must be legibly typed within the lines for each Block or Box, except where a signature is required. Enter only one typed line of text per Block or line. Where there is a choice of entering telephone numbers or facsimile numbers, and you wish to provide a facsimile number instead of a telephone number, identify the facsimile number with the letter ''F'' immediately after the number (e.g., 022–358–0–123456F). If you are completing this form to request classification of your item, you must complete Blocks 1 through 5, 14, 22 (a), (b), (c), (d), and (i), 24, and 25 only.

Block 1: Contact Person. Enter the name of the person who can answer questions concerning the application.

Block 2: Telephone. Enter the telephone number of the person who can answer questions concerning the application.

Block 3: Facsimile. Enter the facsimile number, if available, of the person who can answer questions concerning the application.

Block 4: Date of Application. Enter the current date.

Block 5: Type of Application. *Export.* If the items are located within the United States, and you wish to export those items, mark the Box labeled ''Export'' with an (X). Reexport. If the items are located outside the United States, mark the Box labeled ''Reexport'' with an (X).

Classification. If you are requesting BIS to classify your item against the Commerce Control List (CCL), mark the Box labeled ''Classification Request'' with an (X). If you are submitting a License Exception STA eligibility request pursuant to §740.20(g), mark the box labeled ''Export'' with an (X) and then proceed to Block 6 of this supplement for instructions specific to such requests.

Block 6: Documents submitted with Application. Review the documentation you are required to submit with your application in accordance with the provisions of part 748 of the EAR, and mark all applicable Boxes with an (X).

Mark the Box ''Foreign Availability'' with an (X) if you are submitting an assertion of foreign availability with your license application. See part 768 of the EAR for instructions on foreign availability submissions.

If you are *not* making a foreign availability assertion under part 768 of the EAR,

you may still mark the box ''Foreign Availability'' with an (X), if you are submitting an assertion of foreign availability with your license application. Foreign availability assertions covered under part 768 are limited to items controlled for national security reasons. However, if an applicant intends to include foreign availability support material for items not controlled for national security reasons, applicants are permitted to do this as part of the license application by marking the box ''Foreign Availability'' with an (X) and including the foreign availability information, along with the support material for the license application. Applicants must clearly label this support material as ''Foreign availability information—outside the scope of part 768''. Although this information is outside the scope of part 768, applicants should still use supplement no. 1 to part 768 for general guidance regarding what types of information may be suitable for demonstrating foreign availability. The purpose of submitting this type of foreign availability information will be to make the U.S. Government more aware of the foreign availability of items not controlled for national security reasons.

Mark the ''Tech. Specs.'' box with an (X) if you are submitting descriptive literature, brochures, technical specifications, etc. with your application. Mark the ''Other'' box with an (X) and insert the phrase ''STA request'' for the description of the support document to submit a request for License Exception STA eligibility pursuant to §740.20(g). (See supplement no. 2 to part 748 under paragraph (w) for unique application and submission requirements for License Exception STA eligibility requests described under this Block 6.)

Block 7: Documents on File with Applicant. Certify that you have retained on file all applicable documents as required by the provisions of part 748 by placing an (X) in the appropriate Box(es).

Block 8: [Reserved]

Block 9: Special Purpose. Complete this block for certain items or types of transactions only if specifically required in supplement no. 2 to this part.

Block 10: Resubmission Application Control Number. If your original application was returned without action (RWA), provide the Application Control Number. This does not apply to applications returned without being registered.

Block 11: Replacement License Number. If you have received a license for identical items to the same ultimate consignee, but would like to make a modification that is not excepted in §750.7(c) of the EAR, to the license as originally approved, enter the original license number and complete Blocks 12 through 25, where applicable. Include a statement in Block 24 regarding what changes you wish to make to the original license.

Block 12: Items Previously Exported. This Block should be completed only if you have marked the ''Reexport'' box in Block 5. Enter the license number, License Exception symbol (for exports under General Licenses, enter the appropriate General License symbol), or other authorization under which the items were originally exported, if known.

Block 13: Import/End-User Certificate. Enter the name of the country and number of the Import or End User Certificate obtained in accordance with provisions of this part.

Block 14: Applicant. Enter the applicant's name, street address, city, state/country, and postal code. Provide a complete street address. P.O. Boxes are not acceptable. Refer to §748.5(a) of this part for a definition of ''applicant''. If you have marked ''Export'' in Block 5, you must include your company's Employer Identification Number unless you are filing as an individual or as an agent on behalf of the exporter. The Employee Identification Number is assigned by the Internal Revenue Service for tax identification purposes. Accordingly, you should consult your company's financial officer or accounting division to obtain this number.

Block 15: Other Party Authorized to Receive License. If you would like BIS to transmit the approved license to another party designated by you, complete all information in this Block, including name, street address, city, country, postal code and telephone number. Leave this space blank if the license is to be sent to the applicant. Designation of another party to receive the license does not alter the responsibilities of the applicant.

Block 16: Purchaser. Enter the purchaser's complete name, street address, city, country, postal code, and telephone or facsimile number. Refer to §748.5(c) of this part for a definition of ''purchaser''. If the purchaser is also the ultimate consignee, enter the complete name and address. If your proposed transaction does not involve a separate purchaser, leave Block 16 blank.

Block 17: Intermediate consignee. Enter the intermediate consignee's complete name, street address, city, country, postal code, and telephone or facsimile number. Provide a complete street address, P.O. Boxes are not acceptable. Refer to §748.5(d) of this part for a definition of ''intermediate consignee''. If this party is identical to that listed in Block 16, enter the complete name and address. If your proposed transaction does not involve use of an intermediate consignee, enter ''None''. If your proposed transaction involves more than one intermediate consignee, provide the same information in Block 24 for each additional intermediate consignee.

Block 18: Ultimate Consignee. This Block must be completed if you are submitting a

license application. Enter the ultimate consignee's complete name, street address, city, country, postal code, and telephone or facsimile number. Provide a complete street address, P.O. Boxes are not acceptable. The ultimate consignee is the party who will actually receive the item for the end-use designated in Block 21. Refer to §748.5(e) of this part for a definition of ''ultimate consignee''. A bank, freight forwarder, forwarding agent, or other intermediary may not be identified as the ultimate consignee. Government purchasing organizations are the sole exception to this requirement. This type of entity may be identified as the government entity that is the actual ultimate consignee in those instances when the items are to be transferred to the government entity that is the actual end-user, provided the actual end-user and end-use is clearly identified in Block 21 or in the additional documentation attached to the application.

If your application is for the reexport of items previously exported, enter the new ultimate consignee's complete name, street address, city, country, postal code, and telephone or facsimile number. Provide a complete street address, P.O. Boxes are not acceptable. If your application involves a temporary export or reexport, the applicant should be shown as the ultimate consignee in care of a person or entity who will have control over the items abroad.

Block 19: End-User. Complete this Block only if the ultimate consignee identified in Block 18 is not the actual end-user. If there will be more than one end-user, use Form BIS-748P-B to identify each additional end-user. Enter each end-user's complete name, street address, city, country, postal code, and telephone or facsimile number. Provide a complete street address, P.O. Boxes are not acceptable.

Block 20: Original Ultimate Consignee. If your application involves the reexport of items previously exported, enter the original ultimate consignee's complete name, street address, city, country, postal code, and telephone or facsimile number. Provide a complete street address, P.O. Boxes are not acceptable. The original ultimate consignee is the entity identified in the original application for export as the ultimate consignee or the party currently in possession of the items.

Block 21: Specific End-Use: This Block must be completed if you are submitting a license application. Provide a complete and detailed description of the end-use intended by the ultimate consignee and/or end-user(s). If you are requesting approval of a reexport, provide a complete and detailed description of the end-use intended by the new ultimate consignee or end-user(s) and indicate any other countries for which resale or reexport is requested. If additional space is necessary, use Block 21 on Form BIS-748P-A or B. Be specific—vague descriptions such as ''research'', ''manufacturing'', or ''scientific uses'' are not acceptable.

Block 22: For a license application, you must complete each of the sub-blocks contained in this Block. If you are submitting a classification request, you need not complete Blocks (e), (f), (g), and (h). If you wish to export, reexport, or have BIS classify more than one item, use Form BIS-748P-A for additional items.

(a) ECCN. Enter the Export Control Classification Number (ECCN) that corresponds to the item you wish to export or reexport. If you are asking BIS to classify your item, provide a recommended classification for the item in this Block.

(b) CTP. You must enter the ''Adjusted Peak Performance'' (''APP'') in this Block if your application includes a digital computer or equipment containing a computer as described in supplement no. 2 to this part. Instructions on calculating the APP are contained in a Technical Note at the end of Category 4 in the CCL.

(c) Model Number. Enter the correct model number for the item.

(d) CCATS Number. If you have received a classification for this item from BIS, provide the CCATS number shown on the classification issued by BIS.

(e) Quantity. Identify the quantity to be exported or reexported, in terms of the unit commonly used in the trade.

(f) Units. The unit of quantity used in Block 22(e) must be entered on all license applications submitted to BIS. This Block may be left blank on license applications for technology only.

(g) Unit Price. Provide the fair market value of the items you wish to export or reexport. Round all prices to the nearest whole dollar amount. Give the exact unit price only if the value is less than $0.50. If normal trade practices make it impractical to establish a firm contract price, state in Block 24 the precise terms upon which the price is to be ascertained and from which the contract price may be objectively determined.

(h) Total Price. Provide the total price of the item(s) described in Block 22(j).

(i) Manufacturer. Provide the name only of the manufacturer, if known, for each of the items you wish to export, reexport, or have BIS classify, if different from the applicant.

(j) Technical Description. Provide a description of the item(s) you wish to export, reexport, or have BIS classify. Provide details when necessary to identify the specific item(s), include all characteristics or parameters shown in the applicable ECCN using measurements identified in the ECCN (e.g., basic ingredients, composition, electrical parameters, size, gauge, grade, horsepower,

etc.). These characteristics must be identified for the items in the proposed transaction when they are different than the characteristics described in promotional brochure(s).

Block 23: Total Application Dollar Value. Enter the total value of all items contained on the application in U.S. Dollars. The use of other currencies is not acceptable.

Block 24: Additional Information. Enter additional data pertinent to the application as required in the EAR. Include special certifications, names of parties of interest not disclosed elsewhere, explanation of documents attached, etc. Do not include information concerning Block 22 in this space.

If your application represents a previously denied application, you must provide the Application Control Number from the original application.

If you are requesting BIS to classify your product, use this space to explain why you believe the ECCN entered in Block 22(a) is appropriate. This explanation must contain an analysis of the item in terms of the technical control parameters specified in the appropriate ECCN. If you have not identified a recommended classification in Block 22(a), you must state the reason you cannot determine the appropriate classification, identifying anything in the regulations that you believe precluded you from determining the correct classification.

If additional space is necessary, use Block 24 on Form BIS-748P-A or B.

This Block should be completed if your application includes a 9x515 or ''600 series'' item that is equivalent to a transaction previously approved under an ITAR license or other approval. Enter the previous State license number or other approval identifier in Block 24 of the BIS license application. If more than one previous State license number or other approval identifier is applicable, then enter the most recent one. Only those license applications where the particulars of the EAR license application are equivalent as previously authorized under the ITAR license or other approval in regard to the description of the item (including the item's function, performance capabilities, form and fit), purchaser, ultimate consignee and end users on the license will receive full consideration under this paragraph, which may result in a quicker processing time. The classification of the 9x515 or ''600 series'' item in question will no longer be the same because the item would no longer be ''subject to the ITAR,'' but all other aspects of the description of the item must be the same in order to be reviewed under this expedited process under paragraph (x) of supplement no. 2 to part 748 of the EAR.

Block 25: You, as the applicant or duly authorized agent of the applicant, must manually sign in this Block. Rubber-stamped or electronic signatures are not acceptable. If you are an agent of the applicant, in addition to providing your name and title in this Block, you must enter your company's name in Block 24. Type both your name and title in the space provided.

[61 FR 12812, Mar. 25, 1996, as amended at 62 FR 25462, May 9, 1997; 68 FR 35786, June 17, 2003; 71 FR 20886, Apr. 24, 2006; 73 FR 21036, Apr. 18, 2008; 75 FR 36500, June 25, 2010; 78 FR 22724, Apr. 16, 2013; 78 FR 61745, Oct. 3, 2013; 78 FR 61902, Oct. 4, 2013; 79 FR 27436, May 13, 2014; 80 FR 51730, Aug. 26, 2015; 81 FR 64676, Sept. 20, 2016]

SUPPLEMENT NO. 2 TO PART 748—UNIQUE APPLICATION AND SUBMISSION REQUIREMENTS

In addition to the instructions contained in supplement no. 1 to part 748, you must also ensure that the additional requirements for certain items or types of transactions described in this supplement are addressed in your license application. All other blocks not specifically identified in this supplement must be completed in accordance with the instructions contained in supplement no. 1 to part 748. The term ''Block'' used in this supplement relates to Form BIS-748P, unless otherwise noted.

(a) *Chemicals, medicinals, and pharmaceuticals.* If you are submitting a license application for the export or reexport of chemicals, medicinals, and/or pharmaceuticals, the following information must be provided in Block 22.

(1) Facts relating to the grade, form, concentration, mixture(s), or ingredients as may be necessary to identify the item accurately, and;

(2) The Chemical Abstract Service Registry (C.A.S.) numbers, if they exist, must be identified.

(b) *Communications intercepting devices.* If you are required to submit a license application under §742.13 of this part, you must enter the words ''Communications Intercepting Device(s)'' in Block 9. The item you are requesting to export or reexport must be specified by name in Block 22(j).

(c) *Computers, telecommunications, information security items, and related equipment.* If your license application includes items controlled by both Category 4 and Category 5, your license application must be submitted under Category 5 of the Commerce Control List (§774.1 of the EAR)—see Category 5 Part 1 Notes 1 and 2 and Part 2 Note 1. License applications including computers controlled by Category 4 must identify an ''Adjusted Peak Performance'' (''APP'') in Block 22(b). If the principal function is telecommunications, an APP is not required. Computers, related

equipment, or software performing telecommunication or local area network functions will be evaluated against the telecommunications performance characteristics of Category 5 Part 1, while information security commodities, software and technology will be evaluated against the information security performance characteristics of Category 5 Part 2.

(1) Requirements for license applications that include computers. If you are submitting a license application to export or reexport computers or equipment containing computers to destinations in Country Group D:1 (See supplement no. 1 to part 740 of the EAR), or to upgrade existing computer installations in those countries, you must also include technical specifications and product brochures to corroborate the data supplied in your license application, in addition to the APP in Block 22(b).

(2) *Security Safeguard Plan requirement.* The United States requires security safeguards for exports, reexports, and transfers (in-country) of High Performance Computers (HPCs) to ensure that they are used for peaceful purposes. If you are submitting a license application for an export, reexport, or in-country transfer of a high performance computer to or within a destination in Computer Tier 3 (see §740.7(c)(1) of the EAR) or to Cuba, Iran, North Korea, or Syria you must include with your license application a security safeguard plan signed by the end-user, who may also be the ultimate consignee. This requirement also applies to exports, reexports, and transfers (in-country) of components or electronic assemblies to upgrade existing ''computer'' installations in those countries. A sample security safeguard plan is posted on BIS's Web page at *http://www.bis.doc.gov/hpcs/SecuritySafeguardPlans.html.*

(3) *Purchase orders for Artificial Intelligence commodities.* License applications for items controlled under ECCNs 3A090.a, 4A090.a, 3A001.z, 4A003.z, 4A004.z, 4A005.z, 5A002.z, 5A004.z, or 5A992.z require the submission of a purchase order or equivalent contractual agreement with the submission of the license application. The purchase order may be contingent on approval of the license. Upon approving a license for these items, BIS will generally limit the licensed quantity to the quantity specified on the purchase order.

(4) *License applications for Artificial Intelligence commodities.* Applicants are required to submit the total aggregated TPP value of each export item on their license application. This information should be included in block 22(j) in SNAP–R. If applicants are submitting a license for items destined to a country that is subject to a per-country TPP allocation, the applicant must fill out an individual license for each country and calculate the TPP per individual country. Applicants are encouraged to include information to support their TPP calculation in their Letter of Explanation (LOE). Calculate the aggregate TPP for each export item by adding the TPP for each integrated circuit. For additional information on calculating TPP, please refer to the Technical Notes to 3A090.

(d) ''*U.S. person'' support activities that require a license under §744.6 of the EAR.* Use SNAP–R for submitting a license application for ''U.S. person'' activities. Applicants should use the reexport designation on the SNAP–R form and include in the ''Additional Information'' section of the license application that a license is required for the transaction under §744.6 of the EAR. In the special purpose field, specify the specific activities the ''U.S. person'' is engaged. The applicant should provide, as relevant: the ECCN of the technology or item or, if unknown, use the EAR99 designation (regardless of whether the items being dealt with are subject to the EAR); and a complete explanation of the activity in supplemental documentation.

(e) *Intransit through the United States.* If you are submitting a license application for items moving intransit through the United States that do not qualify for the *intransit* provisions of License Exception TMP (see §740.9(b)(1) of the EAR), you must provide the following information with your license application:

(1) In Block 9, enter the phrase ''Intransit Shipment'';

(2) In Block 24, enter the name and address of the foreign consignor who shipped the items to the United States and state the origin of the shipment;

(3) Any available evidence showing the approval or acquiescence of the exporting country (or the country of which the exporter is a resident) for shipments to the proposed ultimate destination. Such evidence may be in the form of a Transit Authorization Certificate; and

(4) Any support documentation required by §748.9 of this part for the country of ultimate destination.

(f) *Intransit outside of the United States.* If you are submitting a license application based on General Prohibition Eight stated in §736.2(b)(8) of the EAR and identification of the intermediate consignee in the country of unlading or transit is unknown at the time the license application is submitted, the country of unlading or transit must be shown in Block 17.

(g) *Nuclear Nonproliferation items and end-uses*—(1) *Statement requirement.* If a license is required to export or reexport items described in §742.3 of the EAR, or any other item (except those controlled for short supply reasons) where the item is intended for a nuclear end-use, prior to submitting a license application, you must obtain a signed written statement from the end-user certifying the following:

(i) The items to be exported or replicas thereof (''replicas'' refers to items produced abroad based on physical examination of the item originally exported, matching it in all critical design and performance parameters), will not be used in any of the activities described in §744.2(a) of the EAR; and

(ii) Written authorization will be obtained from the BIS prior to reexporting the items, unless they are destined to Canada or would be eligible for export from the United States to the new country of destination under NLR based on Country Chart NP Column 1.

(2) *License application requirements.* Along with the required certification, you must include the following information in your license application:

(i) In Block 7, place an (X) in the box titled ''Nuclear Certification'';

(ii) In Block 9, enter the phrase ''NUCLEAR CONTROLS'';

(iii) In Block 21, provide, if known, the specific geographic locations of any installations, establishments, or sites at which the items will be used;

(iv) In Block 22(j), if applicable, include a description of any specific features of design or specific modifications that make the item capable of nuclear explosive activities, or of safeguarded or unsafeguarded nuclear activities as described in §744.2(a)(3) of the EAR; and

(v) In Block 24, if your license application is being submitted because you know that your transaction involves a nuclear end-use described in §744.2 of the EAR, you must fully explain the basis for your knowledge that the items are intended for the purpose(s) described §744.2 of the EAR. Indicate, if possible, the specific end-use(s) the items will have in designing, developing, fabricating, or testing nuclear weapons or nuclear explosive devices or in designing, constructing, fabricating, or operating the facilities described in §744.2(a)(3) of the EAR.

(h) *Numerical control devices, motion control boards, numerically controlled machine tools, dimensional inspection machines, direct numerical control systems, specially designed assemblies and specially designed software.* (1) If you are submitting a license application to export, reexport, or request BIS to classify numerical control devices, motion control boards, numerically controlled machine tools, dimensional inspection machines, and specially designed software you must include the following information in your license application:

(i) For numerical control devices and motion control boards:

(A) Make and model number of the control unit;

(B) Description and internal configuration of numerical control device. If the device is a computer with motion control board(s), then include the make and model number of the computer;

(C) Description of the manner in which a computer will be connected to the CNC unit for on-line processing of CAD data. Specify the make and model of the computer;

(D) Number of axes the control unit is capable of simultaneously controlling in a coordinated contouring mode, and type of interpolation (linear, circular, and other);

(E) Minimum programmable increment;

(F) A description and an itemized list of all software/firmware to be supplied with the control device or motion control board, including software/firmware for axis interpolation function and for any programmable control unit or device to be supplied with the control unit;

(G) Description of capabilities related to ''real time processing'' and receiving computer aided-design;

(H) A description of capability to accept additional boards or software that would permit an upgrade of the electronic device or motion control board above the control levels specified in ECCN 2B001; and

(I) Specify if the electronic device has been downgraded, and if so can it be upgraded in future.

(ii) For numerically controlled machine tools and dimensional inspection machines:

(A) Name and model number of machine tool or dimensional inspection machine;

(B) Type of equipment, e.g., horizontal boring machine, machining center, dimensional inspection machine, turning center, water jet, etc.;

(C) Description of the linear and rotary axes capable of being simultaneously controlled in a coordinated contouring mode, regardless of the fact that the coordinated movement of the machine axis may be limited by the numerical control unit supplied by the machine tool;

(D) Maximum workpiece diameter for cylindrical grinding machines;

(E) Motion (camming) of the spindle axis measured in the axial direction in one revolution of the spindle, and a description of the method of measurement for turning machine tools only;

(F) Motion (run out) of the spindle axis measured in the radial direction in one revolution of the spindle, and a description of the method of measurement;

(G) Overall positioning accuracy in each axis, and a description of the method for measurement; and

(H) Slide motion test results.

(i) *Parts, components, and materials incorporated abroad into foreign-made products.* BIS will consider license applications to export or reexport to multiple consignees or multiple countries when an application is required for foreign produced direct product containing parts and components subject to the EAR in §732.4(b) of the EAR and to General Prohibition Two stated in §736.2(b)(2) of the EAR. Such requests will not be approved

for countries listed in Country Group E:2 (See supplement no. 1 to part 740 of the EAR), and may be approved only in limited circumstances for countries listed in Country Group D:1.

(1) *License applications for the export of parts and components.* If you are submitting a license application for the export of parts, components, or materials to be incorporated abroad into products that will then be sent to designated third countries, you must enter in Block 21, a description of end-use including a general description of the commodities to be manufactured, their typical end-use, and the countries where those commodities will be marketed. The countries may be listed specifically or may be identified by Country Groups, geographic areas, etc.

(2) *License applications for the reexport of incorporated parts and components.* If you are submitting a license application for the reexport of parts, components, or materials incorporated abroad into products that will be sent to designated third countries you must include the following information in your license application:

(i) In Block 9, enter the phrase ''Parts and Components'';

(ii) In Block 18, enter the name, street address, city and country of the foreign party who will be receiving the foreign-made product. If you are requesting approval for multiple countries or consignees enter ''Various'' in Block 18, and list the specific countries, Country Groups, or geographic areas in Block 24;

(iii) In Block 20, enter the name, street address, city, and country of the foreign party who will be exporting the foreign-made product incorporating U.S. origin parts, components or materials;

(iv) In Block 21, describe the activity of the ultimate consignee identified in Block 18 and the end-use of the foreign-made product. Indicate the final configuration if the product is intended to be incorporated in a larger system. If the end-use is unknown, state ''unknown'' and describe the general activities of the end-user;

(v) In Block 22(e), specify the quantity for each foreign-made product. If this information is unknown, enter ''Unknown'' in Block 22(e);

(vi) In Block 22(h), enter the digit ''0'' for each foreign-made product;

(vii) In Block 22(j), describe the foreign-made product that will be exported, specifying type and model or part number. Attach brochures or specifications, if available. Show as part of the description the unit value, in U.S. dollars, of the foreign-made product (if more than one foreign-made product is listed on the license application, specify the unit value for each type/model/part number). Also include a description of the U.S. content (including the applicable Export Control Classification Number(s)) and its value in U.S. dollars. If more than one foreign-made product is identified on the license application, describe the U.S. content and specify the U.S. content value for each foreign-made product. Also, provide sufficient supporting information to explain the basis for the stated values. To the extent possible, explain how much of the value of the foreign-made product represents foreign origin parts, components, or materials, as opposed to labor, overhead, etc. When the U.S. content varies and cannot be specified in advance, provide a range of percentage and value that would indicate the minimum and maximum U.S. content;

(viii) Include separately in Block 22(j) a description of any U.S. origin spare parts to be reexported with the foreign-made product, if they exceed the amount allowed by §740.10 of the EAR. Enter the quantity, if appropriate, in Block 22(e). Enter the ECCN for the spare parts in Block 22(a) and enter the value of the spare parts in Block 22(h);

(ix) In Block 23, enter the digit ''0'';

(x) If the foreign-made product is the direct product of U.S. origin technology that was exported or reexported subject to written assurance, a request for waiver of that assurance, if necessary, may be made in Block 24. If U.S. origin technology will accompany a shipment to a country listed in Country Group D:1, E:1, or E:2 (see supplement no. 1 to part 740 of the EAR) describe in Block 24 the type of technology and how it will be used.

(j) *Ship stores, plane stores, supplies, and equipment*—(1) *Vessels under construction.* If you are submitting a license application for the export or reexport of items, including ship stores, supplies, and equipment, to a vessel under construction you must include the following information in your license application:

(i) In Block 18, enter the name, street address, city, and country of the shipyard where vessel is being constructed;

(ii) In Block 22(j), state the length of the vessel for a vessel under 12 m (40 ft) in length. For a vessel 12 m (40 ft) in length or over, provide the following information (if this information is unknown, enter ''Unknown'' in this Block):

(A) Hull number and name of vessel;

(B) Type of vessel;

(C) Name and business address of prospective owner, and the prospective owner's nationality; and

(D) Country of registry or intended country of registry.

(2) *Aircraft under construction.* If you are submitting a license application for the export or reexport of items, including plane stores, supplies, and equipment, to an aircraft under construction you must include the following information in your license application:

(i) In Block 18, enter the name and address of the plant where the aircraft is being constructed;

(ii) In Block 22(j), enter the following information (if this information is unknown, enter ''Unknown'' in this Block):

(A) Type of aircraft and model number;

(B) Name and business address of prospective owner and his nationality; and

(C) Country of registry or intended country of registry.

(3) *Operating vessels and aircraft.* If you are submitting a license application for the export or reexport of items, including ship or plane stores, supplies, and equipment to an operating vessel or aircraft, whether in operation or being repaired, you must include the following information in your license application:

(i) In Block 18, enter the name of the owner, the name of the vessel, if applicable, and port or point where the items will be taken aboard;

(ii) In Block 18, enter the following statement if, at the time of filing the license application, it is uncertain where the vessel or aircraft will take on the items, but it is known that the items will not be shipped to a country listed in Country Group D:1 or E:2 (see supplement no. 1 to part 740 of the EAR):

Uncertain; however, shipment(s) will not be made to Country Groups D:1 or E:2.

(iii) Provide information as described in paragraph (j)(1)(ii) of this supplement for vessels or information contained in paragraph (j)(2)(ii) of this supplement for aircraft.

(k) *Regional stability controlled items.* (1) If you are submitting a license application for the export or reexport of items controlled for regional stability reasons and subject to licensing under RS Column 1 on the Country Chart, your license application must be accompanied by full technical specifications.

(2) If you are submitting a license application for the export or reexport to Austria, Cyprus, Finland, Ireland, Israel, Malta, Mexico, Singapore or Sweden of items controlled by ECCNs 2A984, 2D984 or 2E984 to a person designated by a government end-user, pursuant to contract, your license application to export to such designated person must include a statement from the government end-user to be eligible for the licensing policy under §742.6(b)(2)(ii). A responsible official representing the designated end-user must sign the statement. ''Responsible official'' is defined as someone with personal knowledge of the information included in the statement, and authority to bind the designated end-user for whom they sign, and who has the power and authority to control the use and disposition of the licensed items. Statements from government end-users that the person is so designated (*i.e.*, support documents submitted in accordance with this paragraph (k)(2)) must address the following three criteria for a license application to be reviewed in accordance with the license review policy in §742.6(b)(2)(ii):

(i) U.S. Department of Homeland Security (DHS) Customer Contract Number or agreement reference number, End-user name (company), complete address (including street address, city, state, country and postal code), end-user point of contact (POC);

(ii) Brief contract description, including DHS Project information and projected outcome; and

(iii) The statement shall include a certification stating ''We certify that all of the representations in this statement are true and correct to the best of our knowledge and we do not know of any additional representations which are inconsistent with the above statement.''

(l) *Reexports.* If you know that an item that requires a license to be exported from the United States to a certain foreign destination will be reexported to a third destination also requiring approval, such a request must be included on the license application. The license application must specify the country to which the reexport will be made in Block 24. If the export does not require a license but the reexport does, you may apply for a license for the reexport, or you may export without a license and notify the consignee of the requirement to seek a license to reexport.

(m) *Robots.* If you are submitting a license application for the export or reexport of items controlled by ECCNs 2B007 or 2D001 (including robots, robot controllers, end-effectors, or related software) the following information must be provided in Block 24:

(1) Specify if the robot is equipped with a vision system and its make, type, and model number;

(2) Specify if the robot is specially designed to comply with national safety standards for explosive munitions environments;

(3) Specify if the robot is specially designed for outdoor applications and if it meets military specifications for those applications;

(4) Specify if the robot is specially designed for operating in an electro-magnetic pulse (EMP) environment;

(5) Specify if the robot is specially designed or rated as radiation-hardened beyond that necessary to withstand normal industrial (i.e., non-nuclear industry) ionizing radiation, and its rating in grays (Silicon);

(6) Describe the robot's capability of using sensors, image processing or scene analysis to generate or to modify robot program instructions or data;

(7) Describe the manner in which the robot may be used in nuclear industry/manufacturing; and

(8) Specify if the robot controllers, end-effectors, or software are specially designed for robots controlled by ECCN 2B007, and why.

(n) *Short Supply controlled items.* If you are submitting a license application for the export of items controlled for short supply reasons, you must consult part 754 of the EAR for instructions on preparing your license application.

(o) *Technology*—(1) *License application instructions.* If you are submitting a license application for the export or reexport of technology you must check the box labeled ''Letter of Explanation'' in Block 6, enter the word ''Technology'' in Block 9, leave Blocks 22(e) and (i) blank, and include a general statement that specifies the technology (e.g., blueprints, manuals, etc.) in Block 22(j).

(2) *Letter of explanation.* Each license application to export or reexport technology must be supported by a comprehensive letter of explanation. This letter must describe all the facts for a complete disclosure of the transaction including, if applicable, the following information:

(i) The identities of all parties to the transaction;

(ii) The exact project location where the technology will be used;

(iii) The type of technology to be exported or reexported;

(iv) The form in which the export or reexport will be made;

(v) The uses for which the data will be employed;

(vi) An explanation of the process, product, size, and output capacity of all items to be produced with the technology, if applicable, or other description that delineates, defines, and limits the data to be transmitted (the ''technical scope''); and

(vii) The availability abroad of comparable foreign technology.

(3) *Special provisions*—(i) *Technology controlled for national security reasons.* If you are submitting a license application to export, reexport, and transfer (in-country) technology controlled for national security reasons to a country *not* listed in Country Group D:1, E:1, or E:2 (see Supplement No. 1 to part 740 of the EAR), you must obtain the letter from the ultimate consignee verifying that, unless prior authorization is obtained from BIS, the consignee will not knowingly reexport the technology to any destination, or export the ''direct product'' of the technology, directly or indirectly, to a country listed in Country Group D:1, E:1, or E:2 (see Supplement No. 2 to part 740 of the EAR). If you are unable to obtain this letter of assurance from your consignee, you must state in your license application why the assurances could not be obtained. BIS may request a copy of this letter.

(ii) *Maritime nuclear propulsion plants and related items.* If you are submitting a license application to export or reexport technology relating to maritime nuclear propulsion plants and related items including maritime (civil) nuclear propulsion plants, their land prototypes, and special facilities for their construction, support, or maintenance, including any machinery, device, component, or equipment specifically developed or designed for use in such plants or facilities you must include the following information in your license application:

(A) A description of the foreign project for which the technology will be furnished;

(B) A description of the scope of the proposed services to be offered by the applicant, his consultant(s), and his subcontractor(s), including all the design data that will be disclosed;

(C) The names, addresses and titles of all personnel of the applicant, the applicant's consultant(s) and subcontractor(s) who will discuss or disclose the technology or be involved in the design or development of the technology;

(D) The beginning and termination dates of the period of time during which the technology will be discussed or disclosed and a proposed time schedule of the reports the applicant will submit to BIS, detailing the technology discussed or disclosed during the period of the license;

(E) The following certification:

I (We) certify that if this license application is approved, I (we) and any consultants, subcontractors, or other persons employed or retained by us in connection with the project licensed will not discuss with or disclose to others, directly or indirectly, any technology relating to U.S. naval nuclear propulsion plants. I (We) further certify that I (we) will furnish to the Bureau of Industry and Security all reports and information it may require concerning specific transmittals or disclosures of technology under any license granted as a result of this license application.

(F) A statement of the steps that you will take to assure that personnel of the applicant, the applicant's consultant(s) and subcontractor(s) will not discuss or disclose to others technology relating to U.S. naval nuclear propulsion plants; and

(G) A written statement of assurance from the foreign importer as described in paragraph (o)(3)(i) of this supplement.

(p) *Temporary exports or reexports.* If you are submitting a license application for the temporary export or reexport of an item (not eligible for the *temporary exports and reexports* provisions of License Exception TMP (see §740.9(a) of the EAR)) you must include the following certification in Block 24:

The items described on this license application are to be temporarily exported (or reexported) for (state the purpose e.g., demonstration, testing, exhibition, etc.), used solely for the purpose authorized, and returned to the United States (or originating country) as soon as the temporary purpose has ended, but in no case later than one year

of the date of export (or reexport), unless other disposition has been authorized in writing by the Bureau of Industry and Security.

(q) *Chemicals controlled for CW reasons under ECCN 1C350.* In addition to any supporting documentation required by part 748, you must also obtain from your consignee an End-Use Certificate for the export of chemicals controlled for CW reasons by ECCN 1C350 to non-States Parties (destinations not listed in supplement no. 2 to part 745 of the EAR). See §745.2 of the EAR. In addition to the End-Use Certificate, you may still be required to obtain a Statement by Ultimate Consignee and Purchaser (Form BIS–711P) as support documentation. Consult §§748.9 and 748.11 of the EAR.

(r) *Encryption classification requests.* Failure to follow the instructions in this paragraph may delay consideration of your encryption classification request.

(1) [Reserved]

(2) *Classification Requests.* Fill out blocks 1–4, 14, 15, 22, and 25 pursuant to the instructions in supplement no. 1 to this Part. Leave blocks 6, 7, 8, 10–13, 18–21, and 23 blank. Follow the directions specified for the blocks indicated below.

(i) In Block 5 (Type of Application), place an ''X'' in the box marked ''classification'' or ''commodity classification'' if submitting electronically for classification requests.

(ii) In Block 9 (Special Purpose).

(A) If submitting via SNAP–R, check the box ''check here if you are submitting information about encryption required by 740.17 or 742.15 of the EAR.''

(B) From the drop down menu in SNAP–R, choose:

(*1*) ''License Exception ENC'' if you are submitting an encryption classification request for specified License Exception ENC provisions (§§740.17(b)(2) or (b)(3) of the EAR);

(*2*) ''Mass market encryption'' if you are submitting an encryption classification request for certain mass market encryption items (§740.17(b) of the EAR).

(*3*) ''Encryption—other'' if you are submitting an encryption classification, for another reason.

(s)–(t) [Reserved]

(u) *Aircraft and vessels on temporary sojourn.* If the application is for an aircraft or a vessel traveling on a temporary sojourn, state the value of the aircraft or vessel as $0 in box 22(g) (unit price) and 22(h) (total price). In box 23 (Total Application Dollar Value), insert the total value of items other than the aircraft or vessel that are included in the same application. If the application is only for the aircraft or vessel on temporary sojourn, insert $0.

(v) *In-country transfers.* To request an in-country transfer, you must specify ''in-country transfer'' in Block 9 (Special Purpose) and mark ''Reexport'' in Block 5 (Type of Application) of the BIS–748P ''Multipurpose Application'' form. The application also must specify the same foreign country for both the original ultimate consignee and the new ultimate consignee.

(w) *License Exception STA eligibility requests for ''600 series'' end items.* To request a License Exception STA eligibility requests for ''600 series'' end items pursuant to §740.20(g), you must mark an (X) in the ''Export'' box in Block 5 (Type of Application) block. You must mark an (X) in the ''Other'' box and insert the phrase ''STA request'' '' in Block 6 (Documents submitted with application) block. You must include the specific ''600 Series'' ECCN in Block 22. In addition to the ECCN, you will need to provide sufficient information for the U.S. Government to make a determination as to STA eligibility. This will require you to submit more than merely a description of the end item. In particular, you will need to provide supporting information for why you believe that the end item does not, for example, provide a critical military or intelligence advantage to the United States or is available in countries that are not regime partners or close allies. You will also need to provide information regarding whether and, if so, how the end item is controlled by the export control laws and regulations of close allies and regime partners, if known. If you are not able to provide some of the information described above, the U.S. Government will still evaluate the request, including using resources and information that may only be available to the U.S. Government. However, when submitting such requests you are encouraged to provide as much information as you can based on the criteria noted above to assist the U.S. Government in evaluating these License Exception STA eligibility requests. In addition, you should provide BIS with the text you would propose BIS use in describing the end item in the appropriate ''600 series'' ECCN and the online table referenced in §740.20(g)(5)(i) in anticipation that the request may be approved pursuant to §740.20(g). You may submit additional information that you believe is relevant to the U.S. Government in reviewing the License Exception STA eligibility request as part of that support document or as an additional separate support document attachment to the license application.

(x) *License application for a transaction involving a 9x515 or ''600 series'' item that is equivalent to a transaction previously approved under an ITAR license or other approval.* To request that the U.S. Government review of a license application for a 9x515 or ''600 series'' item also take into consideration a previously approved ITAR license or other approval, applicants must also include the

State license number or other approval identifier in Block 24 of the BIS license application (see the instructions in supplement no. 1 to part 748 under Block 24).

(y) *Satellite exports.* (1) A license application to export a satellite controlled by ECCN 9A515.a for launch in or by a country that is not a member of the North Atlantic Treaty Organization (NATO) or a major non-NATO ally of the United States (as defined in 22 CFR 120.31 and 120.32), must include a statement affirming that at the time of application or prior to export or reexport the following will be in place:

(i) A technology transfer control plan approved by the Department of Defense and an encryption technology control plan approved by the National Security Agency, or drafts reflecting advance discussions with the departments and information identifying the U.S. Government officials familiar with the preparation of such draft plans; and

(ii) Evidence of arrangements with the Department of Defense for monitoring of the launch activities.

(2) A license application to export a satellite controlled by ECCN 9A515.a for launch in or by a country that is a member of the North Atlantic Treaty Organization (NATO) or that is a major non-NATO ally of the United States (as defined in 22 CFR 120.31 and 120.32), must include a statement affirming that at the time of application or prior to export or reexport the following will be in place:

(i) A technology transfer control plan approved by the Department of Defense and an encryption technology control plan approved by the National Security Agency, or documentation from the Department of Defense that such plans are not required; and

(ii) Evidence of arrangements with the Department of Defense for monitoring of the launch or documentation from the Department of Defense that such monitoring is not required.

NOTE 1 TO PARAGRAPH (y): Regardless of a satellite's or spacecraft's jurisdictional status, ownership, or origin, the ITAR controls as a ''defense service'' the furnishing of assistance (including training) by a U.S. person to a foreign person directly related to (a) the integration of a satellite or spacecraft to a launch vehicle or (b) launch failure analyses. See (See 22 CFR 121, Categories IV(i) and XV(f), and 22 CFR 124.15).

(z) *Exports of firearms and certain shotguns temporarily in the United States*—(1) *Certification.* If you are submitting a license application for the export of firearms controlled by ECCNs 0A501.a or .b, 0A506, or 0A507, or shotguns with a barrel length less than 18 inches controlled in ECCNs 0A502 or 0A508 that will be temporarily in the United States, *e.g.,* for servicing and repair or for intransit shipments, you must include the following certification in Block 24:

The firearms in this license application will not be shipped from or manufactured in Russia, Georgia, Kazakhstan, Kyrgyzstan, Moldova, Turkmenistan, Ukraine, or Uzbekistan, except for any firearm model controlled by 0A501, 0A506, or 0A507 that is specified under Annex A in supplement no. 4 to part 740. I and the parties to this transaction will comply with the requirements specified in paragraphs (z)(2)(i) and (ii) of supplement no. 2 to part 748.

(2) *Requirements.* Each approved license for commodities described under this paragraph (z) must comply with the requirements specified in paragraphs (z)(2)(i) and (ii) of this supplement.

(i) When the firearms enter the U.S. as a temporary import, the temporary importer or its agent must:

(A) Provide the following statement to U.S. Customs and Border Protection: ''This shipment is being temporarily imported in accordance with the EAR. This shipment will be exported in accordance with and under the authority of BIS license number (provide the license number) (15 CFR 750.7(a) and 758.4);''

(B) Provide to U.S. Customs and Border Protection an invoice or other appropriate import-related documentation (or electronic equivalents) that includes a complete list and description of the firearms being temporarily imported, including their model, make, caliber, serial numbers, quantity, and U.S. dollar value; and

(C) Provide (if temporarily imported for servicing or replacement) to U.S. Customs and Border Protection the name, address, and contact information (telephone number and/or email) of the organization or individual in the U.S. that will be receiving the item for servicing or replacement); and

(ii) In addition to the export clearance requirements of part 758 of the EAR, the exporter or its agent must provide the import documentation related to paragraph (z)(2)(i)(B) of this supplement to U.S. Customs and Border Protection at the time of export.

NOTE 1 TO PARAGRAPH (z): In addition to complying with all applicable EAR requirements for the export of commodities described in paragraph (z) of this supplement, exporters and temporary importers should contact U.S. Customs and Border Protection (CBP) at the port of temporary import or export, or at the CBP website, for the proper procedures for temporarily importing or exporting firearms controlled in ECCNs 0A501.a or .b, 0A506, or 0A507 or shotguns with a barrel length less than 18 inches controlled in ECCNs 0A502 or 0A508, including regarding how to provide any data or documentation required by BIS.

(aa) ''*600 Series Major Defense Equipment.*'' For license applications that require prior notifications to Congress of exports of ''600 series major defense equipment'' pursuant to §743.5, the exporter must include a copy of the signed contract (including a statement of the value of the ''600 Series Major Defense Equipment'' to be exported under the contract). (See §743.5(d) of the EAR)

(bb) ''600 Series Major Defense Equipment.'' For license applications that require prior notifications to Congress of exports of ''600 series major defense equipment'' pursuant to §743.5, the exporter must include a copy of the signed contract (including a statement of the value of the ''600 Series Major Defense Equipment'' to be exported under the contract). (See §743.5(d) of the EAR)

(cc) *Affiliates rule entities.* To request a license for an export, reexport, or transfer (in-country) for any foreign entity that is owned, directly or indirectly, individually or in aggregate, 50 percent or more by one or more entities listed on the Entity List in supplement no. 4 to part 744, 'Military End-User' (MEU) List in supplement no. 7 to part 744, by one or more Specially Designated Nationals (SDNs) designated under programs listed in §744.8(a)(1), or by one or more unlisted entities that are subject to restrictions based upon ownership by listed entities, or for an export, reexport, or transfer (in-country) when the exporter, reexporter, or transferor cannot determine the ownership percentage of a foreign entity that is an entity owned by one or more listed entities on the Entity List or the 'military end users' on the MEU List, you must specify ''Affiliates rule'' in Block 9 (Special Purpose) of the BIS–748P ''Multipurpose Application'' form. The application also must specify the names of the listed party or parties that own an aggregate 50 percent or more, directly or indirectly, individually or in aggregate, of that entity(ies) listed on the license application, including identifying the percentage of ownership by listed parties and identifying the method that the applicant used to make that determination. For license applications when the exporter, reexporter, or transferor cannot determine the ownership percentage of a foreign entity that is an entity owned by one or more listed entities on the Entity List or 'military end users' on the MEU List, the license application must specify the names of the listed party or parties that own that entity and explain the due diligence conducted to determine the percentage of ownership, including providing an explanation for why percentage of ownership was not able to be determined.

[61 FR 12812, Mar. 25, 1996]

EDITORIAL NOTE: For FEDERAL REGISTER citations affecting supplement no. 2 to part 748, see the List of CFR Sections Affected, which appears in the Finding Aids section of the printed volume and at *www.govinfo.gov*.

EFFECTIVE DATE NOTE: At 90 FR 50857, Nov. 12, 2025, in supplement no. 2 to part 748, paragraph (cc) was stayed, effective until Nov. 9, 2026.

SUPPLEMENT NO. 3 TO PART 748—STATEMENT BY ULTIMATE CONSIGNEE AND PURCHASER CONTENT REQUIREMENTS

If a statement on company letterhead will be used to meet the requirement to obtain a Statement by Ultimate Consignee and Purchaser, as described in §748.11(a), follow the requirements described in paragraph (a) of this appendix. If Form BIS–711 will be used to meet the requirement, follow the requirements described in paragraph (b) of this appendix.

(a) *Statement on company letterhead.* Information in response to each of the following criteria must be included in the statement. If any information is unknown, that fact should be disclosed in the statement. Preprinted information supplied on the statement, including the name, address, or nature of business of the ultimate consignee or purchaser appearing on the letterhead or order form is acceptable but will not constitute evidence of either the signer's identity, the country of ultimate destination, or end use of the items described in the license application.

(1) *Paragraph 1.* One of the following certifications must be included depending on whether the statement is proffered in support of a single license application or multiple license applications:

(i) *Single.* This statement is to be considered part of a license application submitted by [name and address of applicant].

(ii) *Multiple.* This statement is to be considered a part of every license application submitted by [name and address of applicant] until four years from the date this statement is signed.

(2) *Paragraph 2.* One or more of the following certifications must be included. Note that if any of the facts related to the following statements are unknown, this must be clearly stated.

(i) The items for which a license application will be filed by [name of applicant] will be used by us as capital equipment in the form in which received in a manufacturing process in [name of country] and will not be reexported or incorporated into an end product.

(ii) The items for which a license application will be filed by [name of applicant] will be processed or incorporated by us into the following product(s) [list products] to be

manufactured in [name of country] for distribution in [list name of country or countries].

(iii) The items for which a license application will be filed by [name of applicant] will be resold by us in the form in which received for use or consumption in [name of country].

(iv) The items for which a license application will be filed by [name of applicant] will be reexported by us in the form in which received to [name of country or countries].

(v) The items received from [name of applicant] will be [describe use of the items fully].

(3) *Paragraph 3.* The following two certifications must be included:

(i) The nature of our business is [possible choices include: broker, distributor, fabricator, manufacturer, wholesaler, retailer, value added reseller, original equipment manufacturer, etc.].

(ii) Our business relationship with [name of applicant] is [possible choices include; contractual, franchise, distributor, wholesaler, continuing and regular individual business, etc.] and we have had this business relationship for [number of years].

(4) *Paragraph 4.* The final paragraph must include all of the following certifications:

(i) We certify that all of the facts contained in this statement are true and correct to the best of our knowledge and we do not know of any additional facts that are inconsistent with the above statements. We shall promptly send a replacement statement to [name of the applicant] disclosing any material change of facts or intentions described in this statement that occur after this statement has been prepared and forwarded to [name of applicant]. We acknowledge that the making of any false statement or concealment of any material fact in connection with this statement may result in imprisonment or fine, or both, and denial, in whole or in part, of participation in U.S. exports or reexports.

(ii) Except as specifically authorized by the U.S. Export Administration Regulations, or by written approval from the Bureau of Industry and Security, we will not reexport, resell, or otherwise dispose of any items approved on a license supported by this statement:

(A) To any country not approved for export as brought to our attention by the exporter; or

(B) To any person if there is reason to believe that it will result directly or indirectly in disposition of the items contrary to the representations made in this statement or contrary to the U.S. Export Administration Regulations.

(iii) We understand that acceptance of this statement as a support document cannot be construed as an authorization by BIS to reexport or transfer (in country) the items in the form in which received even though we may have indicated the intention to reexport or transfer (in country), and that authorization to reexport (or transfer in country) is not granted in an export license on the basis of information provided in the statement, but as a result of a specific request in a license application.

(b) *Form BIS–711.* Form BIS–711 is available at *http://www.bis.doc.gov/index.php/component/rsform/form/21-request-bis-forms?task=forms.edit.* Instructions on completing Form BIS–711 are described below. The ultimate consignee and purchaser may sign a legible copy of Form BIS–711. It is not necessary to require the ultimate consignee and purchaser to sign an original Form BIS–711, provided all information contained on the copy is legible. All information must be typed or legibly printed in each appropriate Block or Box.

(1) Block 1: Ultimate Consignee. The Ultimate Consignee must be the person abroad who is actually to receive the material for the disposition stated in Block 2. A bank, freight forwarder, forwarding agent, or other intermediary is not acceptable as the Ultimate Consignee.

(2) Block 2: Disposition or Use of Items by Ultimate Consignee named in Block 1. Place an (X) in ''A.,'' ''B.,'' ''C.,'' ''D.,'' and ''E.,'' as appropriate, and fill in the required information.

(3) Block 3: Nature of Business of Ultimate Consignee named in Block 1. Complete both ''A'' and ''B''. Possible choices for ''A'' include: broker, distributor, fabricator, manufacturer, wholesaler, retailer, value added reseller, original equipment manufacturer, etc. Possible choices for ''B'' include: contractual, franchise, distributor, wholesaler, continuing and regular individual business, etc.

(4) Block 4: Additional Information. Provide any other information not appearing elsewhere on the form such as other parties to the transaction, and any other material facts that may be of value in considering license applications supported by this statement.

(5) Block 5: Assistance in Preparing Statement. Name all persons, other than employees of the ultimate consignee or purchaser, who assisted in the preparation of this form.

(6) Block 6: Ultimate Consignee. Enter the requested information and sign the statement digitally or in ink. (For a definition of ultimate consignee, see §748.5(e) of this part.)

(7) Block 7: Purchaser. This form must be signed in ink by the Purchaser, if the Purchaser is not the same as the Ultimate Consignee identified in Block 1. (For a definition of purchaser, see §748.5(c) of this part.)

(8) Block 8: Certification for Exporter. This Block must be completed to certify that no correction, addition, or alteration on this form was made subsequent to the signing by

the Ultimate Consignee in Block 6 and Purchaser in Block 7.

[80 FR 13221, Mar. 13, 2015, as amended at 86 FR 54812, Oct. 5, 2021]

SUPPLEMENT NO. 4 TO PART 748—INFORMATION REQUIRED TO BE SUBMITTED WITH A §748.16 REQUEST

The following information is required to be submitted with a request to be added to either supplement no. 6 to part 740—Approved Integrated Circuit Designer list or supplement no. 7 to part 740—Approved ''OSAT'' company list, as described in §748.16. The prospective added integrated circuit designer and prospective approved ''OSAT'' company are referred to as the candidate in this supplement.

(a) *Identity*. Name of the candidate, including all names under which the candidate conducts business; complete company physical address (simply listing a post office box is insufficient); telephone number; fax number; email address; company website; and name of individual who should be contacted if BIS has any questions. If the entity submitting the request is different from the candidate identified in the request, this information must be submitted for both entities. If the candidate has multiple locations, all physical addresses must be listed.

(b) *Ownership*. Provide an overview of the structure, ownership and business of the candidate. Include a description of the entity, including type of business activity, ownership, subsidiaries, and joint-venture projects, as well as an overview of any business activity or corporate relationship that the entity has with either government or military organizations.

(c) ''*Applicable advanced logic integrated circuits.*'' List any ''applicable advanced logic integrated circuits'' the candidate expects to design, assemble, test, or package, and the end use and any known intended end uses of these commodities. Include a description of the commodities; the ECCN for all commodities, classified to the subparagraph level, as appropriate; and technical parameters for the commodities including performance specifications.

(d) *Recordkeeping*. Specify how the candidate's record keeping system will allow compliance with the recordkeeping requirements set forth in §748.16(b) and part 762 of the EAR.

(e) *Certification*. Include an original statement on letterhead of the candidate, signed and dated by a person who has authority to legally bind the candidate, certifying that the candidate will comply with all the provisions of §748.16.

(f) *Statement of acknowledgement and agreement*. The candidate must include this statement of acknowledgement and agreement with the request, that the candidate:

(1) Acknowledges that they have been informed of and understand that the item(s) to be produced by the ''front-end fabricator'' have been exported in accordance with the EAR and that use or diversion of such items contrary to the EAR is prohibited, particularly the license requirements of §§742.6(a)(6)(iii) and 744.23(a)(3) of the EAR;

(2) Agrees to comply with the recordkeeping requirements in §748.16(b) and part 762 of the EAR; and

(3) Agrees to allow on-site reviews by U.S. Government officials to verify compliance with the EAR.

[90 FR 5313, Jan. 16, 2025]

SUPPLEMENT NO. 5 TO PART 748—U.S. IMPORT CERTIFICATE AND DELIVERY VERIFICATION PROCEDURE

The United States participates in an Import Certificate/Delivery Verification procedure. Under this procedure, U.S. importers are sometimes required to provide their foreign suppliers with an U.S. International Import Certificate that is validated by the U.S. Government. This certificate tells the government of the exporter's country that the items covered by the certificate will be imported into the U.S. Economy and will not be reexported except as authorized by U.S. export control regulations. In addition, in some cases, the exporter's government may require a delivery verification. Under this procedure, the U.S. Customs Service validates a certificate confirming that the items have entered the U.S. economy. The U.S. importer must return this certificate to the foreign exporter.

This supplement establishes the procedures and requirements of BIS with respect to both of these programs. Paragraph (a) of this supplement contains the requirements and procedures of the U.S. International Import Certificate procedure. Paragraph (b) of this supplement contains the requirements and procedures of the Delivery Verification procedure.

(a) U.S. International Import Certificates. If you are a U.S. importer, a foreign supplier may request you to obtain a U.S. import certificate. The reason for this request is that the exporter's government requires a U.S. import certificate as a condition to issuing an export license. To obtain such a certificate you will have to fill in and execute the U.S. International Import Certificate form (Form BIS–645P/ATF–4522/DSP–53) and submit it to the U.S. government agency that has jurisdiction over the items you are importing. In doing so, you will be making a representation to the United States Government that you will import the items described in the certificate into the United

States or if not so imported, you will not divert, transship or reexport them to another destination with the explicit approval of the U.S. government agency that has jurisdiction over those items. (Representations that items will be entered into the U.S. do not preclude the temporary unloading of items in a foreign trade zone for subsequent entry into the economy of the U.S.) If the items described in the certificate are subject to U.S. Department of Commerce jurisdiction, the Department will validate the certificate and return it to you. You may then send the certificate to your foreign supplier. In this way the government of the exporting country is assured that the items will become subject to the export control laws of the United States.

(1) Items for which the U.S. Department of Commerce issues U.S. International Import Certificates and forms to use. The Department of Commerce issues U.S. International Import Certificates for the following types of items.

(i) Items controlled for National Security reasons. Items under the export licensing jurisdiction of BIS that are identified as controlled for national security reasons on the Commerce Control List (supplement no. 1 to part 774 of the EAR). You will need to submit in triplicate a completed Form BIS–645P/ATF–4522/DSP–53;

(ii) Nuclear equipment and materials. Items subject to the export licensing jurisdiction of the Nuclear Regulatory Commission for nuclear equipment and materials. (see 10 CFR part 110). You will need to submit in quadruplicate a completed Form BIS–645P/ATF–4522/DSP–53; and

(iii) Munitions Items. Items listed on the U.S. Munitions List (see 22 CFR part 121) that do not appear on the more limited U.S. Munitions Import List (27 CFR 47.21). You will need to submit in triplicate a completed Form BIS–645P. For triangular transactions (See paragraph (a)(5) of this supplement) involving items on the U.S. Munitions List, you must contact the Department of State, Directorate of Defense Trade Controls and use Form BIS–645P/ATF–4522/DSP–53. You should contact the Treasury Department, Bureau of Alcohol, Tobacco and Firearms for items appearing on the U.S. Munitions Import List. You will need to use Form ATF–4522.

(2) Where to submit forms. U.S. International Import Certificates and requests to amend certificates may be presented for validation either in person or by mail at the following locations.

(i) By courier to the Bureau of Industry and Security, Room 2099B, 14th Street and Pennsylvania Ave., NW., Washington, DC 20230, Attn: Import Certificate Request; or

(ii) In person or by mail at one of the following Department of Commerce U.S. and Foreign Commercial Service District Offices:

Boston, MA	New Orleans, LO
Buffalo, NY	New York, NY
Chicago, IL	Philadelphia, PA
Cincinnati, OH	Phoenix, AZ
Cleveland, OH	Pittsburgh, PA
Dallas, TX	Portland, OR
Detroit, MI	St. Louis, MO
Houston, TX	San Francisco, CA
Kansas City, MO	Savannah, GA
Los Angeles, CA	Seattle, WA
Miami, FL	Trenton, NJ

(3) U.S. International Import Certificate validity periods. The U.S. International Import Certificate must be submitted to the foreign government within six months from the date of certification by the U.S. Department of Commerce. The expiration of this six-month period in no way affects the responsibility of the importer to fulfill the commitments made in obtaining the certificate. If the certificate is not presented to the government of the exporting country before the expiration of its validity period, the exporter must apply for a new certificate. The original unused U.S. International Import Certificate must be returned to BIS at the address specified in paragraph (a)(2)(i) of this supplement.

(4) Statements on the certificate or amendments are representations to the U.S. Government which continue in effect.

(i) All statements and representations made in a U.S. International Import Certificate or an amendment thereto, will be deemed to be continuing in nature until the transaction described in the certificate is completed and the items are delivered into the economy of the importing country.

(ii) Any change of fact or intention in regard to the transaction described in the certificate shall be promptly disclosed to BIS by the U.S. importer by presentation of an amended certificate. The amended certificate must describe all of the changes and be accompanied by the original certificate bearing the certification of BIS. If the original certificate has been transferred to the foreign exporter, you must, where possible, attempt to obtain the original certificate prior to applying for an amendment. If the original certificate is unobtainable because the foreign exporter has submitted it to the appropriate foreign government, or for any other reason, then you must submit a written statement with your amendment giving the reasons for your failure to submit the original certificate.

(5) Certificates for Triangular transaction (items will not enter the U.S. or applicant is not sure that they will enter the United States).

(i) In accordance with international practice, BIS will, upon request, stamp the certificate with a triangular symbol as notification to the government of the exporting country that the U.S. importer is uncertain

whether the items will be imported into the U. S. or knows that the items will not be imported into the U.S., but that, in any case, the items will not be delivered to any other destination except in accordance with the EAR.

(ii) The triangular symbol on a certificate U.S. International Import Certificate is not, in and of itself, an approval by BIS to transfer or sell items to a foreign consignee. Note that a triangular Certificate will not be issued covering foreign excess property sold abroad by the U.S. Department of Defense.

(6) Approval to export items to a foreign consignee prior to delivery under a U.S. International Import Certificate. The written approval of BIS is required before items covered by a U.S. International Import Certificate (whether or not bearing a triangular symbol) may be shipped to a destination other than the U.S. or Canada or sold to a foreign purchaser, and before title to or possession of such items may be transferred to a foreign transferee. This requirement does not apply after the items have been delivered in accordance with the undertaking set forth in the Certificate or if at the time of such shipment, sale, passage of possession or passage of title, a License Exception or a NLR provision of the EAR would authorize the transaction.

(i) If prior approval is required, a letter requesting authorization to release the shipment shall be submitted to BIS at the address listed in paragraph (a)(2)(i) of this supplement.

(ii) The letter must contain the certificate number; date issued; location of the issuing office; names, addresses, and identities of all parties to the complete transaction; and the quantity, dollar value, and description of the items. The letter must be accompanied by the U.S. International Import Certificate, and all other documentation required by the EAR for the item and country of ultimate destination, as identified in part 748 of the EAR. If requirements stated in part 748 of the EAR do not apply to your transaction, you must identify the intended end-use of the items in your letter.

(iii) Where the letter request is approved and is supported by a foreign import certificate, no further approval from BIS is required for the purchaser or transferee to resell or again transfer the items. However, where BIS approves a request that was not supported by a foreign import certificate, the person to whom approval is granted is required to inform the purchaser or transferee, in writing, that the items are to be shipped to the approved destination only and that no other disposition of the items is permitted without the approval of BIS.

(iv) If the transaction is approved, a validated letter of approval will be sent to the U.S. purchaser for retention in his records. Where a DV or other official government confirmation of delivery is required, the letter will so indicate.

(v) If the items covered by a certificate have been imported into a destination other than the U.S. and the foreign exporter of the items requests a Delivery Verification, the person who obtained the certificate must obtain a DV from the person to whom the items were delivered in the actual importing country. (If a DV is unobtainable, other official government confirmation of delivery must be obtained.) The DV or other official government confirmation of delivery must be submitted to BIS together with an explanatory letter giving the U.S. International Import Certificate number, date issued, and location of issuing office. BIS will then issue Form ITA–6008, Delivery Compliance Notice, in two copies, the original of which must be forwarded to the country of origin in order to serve as evidence to the exporting country that the requirements of the U.S. Government have been satisfied with respect to delivery of the items.

(vi) Delivery, sale, or transfer of items to another U.S. purchaser.

(A) Items covered by a U.S. International Import Certificate may not be sold, and title to or possession of such items may not be transferred, to another U.S. purchaser or transferee before the items are delivered to the U.S. (or to an approved foreign destination, as provided by paragraph (a)(5) of this supplement), except in accordance with the provisions described in paragraph (a)(6) of this supplement. The provisions of this paragraph do not apply after the items have been delivered in accordance with the undertaking set forth in the certificate.

(B) Resale or transfer to another U.S. purchaser or transferee requires the prior approval of BIS only in cases where the buyer or transferee is listed in supplement no. 1 to part 766 of the EAR. However, you, as the person who obtained the certificate are required to notify BIS of any change in facts or intentions relating to the transaction, and in all cases you will be held responsible for the delivery of the items in accordance with the EAR. You are required in all cases to secure, prior to sale or transfer, and to retain in your files in accordance with the recordkeeping provisions contained in part 762 of the EAR, written acceptance by the purchaser or transferee of:

(*1*) All obligations undertaken by, and imposed under the EAR, upon the holder of the certificate; and

(*2*) An undertaking that all subsequent sales or transfers will be made subject to the same conditions.

(C) The responsibility of the certificate holder for obtaining a DV also applies to those cases where the items are resold to a U.S. purchaser (See paragraph (b)(1) of this supplement.

(vii) Reexport or transshipment of items after delivery to U.S. Items imported into the U.S. under the provisions of a U.S. International Import Certificate may not be reexported to any destination under the *intransit* provisions of License Exception TMP (see §740.9(b)(1) of the EAR). However, all other provisions of the EAR applicable to items of domestic origin shall apply to the reexport of items of foreign origin shipped to the U.S. under a U.S. International Import Certificate.

(viii) Lost or destroyed U.S. International Import Certificates. If a U.S. International Import Certificate is lost or destroyed, a duplicate copy may be obtained by the person in the U.S. who executed the original U.S. International Import Certificate by submitting to any of the offices listed in paragraph (a)(2)(i) of this supplement new Form BIS–645P/ATF–4522/DSP–53 in the same way as an original request, except that the forms shall be accompanied by a letter detailing the circumstances under which the original certificate was lost or destroyed and certifying:

(A) That the original U.S. International Import Certificate No. _____, dated _____, issued to (name and address of U.S. importer) for import from (foreign exporter's name and address) has been lost or destroyed; and

(B) That if the original U.S. International Import Certificate is found, the applicant agrees to return the original or duplicate of the certificate to the Bureau of Industry and Security.

(ix) Unused U.S. International Import Certificates. If the transaction will not be completed and the U.S. International Import Certificate will not be used, return the certificate for cancellation to BIS at the address listed in paragraph (a)(2)(i) of this supplement.

(b) Delivery Verification Certificate. U.S. importers may be requested by their foreign suppliers to furnish them with a certified Form BIS–647P, Delivery Verification Certificate, covering items imported into the U.S. These requests are made by foreign governments to assure that strategic items shipped to the U.S. are not diverted from their intended destination. In these instances, the issuance of an export license by the foreign country is conditioned upon the subsequent receipt of a Delivery Verification Certificate from the U.S. importer. Accordingly, your compliance with your foreign exporter's request for a Delivery Verification is necessary to ensure your foreign exporter fulfills its government obligations and is able to participate in future transactions with you. Failure to comply may subject your exporter to penalties that may prevent future trade.

(1) The responsibility of a person or firm executing a U.S. International Import Certificate for providing the foreign exporter with confirmation of delivery of the items includes instances where the items are resold or transferred to another U.S. person or firm prior to actual delivery to the U.S. or to an approved foreign destination. The person who executed the U.S. International Import Certificate shall secure in writing from the U.S. purchaser or transferee, and retain in your files in accordance with the recordkeeping provisions stated in part 762 of the EAR:

(i) Acceptance of the obligation to provide the purchaser or transferee with either the Delivery Verification (or other official government confirmation of delivery if a Delivery Verification is unobtainable) or assurance that this document was submitted to BIS; and

(ii) An undertaking that each succeeding U.S. transferee or purchaser will assume the same obligation or assurance. In each case the seller or transferor must transmit to the U.S. purchaser or transferee the U.S. International Import Certificate number covering the export from the foreign country and request that they pass it on to any other U.S. purchasers or transferees.

(2) Completion and certification of Delivery Verification Certificates. If you are requested by your foreign exporter to provide a Delivery Verification, you must obtain Form BIS–647P from a U.S. customs office or one of the offices listed in paragraph (a)(2) of this supplement and complete all blocks (except those below the line titled ''To be completed by U.S. Customs Service'') on the form. The language used in the block titled ''Description of Goods'' must describe the items in the same terms as those shown on the applicable U.S. International Import Certificate. Upon completion Form BIS–647P must be presented, in duplicate, to a U.S. customs office. The U.S. customs office will certify Form BIS–647P only where the import is made under a warehouse or consumption entry.

(3) Disposition of certified Delivery Verification Certificates. The importer must send the original certified Delivery Verification Certificate to the foreign exporter or otherwise dispose of it in accordance with the instructions of the exporting country. The duplicate copy will be retained by the U.S. customs office.

(4)(i) Issuance of a U.S. Delivery Compliance Notice in lieu of a Delivery Verification Certificate. If you are requested to provide a Delivery Verification Certificate but do not wish to disclose the name of your customer to the foreign exporter (e.g., in the event that the items are resold or transferred to another person or firm before the items enter the U.S.), you may submit an originally completed Form BIS–647P together with an explanatory letter requesting a Delivery Compliance Notice, to BIS at the address listed in (a)(2)(i) of this supplement.

(ii) BIS will provide you with a notice signifying that the items were imported into the U.S. and that a satisfactory DV has been submitted to BIS. You must then forward the original notice to your foreign exporter for submission to the foreign government. A copy of the notice should be retained in your files in accordance with the recordkeeping provisions stated in part 762 of the EAR.

(5)(i) Lost or destroyed Delivery Verification Certificate. When a Delivery Verification Certificate is lost or destroyed, the U.S. importer must submit a letter to BIS at the address listed in paragraph (a)(2)(i) of this supplement certifying that:

(A) The original Delivery Verification Certificate has been lost or destroyed;

(B) The circumstances under which it was lost or destroyed;

(C) The type of customs entry (warehouse or consumption), entry number, and date of entry; and

(D) The number and date of the related U.S. International Import Certificate.

(ii) BIS will, in applicable cases, notify the exporting government that a Delivery Verification Certificate been issued.

(c) Penalties and sanctions for violations. The enforcement provisions of part 764 and supplement no. 2 to part 736 of the EAR apply to transactions involving imports into the U.S. covered by this supplement and to both foreign and U.S. parties involved in a violation of this supplement. Any provisions of part 764 and supplement no. 2 to part 736 of the EAR which, by their terms, relate to ''exports'' or ''exports from the U.S.'' are also deemed to apply and extend to imports into the U.S., applications for U.S. International Import Certificates (Forms BIS–645P presented to U.S. Department of Commerce for certification), U.S. International Import Certificates, and Delivery Verification Certificates, described in this supplement. (Applications the documents described in this supplement, are included within the definition of export control documents provided in part 772 of the EAR.) Refer to §764.3 of the EAR for more information.

[61 FR 12812, Mar. 25, 1996, as amended at 61 FR 64285, Dec. 4, 1996; 62 FR 25463, May 9, 1997; 73 FR 37, Jan. 2, 2008; 78 FR 13470, Feb. 28, 2013]

SUPPLEMENT NO. 6 TO PART 748
[RESERVED]

SUPPLEMENT NO. 7 TO PART 748—VALIDATED END-USER (VEU) AUTHORIZATION: LIST OF VALIDATED END-USERS, RESPECTIVE ITEMS ELIGIBLE FOR EXPORT, REEXPORT, AND TRANSFER (IN-COUNTRY), AND ELIGIBLE DESTINATIONS

VEU Type	Country	Validated end-user	Eligible items (by ECCN)	Eligible destination	Federal Register citation
Nothing in this Supplement shall be deemed to supersede other provisions in the EAR, including but not limited to §748.15(c).					
General	China (People's Republic of).	Advanced Micro Devices China, Inc.	3D002, 3D003, 3E001 (limited to "technology" for items classified under 3C002 and 3C004 and "technology" for use during the International Technology Roadmap for Semiconductors (ITRS) process for items classified under ECCNs 3B001 and 3B002), 3E002 (limited to "technology" for use during the ITRS process for items classified under ECCNs 3B001 and 3B002), 3E003.e (limited to the "development" and "production" of integrated circuits for commercial applications), 4D001 and 4E001 (limited to the "development" of products under ECCN 4A003.b through .g).	Advanced Micro Devices (Shanghai) Co., Ltd., Buildings 33 (Unit 1), 46, 47, 48 & 49, River Front Harbor, Zhangjiang Hi-Tech Park, No. 1387 Zhang Dong Road, Pudong District, Shanghai, China 201203. AMD Technology Development (Beijing) Co., Ltd., North and South Buildings, RaycomInfotech, Park Tower C, No. 2 Science Institute South Rd., Zhong Guan Cun, Haidian District, Beijing, China 100190. AMD Products (China) Co. Ltd., North and South Buildings, RaycomInfotech Park Tower C, No. 2 Science Institute South Rd., Zhong Guan Cun, Haidian District, Beijing, China 100190.	75 FR 25763, 5/10/10. 76 FR 2802, 1/18/11. 78 FR 3319, 1/16/13. 81 FR 40785, 6/23/16. 88 FR 73496, 10/25/23.
General	.....	Applied Materials (China), Inc.	*These Items Authorized for those Applied Materials Destinations Identified by one asterisk (*):* 2B006.b, 2B230, 2B350.g,3, 2B350.i, 3B001.a, 3B001.b, 3B001.e, 3B001.f, 3C001, 3C002, 3D002 (limited to "software" specially designed for the "use" of stored program controlled items classified under ECCN 3B001).	*Applied Materials South East Asia Pte. Ltd.—Shanghai Depot, c/o Shanghai Applied Materials Technical Service Center, No. 2667 Zuchongzhi Road, Shanghai, China 201203. *Applied Materials South East Asia Pte. Ltd.—Beijing Depot, c/o Beijing Applied Materials Technical Service Center, No. 1 North Di Sheng Street, BDA, Beijing, China 100176. *Applied Materials South East Asia Pte. Ltd.—Wuxi Depot, c/o Sinotrans Jiangsu Fuchang Logistics Co., Ltd., 1 Xi Qin Road, Wuxi Export Processing Zone, Wuxi, Jiangsu, China 214028.	72 FR 59164, 10/19/07. 74 FR 19382, 4/29/09. 75 FR 27185, 5/14/10. 77 FR 10953, 2/24/12. *80* FR 65932, 10/28/15.

VEU Type	Country	Validated end-user	Eligible items (by ECCN)	Eligible destination	Federal Register citation
			These Items Authorized for the Applied Materials Destination Identified by two asterisks (**): 2B006.b, 2B230, 2B350.g,3, 2B350.i, 3B001.a, 3B001.b, 3B001.e, 3B001.f, 3C001, 3C002, 3D002 (limited to "software" specially designed for the "use" of stored program controlled items classified under ECCN 3B001), and 3E001 (limited to "technology" according to the General Technology Note for the "development" or "production" of items controlled by ECCN 3B001). *This item is authorized for those Applied Materials Destination Identified by three asterisks (***):* 3E001 (limited to "technology" according to the General Technology Note for the "development" or "production" of items controlled by ECCN 3B001).	*Applied Materials South East Asia Pte. Ltd.—Wuhan Depot, c/o Wuhan Optics Valley Import & Export Co., Ltd., No. 101 Guanggu Road, East Lake High-Tec Development Zone, Wuhan, Hubei, China 430074. *Applied Materials (China), Inc.—Shanghai Depot, No. 2667, Zuchongzhi Road, Shanghai, China 201203. *Applied Materials (China), Inc.—Beijing Depot, No. 1 North Di Sheng Street, BDA, Beijing, China 100176. **Applied Materials (Xi'an) Ltd., No. 28 Xin Xi Ave., Xi'an High Tech Park, Export Processing Zone, Xi'an, Shaanxi, China 710075. ***Applied Materials (China), Inc.—Headquarters, 1388 Zhangdong Road, Bldg. 22, Zhangjiang Hi-Tech Park, Pudong, Shanghai, 201203, China.	

General	.....	Boeing Tianjin Composites Co. Ltd.	1B001.f, 1D001 (limited to ''software'' specially designed or modified for the ''use'' of equipment controlled by 1B001.f), 2B001.b.2 (limited to machine tools with accuracies no better than (*i.e.*, not less than) 13 microns), 2D001 (limited to ''software,'' other than that controlled by 2D002, specially designed or modified for the ''use'' of equipment controlled by 2B001.b.2), and 2D002 (limited to ''software'' for electronic devices, even when residing in an electronic device or system, enabling such devices or systems to function as a ''numerical control'' unit, capable of coordinating simultaneously more than 4 axes for ''contouring control'' controlled by 2B001.b.2).	Boeing Tianjin Composites Co. Ltd., 4566 Hebei Road, Marine Hi-Tech Development Area, Tanggu District, Tianjin, China 300451.	72 FR 59164, 10/19/07. 74 FR 19382, 4/29/09. 77 FR 10953, 2/24/12. 77 FR 40258, 7/9/12. 81 FR 61106, 9/6/16.

VEU Type	Country	Validated end-user	Eligible items (by ECCN)	Eligible destination	Federal Register citation
General	.....	Lam Research Service Co., Ltd.	*These Items Authorized for those Lam's Destinations Identified by a single asterisk (*):* 2B230, 2B350.c, 2B350.d, 2B350.g, 2B350.h, 2B350.i, and 3B001.e (limited to installation, warranty maintenance/repair, or maintenance/repair service of semiconductor manufacturing equipment manufactured by Lam, and items classified under ECCN 3B001.e are limited to specially designed components and accessories), 3D001 (limited to "software" (excluding source code) specially designed for the "development" or "production" of equipment controlled by ECCN 3B001.e)), 3D002 (limited to "software" (excluding source code) specially designed for the "use" of equipment controlled by ECCN 3B001.e)), and 3E001 (limited to "development" "technology" according to the General Technology Note of a type of equipment classified under ECCN 3B001.e).	*Lam Research International Sarl (Lam Beijing Warehouse), c/o Beijing Lam Electronics Tech Center, 1 Building, No. 28, Jinghai Second Road, BDA, Beijing, China 100176. *Lam Research International Sarl (Lam Beijing Warehouse), c/o Beijing STE International Logistics Co., Ltd., Building 3, No. 9 Ke Chuang Er Street Beijing Economic & Technological Development Area, Beijing, China 100176. *Lam Research International Sarl (Lam Beijing Warehouse), c/o China International Electronic Service Company, 1 Building, No. 28, Jinghai Second Road, BDA, Beijing, China 100176. *Lam Research International Sarl (Lam Beijing Warehouse), c/o HMG Hi-Tech Logistics (Beijing) Co., Ltd., Building 3, No. 9 Ke Chuang Er Street, Beijing Economic & Technological Development Area, Beijing, China 100176. *Lam Research International Sarl (Lam Dalian Warehouse), c/o Liaoning JD Logistics International Co., Ltd., Dalian Bonded Logistics Port, W5–B8, No. 6, Road #3, Dalian, China 116600. *Lam Research International Sarl (Lam Dalian Warehouse), c/o Liaoning JD Logistics International Co., Ltd., Dalian Bonded Logistics Zone No. 1 Public Warehouse Dalian, China 116600. *Lam Research International Sarl (Lam Shanghai Warehouse), c/o HMG Supply Chain (Shanghai) Co., Ltd., No. 633, Shangfeng Road, Pudong New District, Shanghai, China 201201.	72 FR 59164, 10/19/07, 74 FR 19382, 4/29/09. 77 FR 10953, 2/24/12, 77 FR 40258, 7/9/12, 82 FR 48929, 10/23/17.

*Lam Research International Sarl (Lam Shanghai Warehouse), c/o Regal Harmony Logistics Co., Ltd., No. 799, Yihua Road, Pudong New District, Shanghai, China 201299.
*Lam Research International Sarl (Lam Shanghai Warehouse Operator), c/o Shanghai Well-Win Logistics Co., Ltd., No. 2667 Zuchongzhi Road, Pudong New District, Shanghai, China.
*Lam Research International Sarl (Lam Shanghai Warehouse; WGQ Bonded Warehouse), c/o HMG Supply Chain (Shanghai) Co., Ltd., No. 55, Fei La Road, Waigaoqiao Free Trade Zone Pudong New Area, Shanghai, China 200131.
*Lam Research International Sarl (Lam Wuhan Warehouse), c/o Wuhan HMG Logistics Co., Ltd., Factory C101/201, 1–2F Building 1, Central China Normal, University Park Road, Wuhan, China 430223.
*Lam Research International Sarl (Lam Wuxi Warehouse), c/o HMG WHL Logistics (Wuxi) Co., Ltd., Plot J3–4, No. 5 Gaolang East Road, CBZ, New District Wuxi, Wuxi, China 214208.
*Lam Research International Sarl (Lam Xiamen Warehouse), c/o VR Int'l Logistics (Xiamen) Co., Ltd., C3 Area No. 3 Warehouse, No. 1007 West Fangshan Road, Bonded Logistics Center (Type B) Xiang'an District, Xiamen, China 361101.
* Lam Research International Sarl (Lam Xi'an Warehouse), c/o VR International Logistics (Xi'an) Co., Ltd., No. 28 Information Road, EPZ B Zone, Xi'an New District, Xi'an, China 710119.
*Lam Research International Sarl (Wuxi EPZ Bonded Warehouse), c/o HMG WHL Logistics (Wuxi) Co., Ltd., 1st Floor, Area 4, No. 1, Plot J3, No. 5 Gaolang East Road, Export Processing Zone, Wuxi, Jiangsu, China 214028.

VEU Type	Country	Validated end-user	Eligible items (by ECCN)	Eligible destination	Federal Register citation
			These Items Authorized for those Lam's Destinations Identified by double asterisks (**): 2B230, 2B350.c, 2B350.d, 2B350.g, 2B350.h, 2B350.i, and 3B001.e (limited to installation, warranty maintenance/repair, or maintenance/repair service of semiconductor manufacturing equipment manufactured by Lam, and items classified under ECCN 3B001.e are limited to specially designed components and accessories), 3D001 (limited to "software" controlled by ECCN 3B001.e)), 3D002 (limited to "software" (excluding source code) specially designed for the "use" of equipment controlled by ECCN 3B001.e)), and 3E001 (limited to "development" "technology" or "production" "technology" according to the General Technology Note of a type to support integration, assembly (mounting), inspection, testing, and quality assurance of equipment classified under ECCN 3B001.e)).	** Lam Research Service Co., Ltd. (Shanghai), 1st Floor, Area C, Hua Hong Science & Technology Park, 177 Bi Bo Road, Zhangjiang Hi-Tech Park, Pudong New District, Shanghai, China 201203. ** Lam Research Service Co., Ltd. (Xiamen), Room 705A, Qiangye Building, Xiang'an Industrial Park, Xiamen Torch Hi-tech Zone, Xiamen, China 361115. ** Lam Research Service Co., Ltd. (Beijing Branch), 6th Floor, Building 52, No. 2, Jingyuan North Street, Beijing Economic & Technological Development Area, Beijing, China 100176. ** Lam Research Service Co., Ltd. (Dalian Branch), Units 01, 02, 13, 10th Floor, Jinma International Building, No. 1 Yongde Street, Dalian, China 116620. ** Lam Research Service Co., Ltd. (Lam Dalian Representative Office), c/o Intel Semiconductor (Dalian) Ltd., No. 109 Huaihe Road East, Dalian Economic & Technical Development Area, Dalian, China 116600. ** Lam Research Service Co., Ltd. (Wuhan Representative Office), Room 302, Guanggu Software Park Building E4, No. 1 Guanshan Road, Wuhan, Hubei Province, China 430074. ** Lam Research Service Co., Ltd. (Wuxi Branch), Room 302, Building 6, Singapore International Park, No. 89 Xing Chuang Si Road, Wuxi New District, Wuxi, Jiangsu, China 214028. ** Lam Research Service (Shanghai) Co., Ltd. (Xi'an Branch), Room 602, Building G, Wangzuo Xiandai City, 35 Tangyan Road, Gaoxin District, Xi'an, China 710065.	

General	India	GE India Industrial Pvt Ltd ...	1C002.a.1, 1C002.a.2, 1C002.b.1.a, 1C002.b.1.b, 1E001, 2E003.f, 9E003.a.1, 9E003.a.2, 9E003.a.4, 9E003.a.5, 9E003.a.6, 9E003.a.8, and 9E003.c.	GE India Technology Centre Private Limited (GEITC), No. 122, EPIP, Phase II, Hoodi Village, Whitefield Road, Bangalore 560066, Karnataka, India. Bangalore Engineering Center (BEC), c/o GE India Technology Centre Private Limited (GEITC), No. 122, EPIP, Phase II, Hoodi Village, Whitefield Road, Bangalore 560066, Karnataka, India.	74 FR 31620, 7/2/09. 74 FR 68147, 12/23/09. 77 FR 10953, 2/24/12.

[89 FR 80085, Oct. 2, 2024, as amended at 89 FR 96854, Dec. 5, 2024; 90 FR 42322, Dec. 31, 2025]

SUPPLEMENT NO. 8 TO PART 748—INFORMATION REQUIRED IN REQUESTS FOR VEU AUTHORIZATION

VEU authorization applicants must provide to BIS certain information about the prospective and related respective validated end-user. This information must be included in requests for authorization submitted by prospective validated end-users, or exporters or reexporters who seek to have certain entities approved as validated end-users. BIS may, in the course of its evaluation, request additional information.

A. REQUIRED INFORMATION FOR BOTH GENERAL AND DATA CENTER VALIDATED END-USER AUTHORIZATION REQUESTS

(1) Name of proposed VEU candidates, including all names under which the candidate conducts business; complete company physical address (simply listing a post office box is insufficient); telephone number; fax number; email address; company website (if available); and name of individual who should be contacted if BIS has any questions. If the entity submitting the application is different from the prospective validated end-user identified in the application, this information must be submitted for both entities. If the candidate has multiple locations, all physical addresses located in the eligible destination must be listed.

(2) Provide an overview of the structure, ownership and business of the prospective validated end-user. Include a description of the entity, including type of business activity, ownership, subsidiaries, and joint-venture projects, as well as an overview of any business activity or corporate relationship that the entity has with either government or military organizations.

(3) List the items proposed for VEU authorization approval and their intended end-uses. Include a description of the items; the ECCN for all items, classified to the subparagraph level, as appropriate; technical parameters for the items including performance specifications; and end-use description for the items. If BIS has previously classified the item, the Commodity Classification Automated Tracking System (CCATS) number may be provided in lieu of the information listed in the foregoing provisions of this paragraph.

(4) Provide the physical address(es) of the location(s) where the item(s) will be used, if this address is different from the address of the prospective validated end-user provided in paragraph (1) of this supplement.

(5) If the prospective validated end-user plans to reexport the item, specify the destination to which the items will be reexported.

(6) Specify how the prospective validated end-user's record keeping system will allow compliance with the recordkeeping requirements set forth in §748.15(e) of the EAR. Describe the system that is in place to ensure compliance with VEU requirements.

(7) Include an original statement on letterhead of the prospective validated end-user, signed and dated by a person who has authority to legally bind the prospective validated end-user, certifying that the end-user will comply with all VEU requirements. This statement must include acknowledgement that the prospective end-user:

(i) Has been informed of and understands that the item(s) it may receive as a validated end-user will have been exported in accordance with the EAR and that use or diversion of such items contrary to the EAR is prohibited;

(ii) Understands and will abide by all authorization VEU end-use restrictions, including the requirement that items received under authorization VEU will only be used for authorized end-uses and may not be used for any activities described in part 744 of the EAR unless authorized by §748.15(d);

(iii) Will comply with VEU recordkeeping requirements; and

(iv) Agrees to allow on-site reviews by U.S. Government officials to verify the end-user's compliance with the conditions of the VEU authorization.

B. ADDITIONAL REQUIRED INFORMATION FOR DATA CENTER VALIDATED END-USER AUTHORIZATION REQUESTS

(1) A description of controlled items required in the data center and an accompanying rationale for why these items are required;

(2) An overview of any business activity or corporate relationship that the candidate has with either government or military organizations of Macau or a destination specified in Country Group D:5;

(3) An overview of business activities or corporate relationships that the candidate has with any organization designated on the Entity List in supp. no. 4 to part 744 and/or Military End-User List in supp. no. 7 to part 744;

(4) Describe physical and logical security requirements for each location the controlled items will be housed (*e.g.*, around the clock monitoring, cybersecurity requirements, third-party monitoring; and/or physical security);

(5) A description of the policies and procedures governing employees physical and logical access to the VEU data center;

(6) For NVEUs, absent a legal prohibition or other such exceptional circumstances, a list of current and potential customers of the data center;

(7) An overview of the data center's information security plan, which should include:

(i) Cybersecurity plan;

(ii) Logging and monitoring plan;

(iii) Technology control plan that describes how much compute is required for the various end uses involved;

(iv) Baseline cloud configuration and identity and access management process for tenants, if a cloud provider;

(v) Personnel security plan; and

(vi) An incident, identification, investigation, and reporting plan;

(8) An explanation of the network infrastructure and architecture and service providers;

(9) An overview of the applicant's supply chain risk management plan to limit PRC-origin equipment specified in paragraph 3 of supplement no. 10 to part 748 from entering the data-center environment and supply chain;

(10) An overview of the applicant's export control training program and compliance program procedures; and

(11) (NVEU applicants only) An overview of the applicant's ability to verify that items subject to the license requirement in §742.6(a)(6)(iii) have not been moved from the specific country authorized for export or reexport by the NVEU (*e.g.* from the ping times to nearby secure servers);

[89 FR 80093, Oct. 2, 2024, as amended at 90 FR 4564, Jan. 15, 2025]

SUPPLEMENT NO. 9 TO PART 748—END-USER REVIEW COMMITTEE PROCEDURES

(1) The End-User Review Committee (ERC), composed of representatives of the Departments of State, Defense, Energy, and Commerce, and other agencies, as appropriate, is responsible for determining whether to add to, to remove from, or otherwise amend the list of validated end-users and associated eligible items set forth in supplement no. 7 to this part. The Department of Commerce chairs the ERC.

(2) Unanimous vote of the Committee is required to authorize VEU status for a candidate or to add any eligible items to a pre-existing authorization. Majority vote of the Committee is required to remove VEU authorization or to remove eligible items from a pre-existing authorization.

(3) In addition to requests submitted pursuant to §748.15, the ERC will also consider candidates for VEU authorization that are identified by the U.S. Government. When the U.S. Government identifies a candidate for VEU authorization, relevant parties (*i.e.*, end-users and exporters or reexporters, when they can be identified) will be notified, before the ERC determines whether VEU authorization is appropriate, as to which end-users have been identified as potential VEU authorization candidates. End-users are not obligated to accept the Government's nomination.

(4) The ERC will make determinations whether to grant VEU authorization to each VEU candidate no later than 30 calendar days after the candidate's complete application is circulated to all ERC agencies. The Committee may request additional information from an applicant or potential validated end-user related to a particular VEU candidate's application. The period during which the ERC is waiting for additional information from an applicant or potential validated end-user is not included in calculating the 30 calendar day deadline for the ERC's determination.

(5) If an ERC agency is not satisfied with the decision of the ERC, that agency may escalate the matter to the Advisory Committee on Export Policy (ACEP). The procedures and time frame for escalating any such matters are the same as those specified for license applications in Executive Order 12981, as amended by Executive Orders 13020, 13026 and 13117 and referenced in §750.4 of the EAR.

(6) A final determination at the appropriate decision-making level to amend the VEU authorization list set forth in supplement no. 7 to this part operates as clearance by all member agencies to publish the amendment in the FEDERAL REGISTER.

(7) The Deputy Assistant Secretary of Commerce for Export Administration will communicate the determination on each VEU request to the requesting party and the end-user.

[72 FR 33662, June 19, 2007]

SUPPLEMENT NO. 10 TO PART 748—DATA CENTER VEU AUTHORIZATION GUIDELINES

I. CERTIFICATION AND POLICY REQUIREMENTS RELATING TO NATIONAL AND UNIVERSAL VALIDATED END USERS (VEU)

Vetting Requirements

1. General Compliance and Proven Track Record. The VEU must have a credible plan to meet or demonstrated track record of meeting established physical, cyber, and personnel security standards for large-scale data center operations and of complying with U.S. export control laws, a credible plan to or demonstrated track record of respecting human rights, as well as a clear and feasible plan for doing so in a destination that is not Macau, specified in Country Group D:5, or listed in paragraph (a) to supplement no. 5 to part 740.

2. Foreign Military and Intelligence Ties.

a. The VEU, to include all subsidiary and parent entities (as well as their personnel in their professional capacities), must be free of ties to any 'military end users' (as that term is defined in §744.21(g)) or 'military-intelligence end users' (as that term is defined in §744.22(f)(2)).

b. Ties include research and development agreements and joint activities.

3. *Foreign Technology Ties.* The VEU, to include all subsidiary and parent entities (as well as their personnel in their professional capacities), must adhere to the U.S. rules on outbound investment at 31 CFR part 850 as applied to U.S. persons regardless of whether such VEU, entity, or individual is a U.S. person, without giving effect to any exception under 31 CFR 850.501(g), except that non-U.S. persons must submit materials to BIS, not the Department of the Treasury. Any notifications or other information that, because of this paragraph, would be required to be submitted in order to adhere to 31 CFR part 850 should be submitted to BIS as part of the VEU application. (For the avoidance of doubt, any notification or other information that would be required to be submitted pursuant to 31 CFR part 850 should continue to be submitted to the Department of the Treasury). The VEU must also adhere to determinations, including any prohibitions and mitigations, made under Commerce's Information Communication Technology Services program at 15 CFR part 791, and the VEU must demonstrate that it has eliminated supply chain dependencies on advanced semiconductors specified in ECCN 3A090.a, 4A090.a, or .z derivatives meeting or exceeding the parameters of ECCN 3A090.a or 4A090.a and advanced networking equipment specified in ECCN 4A003.g, 5A001, 5A002.a, or 5A992.a. produced by any entities headquartered in Macau or destinations specified in Country Group D:5. The VEU must also demonstrate that it has eliminated supply chain dependencies on equipment and services listed by the Federal Communications Commission as covered by Section 2 of the Secure and Trusted Communications Networks Act of 2019. The VEU must also notify the U.S. Government, through the VEU program, of all cooperative activities, such as joint ventures, with any entities headquartered in Macau or a destination specified in Country Group D:5 or any individuals or entities that are on the EAR's Entity List or OFAC's Specially-Designated Nationals and Blocked Persons List. The VEU must report to BIS all equity interests (including contingent equity interests) or ownership stakes in the VEU by, or debt or obligations of the VEU from similar financial arrangements to, any entity. headquartered in Macau or a destination specified in Country Group D:5 or any individual or entities that are on the EAR's Entity List or OFAC's Specially-Designated Nationals and Blocked Persons List, with the exception of investments under 1 percent or $1 million, whichever is lower, individually or as aggregated across (a) entities that are affiliated or have formal or informal arrangements to act in concert, or (b) departments, agencies, or instrumentalities of, or that are controlled by, the national or subnational governments of Macau or a destination specified in Country Group D:5, in a VEU whose equity securities are primarily traded on an exchange in a country listed in paragraph (a) to supplement no. 5 to part 740.

Export Restrictions

4. Transfer of Chips. The VEU may not, without authorization from BIS, transfer chips, assemblies, or computers that meet or exceed the scope of ECCN 3A090.a, 4A090.a, or .z items meeting or exceeding the parameters of ECCN 3A090.a or 4A090.a to any of the following:

a. Any entity located in, or headquartered in, Macau or a destination specified in Country Group D:5;

b. Persons of any nationality working for or on behalf of a party on the EAR's Entity List, ISN's nonproliferation sanctions lists, or OFAC's Specially Designated Nationals and Blocked Persons List;

c. Persons of any nationality employed by a government entity of Macau or a government entity of a destination specified in Country Group D:5 or presenting a high risk of facilitating diversion to Macau or a destination specified in Country Group D:5.

These requirements should not be read as allowing any transfers that otherwise require a license.

5. Intra-company Transfer Notification. [*Only for VEUs accredited via a UVEU*] The UVEU must notify the BIS 60 days in advance of its intention to transfer any chips between countries in which the UVEU is using the UVEU authorization for such transfer, as well as any planned construction or installations of data centers in countries not previously included in prior notifications to BIS. BIS retains the right to impose licensing requirements for transfers of chips and/or to require additional conditions for entry into these countries.

6. *Geographic allocations. Only for entities headquartered in countries listed in paragraph (a) to Supplement no. 5 to Part 740 with UVEU status:* The UVEU cannot transfer or install more than 25% of its total AI computing power, measured as the aggregate Total Processing Power (TPP) of chips that meet or exceed the scope of ECCN 3A090.a and are owned by the entity and all its subsidiary and parent entities, to or in locations outside of countries listed in paragraph (a) to Supplement No. 5 to Part 740, and cannot transfer or install more than 7% of its total AI computing power to or in any single country outside of those listed in paragraph (a) to Supplement No. 5 to Part 740). *Only for U.S.-headquartered entities with UVEU status:* The UVEU cannot transfer or install more than 50% of its total AI computing power outside of the United States, as measured on the reporting dates outlined in Section 10.

Acceptable Use Policies

7. Advanced AI Training. The VEU, to include all subsidiary and parent entities, may not, without authorization from BIS, train an AI model specified in ECCN 4E091, in whole or in part, in a location outside of, or as Infrastructure-as-a-Service (IaaS) for an entity headquartered outside of, countries listed in paragraph (a) to Supplement No. 5 to Part 740. Fine-tuning an AI model specified in ECCN 4E091 is permitted if such fine-tuning constitutes no more than 25 percent of the training operations of the original AI model specified in ECCN 4E091. Provision of application programming interface (API) access to AI models or infrastructure-as-a-service (IaaS) access for AI inference are not prohibited, and would only become prohibited if equivalent restrictions are put in place for U.S.-based computing resources.

8. Model Weight Storage. The VEU may only store or transfer the model weights of an advanced AI model specified in ECCN 4E091 to facilities located in countries listed in paragraph (a) to Supplement No. 5 to Part 740, or to facilities located in jurisdictions other than Macau or those specified in Country Group D:5, provided such facilities are owned or operated by entities headquartered in, or with an ultimate parent headquartered in countries listed in paragraph (a) to Supplement No. 5 to Part 740, and provided the facility complies with the provisions of paragraphs 14, 15, and 18 of Supplement No. 10 to this part by January 15, 2026.

9. Prohibited Uses and Human Rights Safeguards. The VEU is responsible for ensuring that no items subject to the EAR are used to support any of the following:

a. Activities described in part 744 and all relevant supplemental notices;

b. Military and intelligence entities headquartered, or located in, Macau, destinations specified in Country Group D:5, and military and intelligence entities whose activities BIS informs the VEU could pose an unacceptable risk to U.S. national security or could enable human rights abuses or repression of democracy; or

c. Activities that enable human rights abuses and/or repression of democracy including through censorship; arbitrary or unlawful surveillance; and abusive genetic collection and analysis schemes.

Documentation, Auditing, and Reporting Requirements

10. Reporting of Chip Installations. The VEU will report to BIS and other agencies on a semi-annual basis (each February 1 and August 1), a complete facility-specific chip accounting for itself and all parent and subsidiary entities, including:

a. The quantities and types of chips that meet or exceed the parameters of 3A090.a, purchased, approved for export to facilities in given countries, reexported, transferred to relevant destinations and entities to which transfers have occurred, and installed in all data center facilities in destinations except Macau, destinations specified in Country Group D:5, and countries not listed in paragraph (a) to Supplement No. 5 to Part 740.

b. A breakdown of the VEU's total aggregate compute for chips, assemblies, and computers specified in 3A090.a, 4A090.a, or .z derivatives meeting or exceeding the parameters of ECCN 3A090.a or 4A090.a, in destinations except Macau and destinations specified in Country Group D:5 (including chips transferred but not yet installed). This accounting must also include information about chip attrition due to factors such as loss, damage, failure, relocation, and resale.

11. Monitoring, Recordkeeping, and Reporting. The VEU must perform ongoing monitoring, evaluation, and end user due diligence of all the vetting requirements, export restrictions, acceptable use policies, and security requirements herein. The VEU must further notify BIS if, at any time, any requirements have not been met and it must maintain for five years all records in conjunction with these conditions. These records must be made available pursuant to a request from BIS, whether through an end use check or otherwise. The VEU must also cooperate with BIS's auditing of records and facilities described in this document. Failure to comply with BIS may result in revocation of VEU status.

12. Certification as VEU. An entity is certified as a VEU through the process described in Supplement No. 9 to this part. Entities headquartered in countries listed in paragraph (a) to Supplement No. 5 to Part 740 are eligible if they meet the standards provided in Section I and II. Entities in destinations except Macau, destinations specified in Country Group D:5, or those listed in paragraph (a) to Supplement No. 5 to Part 740 are eligible if they meet the appropriate standards outlined in Supplement No. 10 to part 748 and, for NVEUs, if there is a government-to-government arrangement between their government and the United States. If a government-to-government arrangement is rescinded by either party, the NVEU status of NVEUs and, as appropriate, the ability of a UVEU to operate in that country may be revoked.

II. SECURITY REQUIREMENTS

Ownership Security

13. Ownership Security of VEUs: The VEU, to include all subsidiary and parent entities, must meet ownership security standards to ensure there are no Foreign Ownership, Control, or Influence (FOCI) factors related to Macau or a destination specified in Country Group D:5. Factors relating to the entity, its

relevant foreign interest, and the government of such foreign interest shall be assessed against the requirements outlined in National Industrial Security Program Operating Manual (NISPOM) 32 CFR 117.11(b) and additional factors to include:

a. The VEU's financial viability;

b. Counterintelligence concerns, especially regarding key management or leadership personnel and company owners with regard to the government of Macau or the government of a destination specified in Country Group D:5, or to entities headquartered in, or nationals of, Macau or a destination specified in Country Group D:5;

c. Record of enforcement and/or engagement in unauthorized technology transfer;

d. The nature of any relevant bilateral and multilateral security agreement and information exchange agreements; and

e. Any other factor that demonstrates a capability on the part of foreign interests to control or influence the operations or management of the VEU of concern.

Baseline Security

14. Baseline Security of Chips and Data. The VEU's datacenters must be compliant with NIST 800–53 in a fashion certified as appropriate for compliance with these conditions and consistent with the security requirements associated with FedRAMP High, as well as with controls AC–3(7), AT–2(1), CA–8(3), CM–7(4), CM–11(2), IR–4(14), PE–3(3), PM–3, and PS–7 from NIST 800–53. This includes:

a. Advanced AI model weights and proprietary techniques used for advanced AI training must be treated as an information type with FIPS–199 security category {(confidentiality, HIGH), (integrity, HIGH), (availability, HIGH)}.

b. Certification of compliance with the above NIST 800–53 requirements must be attested annually by a Third-Party Assessment Organization (3PAO) and made available to BIS. 3PAOs must be accredited and recognized by the FedRAMP Program Management Office, and have successfully completed the certification of a FedRAMP-high Cloud Service Provider;

c. The VEU must have procedures in place to address and prevent seizure of chips;

d. The VEU must put in place software and hardware mechanisms to detect and defeat tampering, such as illicit modification;

e. Plans for the secure operation of data centers supporting a VEU shall be implemented in accordance with a security management defense-in-depth framework that includes a review of the following factors:

i. Threat analysis. Assess the capabilities, intentions, and opportunity of an adversary to exploit or damage assets or information.

ii. Vulnerability analysis. Assess the inherent susceptibility to attack of a procedure, facility, information system, equipment, or policy.

iii. Probability analysis. Assess the probability of an adverse action, incident, or attack occurring.

iv. Consequence analysis. Assess the consequences of such an action (expressed as a measure of loss, such as cost in dollars, resources, programmatic effect/mission impact, etc.)

f. The following physical and technical security requirements are required for all VEU data centers:

i. Compliance with Department of Defense Unified Facilities Criteria 4–010–05, Sections 3–4.4.1, 3–4.6.10, and 3–4.17.3;

ii. No windows permitted in server core areas; and

iii. 24/7/365 roving guard patrol or Perimeter Intrusion Detection System (PIDS) with a 15-minute response time;

Software and Network Security

15. AI-Specific Cybersecurity. The VEU will establish and bear responsibility for the following additional practices for AI security:

a. Ensure compliance with all best practices in the NSA cybersecurity information sheet ''Deploying AI Systems Securely,'' and the recommended actions for every CISA CPG 1.0 goal cross-referenced therein.

b. Establish accountability for usage; generate logs and other records of usage, to include logging and monitoring usage of third-party APIs and fine-tuning mechanisms;

c. Comply with the following requirements on model weights specified in ECCN 4E091, in addition to complying with the best practices listed in (a):

i. Model weights must be stored on dedicated devices not used by, or hosting the data of, other organizations.

ii. Every interface by which model weights can be accessed, directly or indirectly, must be reviewed to determine the appropriate output rate of information necessary for its legitimate functionality. The output rate must be monitored, and rate limitations must be implemented to ensure the output rate is unable to exceed the rate established for the interface's legitimate functionality.

iii. Every interface, for which the established output rate is such that the model weights may be extracted in six months or less, must provide access only through a narrow, well-defined API, such as for inference or fine-tuning. The API must be thoroughly reviewed and secured to prevent model extraction attacks.

Supply Chain Security

16. Transit Security. The VEU must work with the chip provider to develop, implement, and maintain a shipment security plan, to include working with validated shipping providers, establishing a positive chain of custody, employing anti-theft and anti-tampering measures, conducting inspection/

inventory upon receipt, and reporting any theft, loss, or tampering incidents to BIS within 30 days. The VEU will bear responsibility for tracking and security of chips and other items subject to export control while in transit and shall report any anomalies to BIS, as outlined in Section 11.

17. Sanitization and Disposal Procedures. The VEU must incorporate appropriate end-of-life procedures for chip sanitization and disposal that are verifiable and that ensure such chips do not enable prohibited activities, including by exceeding relevant caps.

Personnel Security

18. Personnel Security Standards and Practices. In addition to the personnel security requirements in Section 13, the VEU must follow the below practices:

a. The VEU must develop a plan to implement a personnel vetting model covering all individuals granted access to the VEU data center facility or corresponding systems.

b. Personnel granted unescorted access to the VEU data center must be vetted under the following categories:

i. Individuals specifically named on the U.S. Department of Treasury, Office of Foreign Assets Control (OFAC) Specially Designated Nationals List (SDN) or other OFAC sanctions lists; and

ii. Individuals with employment history by a government, intelligence service, or military based in Macau or a destination specified in Country Group D:5, or with any parties on the EAR's Entity List or OFAC's SDN, Blocked Persons List, or other sanctions lists should be excluded from consideration. Individuals with employment history with entities headquartered in Macau or a destination specified in Country Group D:5 require additional vetting of their continuing ties, relationships, obligations, or other factors that could incentivize them to act on behalf of an entity headquartered in Macau or a destination specified in Country Group D:5.

c. The VEU must establish and maintain a comprehensive program for detecting, assessing, disclosing, and managing insider threats, in accordance with the Cybersecurity and Infrastructure Security Agency Insider Threat Mitigation Guide, with particular consideration for insider threats that could enable access or prohibited uses by individuals or any other entities.

Adherence to This Agreement

19. Enforcement. Failure to adhere to this agreement may result in the revocation of VEU status on a national or global basis, denial of chip allocations or export licenses, as well as other penalties as appropriate under U.S. laws and regulations.

Exemption for Intentional Publication

None of the provisions of this document shall be interpreted as to apply to or prevent intentional publication of model weights, data, or code.

[90 FR 4565, Jan. 15, 2025]

PART 750—APPLICATION PROCESSING, ISSUANCE, AND DENIAL

Sec.

750.1 Scope.
750.2 Processing of Classification Requests and Advisory Opinions.
750.3 Review of license applications by BIS and other government agencies and departments.
750.4 Procedures for processing license applications.
750.5 [Reserved]
750.6 Denial of license applications.
750.7 Issuance of licenses.
750.8 Revocation or suspension of licenses.
750.9 Duplicate licenses.
750.10 Transfer of licenses for exports.
750.11 Shipping tolerances.

AUTHORITY: 50 U.S.C. 4801–4852; 50 U.S.C. 4601 *et seq.;* 50 U.S.C. 1701 *et seq.;* Sec. 1503, Pub. L. 108–11, 117 Stat. 559; E.O. 13026, 61 FR 58767, 3 CFR, 1996 Comp., p. 228; E.O. 13637, 78 FR 16129, 3 CFR, 2013 Comp., p. 223; Presidential Determination 2003–23, 68 FR 26459, 3 CFR, 2004 Comp., p. 320.

SOURCE: 61 FR 12829, Mar. 25, 1996, unless otherwise noted.

§ 750.1 Scope.

In this part, references to the EAR are references to 15 CFR chapter VII, subchapter C. This part describes the Bureau of Industry and Security's (BIS) process for reviewing your application for a license and the applicable processing times for various types of applications. Information related to the issuance, revocation, or suspension of a license and the denial of a license application is provided along with the procedures on obtaining a duplicate or replacement license (limited to those which BIS has validated and issued in hardcopy), the transfer of a license, and the shipping tolerances available on licenses. This part also contains instructions on obtaining the status of a pending application.

[86 FR 54812, Oct. 5, 2021]

§ 750.2 Processing of Classification Requests and Advisory Opinions.

(a) *Classification requests.* All classification requests submitted in accordance with procedures described in § 748.3 (a) and (b) of the EAR will be answered within 14 calendar days after receipt. All responses will inform the person of the proper classification (e.g., whether or not the item is subject to the Export Administration Regulations (EAR) and, if applicable, the appropriate Export Control Classification Number [ECCN]).

(b) *Advisory Opinion requests.* All advisory opinions submitted in accordance with procedures described in § 748.3(a) and (c) of the EAR will be answered within 30 calendar days after receipt. Requests to obtain Validated End-User authorization will be resolved within 30 calendar days as described in supplement no. 9 to part 748 of the EAR.

[61 FR 12829, Mar. 25, 1996, as amended at 72 FR 33662, June 19, 2007]

§ 750.3 Review of license applications by BIS and other government agencies and departments.

(a) *Review by BIS.* In reviewing specific license applications, BIS will conduct a complete analysis of the license application along with all documentation submitted in support of the application. In addition to reviewing the item and end-use, BIS will consider the reliability of each party to the transaction and review any available intelligence information. To the maximum extent possible, BIS will make licensing decisions without referral of license applications to other agencies, however, BIS may consult with other U.S. departments and agencies regarding any license application.

(b) *Review by other departments or agencies.* (1) The Departments of Defense, Energy, State, and the Arms Control and Disarmament Agency (ACDA) have the authority to review any license application submitted under the EAR. In addition, BIS may, where appropriate, refer license applications to other U.S. government departments or agencies. These agencies and departments will be referred to as ''agencies'' for the purposes of this part. Though these agencies have the authority to review any license application, they may determine that they do not need to review certain types of license applications. In these instances, the agency will provide BIS with a Delegation of Authority to process those license applications without review by that particular agency.

(2) The Departments of Defense, Energy, State, and ACDA are generally concerned with license applications involving items controlled for national security, missile technology, nuclear nonproliferation, and chemical and biological weapons proliferation reasons or destined for countries and/or end uses of concern. In particular, these agencies are concerned with reviewing license applications as follows:

(i) The Department of Defense is concerned primarily with items controlled for national security and regional stability reasons and with controls related to encryption items;

(ii) The Department of Energy is concerned primarily with items controlled for nuclear nonproliferation reasons;

(iii) The Department of State is concerned primarily with items controlled for national security, nuclear nonproliferation, missile technology, regional stability, anti-terrorism, crime control reasons, and sanctions; and

(iv) The Department of Justice is concerned with controls relating to encryption items and items primarily useful for the surreptitious interception of wire, oral, or electronic communications.

[61 FR 12829, Mar. 25, 1996, as amended at 61 FR 68585, Dec. 30, 1996; 63 FR 50525, Sept. 22, 1998; 71 FR 67036, Nov. 20, 2006; 73 FR 57509, Oct. 3, 2008]

§ 750.4 Procedures for processing license applications.

(a) *Overview.* (1) All license applications will be resolved or referred to the President no later than 90 calendar days from the date of BIS's registration of the license application. Processing times for the purposes of this section are defined in calendar days. The procedures and time limits described in this part apply to all license applications registered on or after February 4, 1996. The procedures and time limits in effect prior to December 6, 1995 will apply to license applications registered prior to February 4, 1996.

(2) Properly completed license applications will be registered promptly upon receipt by BIS. Registration is defined as the point at which the application is entered into BIS's electronic license processing system. If your application contains deficiencies that prevent BIS from registering your application, BIS will attempt to contact you to correct the deficiencies, however, if BIS is unable to contact you, the license application will be returned without being registered. The specific deficiencies requiring return will be enumerated in a notice accompanying the returned license application. If a license application is registered, but BIS is unable to correct deficiencies crucial to processing the license application, it will be returned without action. The notice will identify the deficiencies and the action necessary to correct the deficiencies. If you decide to resubmit the license application, it will be treated as a new license application when calculating license processing time frames.

(b) *Actions not included in processing time calculations.* The following actions will not be counted in the time period calculations described in paragraph (a)(1) of this section for the processing of license applications:

(1) *Agreement by the applicant to the delay.* BIS may request applicants to provide additional information in support of their license application, respond to questions arising during processing, or accept proposed conditions or riders on their license application. If BIS has provided the applicant with an intent to deny letter described in § 750.6 of this part, processing times may be suspended in order to negotiate modifications to a license application and obtain agreement to such modifications from the foreign parties to the license application.

(2) *Pre-license checks.* BIS conducts pre-license checks in order to establish the identity and reliability of the recipient of the items subject to the EAR that require a license, as well as to substantiate representations made on the license application. The results of the pre-license check, including the U.S. government's inability to conduct the pre-license check due to the end user's or host government's actions, will be considered in determining the outcome of a license application. The time required to conduct a pre-license check is not included in license application processing time calculations according to this paragraph, if the pre-license check is:

(i) Conducted through government channels, and

(ii) The request for a pre-license check is made by the Secretary or by another agency within the following time frames:

(A) The pre-license check is requested within 5 days of the determination that it is necessary; and

(B) The analysis resulting from the pre-license check is completed and reported to licensing officials within 5 days.

(3) *Government-to-Government assurances.* Requests for government-to-government assurances of suitable end-use of items approved for export or reexport when failure to obtain such assurances would result in rejection of the license application, provided that:

(i) The request for such assurances is sent to the Secretary of State within five days of the determination that the assurances are required;

(ii) The Secretary of State initiates the request of the relevant government within 10 days of receipt of the request for such assurances; and

(iii) The license is issued within 5 days of the Secretary's receipt of the requested assurances.

(4) *Consultations.* Consultation with other governments, if such consultation is provided for by a relevant bilateral arrangement or multilateral regime as a precondition for approving a license.

(5) *Multilateral reviews.* Multilateral review of a license application if such review is required by the relevant multilateral regime.

(6) *Congressional notification.* Under Section 6(j) of the Export Administration Act, as amended (EAA), the Secretaries of Commerce and State are required to notify appropriate Committees of the Congress 30 days prior to issuing a license to any country designated by the Secretary of State as being terrorist-supporting for any items that could make a significant contribution to the military potential

of such countries, or could enhance the ability of such countries to support acts of international terrorism. Accordingly, the issuance of any license subject to this requirement will be delayed for 30 days.

(i) *Designated countries.* The following countries have been designated by the Secretary of State as terrorist-supporting countries: Iran, North Korea, and Syria.

(ii) *Items subject to notification requirement.* License applications involving the export or reexport of the following items to the military, police, intelligence or other sensitive end-users are subject to this notification requirement:

(A) All items controlled for national security reasons;

(B) All items controlled for chemical and biological weapons proliferation reasons;

(C) All items controlled for missile technology reasons;

(D) All items controlled for nuclear nonproliferation reasons; and

(E) All items controlled by the CCL where the entry heading identifies the items controlled as those contained in the Wassenaar Arrangement Munitions List.

(iii) *Additional notifications.* The Secretaries of Commerce and State must also notify the appropriate Congressional committees 30 days before a license is issued for the export or reexport of any item controlled on the CCL to a designated country if the Secretary of State determines that the export or reexport ''could make a significant contribution to the military potential of such country, including its military logistics capability, or could enhance the ability of such country to support acts of international terrorism.''

(7) *Congressional notification.* Congressional notification, including any consultations prior to notification, prior to the issuance of an authorization to export when notification is required by §743.5 of the EAR.

(8) *Satellites for launch.* Applicant must obtain approval by the Department of Defense of a technology transfer control plan and the National Security Agency of an encryption technology transfer control plan and must make arrangements with the Department of Defense for monitoring of all launch activities.

(c) *Initial processing.* Within 9 days of license application registration, BIS will, as appropriate:

(1) Contact the applicant if additional information is required, if the license application is improperly completed, or required support documents are missing, to request additional or corrected information;

(2) Assure the stated classification on the license application is correct;

(3) Return the license application if a license is not required with a statement notifying the applicant that a license is not required;

(4) Approve the license application or notify the applicant of the intent to deny the license application; or

(5) Refer the license application electronically along with all necessary recommendations and analysis concurrently to all agencies unless the application is subject to a Delegation of Authority. Any relevant information not contained in the electronic file will be simultaneously forwarded in paper copy.

(d) *Review by other agencies and/or interagency groups.* (1) Within 10 days of receipt of a referral the reviewing agency must advise BIS of any information not contained in the referral as described in paragraph (c)(5) of this section. BIS will promptly request such information from the applicant. The time that elapses between the date the information is requested by the reviewing agency and the date the information is received by the reviewing agency will not be counted in processing time frames.

(2) Within 30 days of receipt of the initial referral, the reviewing agency will provide BIS with a recommendation either to approve (with or without conditions or riders) or deny the license application. As appropriate, such a recommendation may be made with the benefit of consultation and/or discussions in interagency groups established to provide expertise and coordinate interagency consultation. These interagency groups consist of:

(i) *The Missile Technology Export Control Group (MTEC).* The MTEC, chaired

by the Department of State, reviews license applications involving items controlled for missile technology reasons. The MTEC also reviews license applications involving items not controlled for missile technology (MT) reasons, but destined for a country and/or end-use/end-user of MT concern.

(ii) *The SubGroup on Nuclear Export Coordination (SNEC).* The SNEC, chaired by the Department of State, reviews license applications involving items controlled for nuclear nonproliferation reasons. The SNEC also reviews license applications involving items not controlled for nuclear nonproliferation (NP) reasons, but destined for a country and/or end-use/end-user of NP concern.

(iii) *The Shield.* The Shield, chaired by the Department of State, reviews license applications involving items controlled for chemical and biological weapons reasons. The Shield also reviews license applications involving items not controlled for chemical and biological weapons (CBW) reasons, but destined for a country and/or end-use/end-user of CBW concern.

(iv) *Remote Sensing Interagency Working Group (RSIWG).* The RSIWG, chaired by the State Department, reviews license applications involving remote sensing spacecraft described in ECCN 9A515.a.1, .a.2, .a.3, or .a.4, sensitive remote sensing components described in 9A515.g, or ''technology'' described in ECCN 9E515.f.

(e) *Recommendations by reviewing agencies.* Reviewing agencies recommending denial of a license application must provide a statement of reasons, consistent with the provisions of the EAA or EAR, and cite both the statutory and the regulatory basis for the recommendation to deny. A reviewing agency that fails to provide a recommendation within 30 days with a statement of reasons supported by the statutory and regulatory basis shall be deemed to have no objection to the final decision of BIS.

(f) *Interagency dispute resolution and escalation procedures*—(1) *Escalation to the Operating Committee (OC).* (i) In any instance where the reviewing agencies are not in agreement on final disposition of a license application, it will be escalated to the OC for resolution. The Chair of the OC will consider the recommendations of the reviewing agencies and any information provided by the applicant in person during an open OC session. Each agency will be informed of the Chair's decision on the license application within 14 days after the deadline for receiving agency recommendations.

(ii) If any agency disagrees with the OC Chair's decision, the agency may escalate the decision by appealing to the Chair of the Advisory Committee on Export Policy for resolution. If such a request for escalation is not made within 5 days of the decision of the OC Chair, the Chair's decision will be final.

(2) *Escalation to the Advisory Committee on Export Policy (ACEP).* Requests for escalation to the ACEP must be in writing from an official appointed by the President with the advice and consent of the Senate, or a person properly acting in such capacity, and cite both the statutory and the regulatory basis for the appeal. The ACEP will review all relevant information and recommendations. The Chair of the ACEP will inform the reviewing agencies of the majority vote decision of the ACEP within 11 days from the date of receipt of the escalation request. Within 5 days of the decision, any dissenting agency may appeal in writing the ACEP's decision to the Secretary of Commerce in the Secretary's capacity as the Chair of the Export Administration Review Board. The written request must be made by the head of the agency requesting escalation and cite both the statutory and the regulatory basis for the appeal. Within the same period of time, the Secretary may initiate a meeting on his or her own initiative to consider a license application. In the absence of a timely appeal, the decision of the ACEP will be final.

(3) *Escalation to the Export Administration Review Board (EARB).* The EARB will review all relevant information and recommendations, and such other export control matters as may be appropriate. The Secretary of Commerce will inform the reviewing agencies of the majority vote decision of the EARB within 11 days from the date of receipt of the appeal. Within 5 days of the decision, any agency dissenting from the

decision of the EARB may appeal the decision to the President. The appeal must be in writing from the head of the dissenting agency. In the absence of a timely appeal, the decision of the EARB will be final.

[61 FR 12829, Mar. 25, 1996, as amended at 62 FR 25463, May 9, 1997; 69 FR 46079, July 30, 2004; 71 FR 20887, Apr. 24, 2006; 71 FR 51719, Aug. 31, 2006; 72 FR 43532, Aug. 6, 2007; 78 FR 22725, Apr. 16, 2013; 80 FR 43319, July 22, 2015; 82 FR 2881, Jan. 10, 2017; 85 FR 73414, Nov. 18, 2020; 86 FR 4934, Jan. 19, 2021; 89 FR 34708, Apr. 30, 2024; 90 FR 47194, Sept. 30, 2025]

§ 750.5 [Reserved]

§ 750.6 Denial of license applications.

(a) *Intent to deny notification.* If BIS intends to deny your license application, BIS will notify you in writing within 5 days of the decision. The notification will include:

(1) The intent to deny decision;

(2) The statutory and regulatory basis for the denial;

(3) To the extent consistent with the national security and foreign policy of the United States, the specific considerations that led to the decision to deny the license application;

(4) What, if any, modifications or restrictions to the license application would allow BIS to reconsider the license application;

(5) The name of the BIS representative in a position to discuss the issues with the applicant; and

(6) The availability of appeal procedures.

(b) *Response to intent to deny notification.* You will be allowed 20 days from the date of the notification to respond to the decision before the license application is denied. If you respond to the notification, BIS will advise you if, as a result of your response, the decision to deny has been changed. Unless you are so advised by the 45th day after the date of the notification, the denial will become final, without further notice. You will then have 45 days from the date of final denial to exercise the right to appeal under part 756 of the EAR.

§ 750.7 Issuance of licenses.

(a) *Scope.* (1) Unless limited by a condition set out in a license, the export, reexport, or transfer (in-country) authorized by a license is for the item(s), end-use(s), and parties described in the license application and any letters of explanation. The applicant must inform the other parties identified on the license, such as the ultimate consignees and end users, of the license's scope and of the specific conditions applicable to them.

(2) BIS grants licenses in reliance on representations the applicant made or submitted in connection with the license application, letters of explanation, and other documents submitted. Any license obtained in which a false or misleading representation was made, or a material fact was falsified or concealed on the license application, letters of explanation, or any document submitted in connection with the license application, shall be deemed void as of the date of issuance. See §750.8(a) of the EAR, which provides that all licenses are subject to revocation, in whole or in part, without notice. See part 764 of the EAR for other sanctions that may result in the event a violation occurs.

(3) A BIS license authorizing the release of ''technology'' to an entity also authorizes the release of the same ''technology'' to the entity's foreign persons who are permanent and regular employees (and who are not proscribed persons) of the entity's facility or facilities authorized on the license, except to the extent a license condition limits or prohibits the release of the ''technology'' to foreign persons of specific countries or country groups. See §734.20 of the EAR for additional information regarding the release of ''technology'' authorized by a BIS license.

(b) *Issuance of a license.* BIS may issue a license electronically via its Simplified Network Application Processing (SNAP–R) system or via paper or both electronically and via paper. Each license has a license number that will be shown on the license.

(c) *Changes to the license.* (1) The following non-material changes do not require submission of a ''Replacement'' license or any other notification to BIS. (If you wish to make any change not identified in this paragraph, you will need to submit a ''Replacement''

license in accordance with the instructions contained in supplement no. 1 to part 748 of the EAR, Block 11):

(i) Decrease in unit price or total value;

(ii) Increase in price if permitted under the shipping tolerances in § 750.11 of this part;

(iii) Increase in price that can be justified on the basis of changes in point of delivery, port of export, or as a result of transportation cost, drayage, port charges, warehousing, currency fluctuations, etc.;

(iv) Establishment of unit or total price in conformance with a ''price statement'' on a license that permits price to be based on the market price at a specified date plus an exporter's mark-up, or like basis;

(v) Change in intermediate consignee if the new intermediate consignee is located in the country of ultimate destination as shown on the license, except a change in, or addition of, an intermediate consignee involving a consolidated shipment;

(vi) Change in continuity of shipment by unloading from carrier at a country listed in Country Group B (see supplement no. 1 to part 740 of the EAR) port not in the country of ultimate destination, without the designation of an intermediate consignee on the shipping documents and license, provided:

(A) The purpose is to transfer the shipment to another vessel, barge, or vehicle, solely for onforwarding to the country of destination shown on the shipping documents and the license;

(B) The shipment is moving on a through bill of lading;

(C) The carrier is not registered in, owned or controlled by, or under charter or lease to a country in Country Group D:1 or E:2 (see supplement no. 1 to part 740 of the EAR), or a national of any of these countries;

(D) The carrier retains custody of the shipment until it is delivered to the ultimate consignee; and

(E) The original bill of lading or air waybill first issued at the port of export is delivered with the shipment to the ultimate consignee;

(vii) Change in address of purchaser or ultimate consignee if the new address is located within the same country shown on the license; or

(viii) Change in ECCN, where necessary only for the purpose of conforming to an official revision in the CCL; or wording of the item description. This does not cover an actual change in the item to be shipped, or an increase in the total price or quantity on the license.

(ix) Direct exports, reexports, or transfers (in-country) to and among approved end users and the ultimate consignee on a license, provided those end users and ultimate consignee are listed by name and location on such license *and* the license does not contain any conditions specific to the ultimate consignee that cannot be complied with by the end user, such as a reporting requirement that must be made by the ultimate consignee. Reexports and transfers (in-country) among approved end users may be further limited by license conditions; or

(x) Export, reexport or transfer (in-country) of missile technology (MT) controlled minimum necessary ''software'' and/or ''technology'' permitted pursuant to the missile technology licensing policy in § 742.5(b)(3) of the EAR. (*See* § 742.5(b)(3)(i) for the scope of eligible minimum ''software'' and/or ''technology'' and other limitations for licenses for MT controlled items).

NOTE 1 TO PARAGRAPH (c)(1)(x): This MT licensing policy is implemented pursuant to paragraph (c)(1)(x) of this section because it applies to all MT licenses, except when a condition is placed on the license which excludes the use of paragraph (c)(1)(x) of this section, as described in § 742.5(b)(3)(ii).

NOTE 2 TO PARAGRAPH (c)(1)(x): License Exception TSU under § 740.13 of the EAR is available for the ECCNs controlled for MT reasons specified in paragraph (a)(5) in § 740.2, provided the software or technology is for an end use specified in that paragraph and meets the requirements of License Exception TSU. (See §§ 740.2(a)(5) and 740.13). The licensing policy in § 742.5(b)(3) is only available for licensed exports (or reexports, or transfers (in-country)).

(xi) Addition of a new HTS-6 Code identified under supplements nos. 2, 4, or 5 to part 746 or item identified under supplement no. 6 to part 746 for export or reexport to or transfer within Russia or Belarus, provided the criteria of this paragraph are met.

(A) The end use of the BIS license is for the divesture of items within Russia or Belarus or their transfer within Russia or Belarus for the purpose of reexporting such items from Russia or Belarus;

(B) The new HTS-6 Code under supplements nos. 2, 4, or 5 to part 746 or item identified under supplement no. 6 to part 746 was added to the EAR after the validation date of the BIS license;

(C) The BIS license has not yet expired; and

(D) The export, reexport, or in-country transfer of these additional HTS-6 Codes under supplements nos. 2, 4, or 5 to part 746 or items identified under supplement no. 6 to part 746 will not exceed the shipping tolerance of the original license or the number of units authorized under the original license.

(2) In some circumstances, BIS may authorize changing the name of a person listed on a license (*i.e.*, name of exporter, reexporter, purchaser, intermediate consignee, ultimate consignee or end user), provided the pertinent person has not undergone a change in ownership, including merger or acquisition, or any other change in legal status since the time the license was issued. In order to rely on this paragraph (c)(2), BIS must have approved the name change in response to an advisory opinion request submitted by the licensee pursuant to §748.3(c) of the EAR and the instructions below.

(i) The advisory opinion request must be submitted on the licensee's company letterhead and include the following information:

(A) The title of the advisory opinion, in this format: ''License name change notification and review request;''

(B) All license numbers subject to the notification and review request (either in the letter or as a separate attachment);

(C) The name(s) changing on the license(s) (include the original and new names), and when the name(s) are changing (either in the letter or as a separate attachment);

(D) Any background information available on the reasons for the name change(s) (e.g., press releases from the person changing its name(s)); and

(E) A statement regarding whether there has been a change in ownership, including a merger or acquisition, or any other change in legal status regarding the person(s) changing its name(s).

(F) Confirmation that, if the request is approved, the licensee will share the advisory opinion response from BIS with all other persons listed on the license, and inform those persons that the advisory opinion response must be retained pursuant to the recordkeeping requirements in part 762 of the EAR.

(ii) If BIS determines the name change is not a material change to the license and approves the request to change the name(s) on the license, BIS will send a written response to the licensee who submitted the notification. If BIS does not approve the request to change the name(s) on the license, BIS will send a written response to the licensee who submitted the notification.

(iii) For guidance on using an export license with approved name changes, see §758.4(d) (Exports against license with approved name change).

(iv) If a license name change notification and review request is denied by BIS or the licensee determines that there has been a material change to the license, such as a change in ownership of a person on the license, including merger or acquisition, or any other change in legal status since the time the license was issued, a new license application should be submitted.

(d) *Responsibility of the licensee.* The person to whom a license is issued is the licensee. In export transactions, the exporter must be the licensee, and the exporter-licensee is responsible for the proper use of the license, and for all terms and conditions of the license, except to the extent that certain terms and conditions are directed toward some other party to the transaction. In reexport or routed export transactions, a U.S. agent acting on behalf of a foreign principal party in interest may be the licensee; in these cases, both the agent and the foreign principal party in interest, on whose behalf the agent has acted, are responsible for the use of the license, and for all terms and conditions of the license, except to the extent that certain terms and conditions are directed toward some other party to the transaction. It is the licensee's

responsibility to communicate in writing the specific license conditions to the parties to whom those conditions apply. In addition, when required by the license, the licensee is responsible for obtaining written acknowledgment(s) of receipt of the conditions from the party(ies) to whom those conditions apply.

(e) *Prohibited use of a license.* No person convicted of a violation of any statute specified in section 11(h) of the EAA, at the discretion of the Secretary of Commerce, may apply for any license for a period up to 10 years from the date of the conviction. See § 766.25 of the EAR.

(f) *Quantity of commodities authorized.* Unlike software and technology, commodities will be approved with a quantity and dollar value limit. Any license resulting from a license application to export or reexport commodities will be licensed in terms of the specified unit of quantity commonly used in trade. A total dollar value for the commodity will be authorized based on the per unit price of the commodity. Subject to the shipping tolerances authorized in § 750.11 of this part, the authorization is limited by both the quantity and value listed on the license.

(g) *License validity period.* Licenses involving the export or reexport of items will generally have a four-year validity period, unless a different validity period has been requested and specifically approved by BIS or is otherwise specified on the license at the time that it is issued. Exceptions from the four-year validity period include license applications for items controlled for short supply reasons, which will be limited to a one-year validity period and license applications reviewed and approved as an ''emergency'' (see § 748.4(h) of the EAR). Emergency licenses will expire no later than the last day of the calendar month following the month in which the emergency license is issued. The expiration date will be clearly stated on the face of the license. If the expiration date falls on a legal holiday (Federal or State), the validity period is automatically extended to midnight of the first business day following the expiration date.

(1) *Extended validity period.* BIS will consider granting a validity period exceeding four years (or exceeding one year for applications subject to that shorter validity period) on a case-by-case basis when extenuating circumstances warrant such an extension. Requests for such extensions may be made at the time of application or after the license has been issued and it is still valid. BIS will not approve changes regarding other aspects of the license, such as the parties to the transaction and the countries of ultimate destination. An extended validity period will generally be granted where, for example, the transaction is related to a multi-year project; when the period corresponds to the duration of a manufacturing license agreement, technical assistance agreement, warehouse and distribution agreement, or license issued under the International Traffic in Arms Regulations; when production lead time will not permit an export or reexport during the original validity period of the license; when an unforeseen emergency prevents shipment within the 4-year validity of the license; or for other similar circumstances.

(2) *Request for extension.* (i) The applicant must submit a letter in writing to request an extension in the validity period of a previously approved license. The subject of the letter must be titled: ''Request for Validity Period Extension'' and contain the following information:

(A) The name, address, and telephone number of the requestor;

(B) A copy of the original license, with the license number, validation date, and current expiration date legible; and

(C) Justification for the extension;

(ii) It is the responsibility of the applicant to ensure that all applicable support documents remain valid and are in the possession of the applicant. If the request for extension is approved, BIS will provide the applicant with a written response.

(h) *Specific types of licenses*—(1) *Licenses for temporary exports or reexports.* If you have been granted a license for the temporary export or reexport of items and you decide not to return the items to the United States, you must submit a license application requesting authorization to dispose of the items.

Except when the items are to be used on a temporary basis at a new destination (and returned to the United States after such use), you must ensure that your license application is accompanied by all documents that would be required if you had requested a license to export or reexport the same item directly to the new destination.

(2) *Intransit within the United States.* If you have been issued a license authorizing an intransit shipment (that does not qualify for the intransit provisions of License Exception TMP) through the United States, your license will be valid only for the export of the intransit shipment wholly of foreign origin and for which a Transportation and Exportation customs entry or an Immediate Exportation customs entry is outstanding.

(3) *Intransit outside the United States.* If you have been issued a license authorizing unlading or transit through a country listed in the General Prohibition Eight contained in §736.2(b)(8) of the EAR, and you did not know the identity of the intermediate consignee at the time of the original license application, you must notify BIS in writing once you have ascertained the identity of the intermediate consignee. Your notification must contain the original license number, and the complete name, address, and telephone number of the intermediate consignee. The written request must be submitted to BIS at the address listed in §748.1(d)(2) of the EAR.

(4) *Replacement license.* If you have been issued a ''replacement license'' (for changes to your original license not covered in paragraph (c) of this section), you must retain both the original and the replacement license.

(i) *Terminating license conditions.* Exporters or reexporters who have shipped under licenses with conditions that would not apply to an export under a License Exception or if no license was required, and foreign consignees who have agreed to such conditions, are no longer bound by these conditions when the licensed items become eligible for a License Exception or can be exported or reexported without a license. Items that become eligible for a License Exception are subject to the terms and conditions of the applicable License Exception and to the restrictions in §740.2 of the EAR. Items that become eligible for export without a license remain subject to the EAR and any export, reexport, or disposition of such items may only be made in accordance with the requirements of the EAR. Termination of license conditions does not relieve an exporter or reexporter of its responsibility for violations that occurred prior to the availability of a License Exception or prior to the removal of license requirements.

(j) *Records.* If you have been issued a license you must retain the license, and maintain complete records in accordance with part 762 of the EAR including any licenses (whether used or unused, valid or expired) and all supporting documents and shipping records.

[61 FR 12829, Mar. 25, 1996]

EDITORIAL NOTE: For FEDERAL REGISTER citations affecting §750.7, see the List of CFR Sections Affected, which appears in the Finding Aids section of the printed volume and at *www.govinfo.gov*.

§750.8 Revocation or suspension of licenses.

(a) *Revocation.* All licenses for exports or reexports are subject to revision, suspension, or revocation, in whole or in part, without notice. BIS's Office of Exporter Services may revoke any license in which a person who has been convicted of one of the statutes specified in section 11(h) of the EAA, at the discretion of the Secretary of Commerce, has an interest in the license at the time of the conviction. It may be necessary for BIS to stop a shipment or an export or reexport transaction at any stage in the process (e.g., in order to prevent an unauthorized export or reexport). If a shipment is already en route, it may be further necessary for BIS to order the return or unloading of such shipment at any port of call in accordance with the provisions of the EAA.

(b) *Revoked or suspended licenses.* If BIS revokes or suspends a license, the

licensee must retain all applicable supporting documents and records of shipments in accordance with the recordkeeping provisions of part 762 of the EAR.

[61 FR 12829, Mar. 25, 1996, as amended at 73 FR 49331, Aug. 21, 2008; 76 FR 12280, Mar. 7, 2011; 86 FR 54813, Oct. 5, 2021]

§ 750.9 Duplicate licenses.

(a) *Lost, stolen or destroyed.* For licensees whom BIS authorized the submission of paper applications, if a license is lost, stolen or destroyed, you, as the licensee, may obtain a duplicate of the license by submitting a letter to the BIS at the address listed in §748.1(d)(2) of the EAR, Attention: Duplicate License Request.'' You must certify in your letter:

(1) That the original license ([number] issued to [name and address of licensee]) has been lost, stolen or destroyed; and

(2) The circumstances under which it was lost, stolen or destroyed.

(b) *Hong Kong Trade Department.* BIS will automatically issue a duplicate license whenever the license lists a party in Hong Kong as the intermediate consignee, or when Hong Kong is identified as the country from which the reexport will take place. The duplicate license will be labeled ''Duplicate for Hong Kong Trade Department''. This duplicate must be forwarded to the reexporter or intermediate consignee for submission to the Hong Kong Trade Department. The original license must be retained on file by the licensee in accordance with the recordkeeping provisions contained in part 762 of the EAR.

[61 FR 12829, Mar. 25, 1996, as amended at 73 FR 49331, Aug. 21, 2008; 86 FR 54813, Oct. 5, 2021]

§ 750.10 Transfers of licenses for exports.

(a) *Authorization.* As the licensee, you may not transfer a license issued for the export of items from the United States to any other party, except with the prior written approval of BIS. BIS may authorize a transfer of a license for export to a transferee who is subject to the jurisdiction of the United States, is a principal party in interest, and will assume all powers and responsibilities under the license for the control of the shipment of the items out of the United States. BIS will approve only one transfer of the same license and only transfers of licenses to export items.

(b) *How to request the transfer of licenses*—(1) *Letter from licensee.* You, as the licensee, must submit a letter in writing to request a transfer of a license or licenses. The letter must contain the following information:

(i) The reasons for the requested transfer;

(ii) Either a list of the outstanding license numbers or a statement that all outstanding licenses in the name of the licensee are to be transferred, and the total number of such outstanding licenses;

(iii) A list of all license applications for export to be transferred that are pending with BIS, identifying the Application Control Number for each, or other information that will assist in identifying the pending license applications;

(iv) Name and address of the person you intend to transfer the licenses and license applications to;

(v) The facts necessitating transfer;

(vi) A statement as to whether or not any consideration has been, or will be, paid for the transfer; and

(vii) Identification by name of the legal document (certificate, agreement, etc.) or other authority by which the new firm name is legally established, the new corporation or firm created, or the assets transferred and showing the effective date of such document and the state where filed or recorded.

(2) *Information from transferee.* The person to whom you wish to transfer your license(s) must provide you a signed letter, that must be submitted with your request, containing the following:

(i) That the transferee is a principal party in interest in the transaction covered by the license, or is acting as agent for a principal party in interest;

(ii) That the transferee is subject to the jurisdiction of the United States;

(iii) That the transferee assumes all powers and responsibilities under the license for the control of the shipment of the items out of the United States;

(iv) Whether any consideration has been, has not been, or will be paid for the transfer;

(v) The name and address of the foreign principal in instances where the transferee will make the export as an agent on behalf of a foreign principal; and

(vi) If the license is to be transferred to a subsidiary or firm, or if you transfer to the transferee all, or a substantial portion, of your assets or business, the transferee must certify that the legal authority changing the exporter imposes on the transferee the responsibility to accept and fulfill the obligations of the transferor under the transactions covered by the license; and

(vii) The following certification:

The undersigned hereby certifies that, if license number(s) _____ is (are) transferred in accordance with my (our) request, any and all documents evidencing the order covered by this (these) license(s) will be retained and made available upon request in compliance with the recordkeeping provisions contained in Part 762 of the Export Administration Regulations. The undersigned further certifies compliance with all requirements of the Export Administration Regulations regarding these licenses.

(c) *Notification of transfer and recordkeeping.* Unless instructed otherwise by BIS, you must retain the license(s) pending notification by BIS of the action taken. If the request is approved, you must forward the license(s) to the transferee and the validated letter received from BIS authorizing the transfer. If the transfer request is not approved, the license(s) must either be returned to BIS or used by you if you so choose and have retained the legal and operational capacity fully to meet the responsibilities imposed by the license(s). If your initial request is returned by BIS for additional information, after obtaining the necessary information you may resubmit your request.

[61 FR 12829, Mar. 25, 1996, as amended at 62 FR 25463, May 9, 1997]

§ 750.11 Shipping tolerances.

Under some circumstances, you may use a license issued for the export of items from the United States to export more than the value shown on that license. This additional amount is called a shipping tolerance. This section tells you, as the licensee, when you may take advantage of a shipping tolerance and the amount of shipping tolerance you are permitted to use.

(a) If you have already shipped the full quantity of items approved on your license, you may not use this shipping tolerance provision. No further shipment may be made under the license.

(b) If you have not shipped the full quantity of items approved on the license, the value of all of your shipments under one license, up to the full quantity approved on the license, may exceed the total dollar value stated on that license by up to 10%, unless;

(1) Your license stipulates a specific shipping tolerance; or

(2) Your item is controlled for short supply reasons and a different tolerance has been established. (See part 754 of the EAR).

[78 FR 61902, Oct. 4, 2013]

PART 752 [RESERVED]

PART 754—SHORT SUPPLY CONTROLS

Sec.

754.1 Introduction.
754.2 [Reserved]
754.3 Petroleum products not including crude oil.
754.4 Unprocessed western red cedar.
754.5 Horses for export by sea.
754.6 Registration of U.S. agricultural commodities for exemption from short supply limitations on export.
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SUPPLEMENT NO. 1 TO PART 754—CRUDE PETROLEUM AND PETROLEUM PRODUCTS
SUPPLEMENT NO. 2 TO PART 754—UNPROCESSED WESTERN RED CEDAR
SUPPLEMENT NO. 3 TO PART 754 [RESERVED]

AUTHORITY: 50 U.S.C. 4801–4852; 50 U.S.C. 4601 *et seq.;* 50 U.S.C. 1701 *et seq.;* 10 U.S.C. 8720; 10 U.S.C. 8730(e); 15 U.S.C. 1824; E.O. 11912, 41 FR 15825, 3 CFR, 1976 Comp., p. 114; E.O. 13222, 66 FR 44025, 3 CFR, 2001 Comp., p. 783.

SOURCE: 61 FR 12844, Mar. 25, 1996, unless otherwise noted.

§ 754.1 Introduction.

(a) *Scope.* In this part, references to the Export Administration Regulations

(EAR) are references to 15 CFR chapter VII, subchapter C. This part implements the provisions of section 7, ''Short Supply Controls,'' of the Export Administration Act (EAA) and similar provisions in other laws that are not based on national security and foreign policy grounds.

(b) *Contents.* Specifically, this part deals with the following:

(1) It sets forth the license requirements and licensing policies for commodities that contain the symbol ''SS'' in the ''Reason for Control'' part of ''License Requirements'' section of the applicable Export Control Classification Number (ECCN) identified on the Commerce Control List (supplement no. 1 to part 774 of the EAR). In appropriate cases, it also provides for License Exceptions from the short supply licensing requirements described in this part. The license requirements and policies that are described in this part cover the following:

(i) [Reserved]

(ii) Petroleum products other than crude oil listed in supplement no. 1 to this part, that were produced or derived from the Naval Petroleum Reserves (NPR) or became available for export as a result of an exchange of any NPR-produced or -derived commodities described by the following ECCNs. For specific licensing requirements for these items, see §754.3 of this part.

(A) ECCN 1C980 (Inorganic chemicals);

(B) ECCN 1C982 (Other petroleum products);

(C) ECCN 1C983 (Natural gas liquids and other natural gas derivatives); and

(D) ECCN 1C984 (Manufactured gas and synthetic natural gas (except when commingled with natural gas and thus subject to export authorization from the Department of Energy).

(iii) Unprocessed western red cedar described by ECCN 1C988 (Western red cedar (thuja plicata) logs and timber, and rough, dressed and worked lumber containing wane). For specific licensing requirements for these items, see §754.4 of this part.

(iv) Horses exported by sea for slaughter covered by ECCN 0A980 (Horses for export by sea). For specific licensing requirements, see §754.5 of this part.

(2) It incorporates statutory provisions for the registration of U.S. agricultural commodities for exemption from short supply limitations on export (see §754.6 of this part); and

(3) It incorporates statutory provisions for the filing and review of petitions seeking the imposition of monitoring or controls on recyclable metallic materials and procedures for related public hearings (see §754.7 of this part).

(c) *Reexports.* Reexports of items controlled by this part require a license only if such a requirement is specifically set forth in this part or is set forth on the license authorizing the export from the United States.

(d) *Additional requirements for embargoed destinations.* For exports involving embargoed destinations, you must satisfy the requirements of this part and also of part 746 of the EAR (Embargoes and Other Special Controls).

[61 FR 12844, Mar. 25, 1996, as amended at 79 FR 34410, June 17, 2014; 81 FR 29486, May 12, 2016]

§ 754.2 [Reserved]

§ 754.3 Petroleum products not including crude oil.

(a) *License requirement.* As indicated by the letters ''SS'' in the ''Reason for Control'' paragraph in the ''License Requirements'' section of ECCNs 1C980, 1C982, 1C983, and 1C984 on the CCL (supplement no. 1 to part 774 of the EAR), a license is required to all destinations, including Australia, Canada, and the United Kingdom, for the export of petroleum products, excluding crude oil, listed in supplement no. 1 to this part, that were produced or derived from the Naval Petroleum Reserves (NPR) or became available for export as a result of an exchange of any NPR produced or derived commodities.

(b) *License policy.* (1) Applications for the export of petroleum products listed in supplement no. 1 to this part that were produced or derived from the Naval Petroleum Reserves, or that became available for export as a result of an exchange for a Naval Petroleum Reserves produced or derived commodity,

other than crude oil, will be denied, unless the President makes a finding required by the Naval Petroleum Reserves Production Act (10 U.S.C. 7430).

(2) Applications that involve temporary exports or exchanges excepted from that Act will be approved.

[61 FR 12844, Mar. 25, 1996, as amended at 89 FR 28601, Apr. 19, 2024]

§ 754.4 Unprocessed western red cedar.

(a) *License requirement.* As indicated by the letters ''SS'' in the ''Reason for Control'' paragraph in the ''License Requirements'' section of ECCN 1C988 on the CCL (supplement no. 1 to part 774 of the EAR), a license is required to all destinations, including Australia, Canada, and the United Kingdom, for the export of unprocessed western red cedar covered by ECCN 1C988 (Western red cedar (thuja plicata) logs and timber, and rough, dressed and worked lumber containing wane). For a non-exhaustive list of 10-digit Harmonized System-based Schedule B commodity numbers that may apply to unprocessed western red cedar products subject to the license requirements of this section, see supplement no. 2 to part 754 of the EAR. See paragraph (c) of this section for license exceptions for timber harvested from public lands in the State of Alaska, private lands, or Indian lands, and see paragraph (d) of this section for relevant definitions.

(b) *Licensing policy.* (1) BIS will generally deny applications for licenses to export unprocessed western red cedar harvested from Federal or State lands under harvest contracts entered into after September 30, 1979.

(2) BIS will consider, on a case-by-case basis, applications for licenses to export unprocessed western red cedar harvested from Federal or State lands under harvest contracts entered into prior to October 1, 1979.

(3) BIS will approve license applications for unprocessed western red cedar timber harvested from public lands in Alaska, private lands, and Indian lands. Applications must be submitted in accordance with the procedures set forth in paragraph (a) of this section. See paragraph (c) of this section for the availability of a License Exception.

(c) *License Exception for western red cedar (WRC).* (1) Subject to the requirements described in paragraph (c) of this section, License Exception WRC may be used to export without a license unprocessed western red cedar timber harvested from Federal, State and other public lands in Alaska, all private lands, and, lands held in trust for recognized Indian tribes by Federal or State agencies.

(2) Exporters who use License Exception WRC must obtain and retain on file the following documents:

(i) A statement by the exporter (or other appropriate documentation) indicating that the unprocessed western red cedar timber exported under this License Exception was not harvested from State or Federal lands outside the State of Alaska, and did not become available for export through substitution of commodities so harvested or produced. If the exporter did not harvest or produce the timber, the records or statement must identify the harvester or producer and must be accompanied by an identical statement from the harvester or producer. If any intermediate party or parties held title to the timber between harvesting and purchase, the exporter must also obtain such a statement, or equivalent documentation, from the intermediate party or parties and retain it on file.

(ii) A certificate of inspection issued by a third party log scaling and grading organization, approved by the United States Forest Service, that:

(A) Specifies the quantity in cubic meters or board feet, scribner rule, of unprocessed western red cedar timber to be exported; and

(B) Lists each type of brand, tag, and/or paint marking that appears on any log or unprocessed lumber in the export shipment or, alternatively, on the logs from which the unprocessed timber was produced.

(3) The requirements and restrictions described in §§ 740.1 and 740.2 of the EAR that apply to all License Exceptions also apply to the use of License Exception WRC.

(4) A person exporting any item pursuant to this license exception must enter on any required Electronic Export Information (EEI) filing to the Automated Export System (AES) the

correct license code that corresponds to ''SS–WRC.''

(d) *License applications.* (1) Applicants requesting to export unprocessed western red cedar must apply for a license in accordance with §748.1, 748.4 and 748.6 of the EAR, submit any other documents as may be required by BIS, and submit a statement from an authorized representative of the exporter, reading as follows:

I, (Name) (Title) of (Exporter) HEREBY CERTIFY that to the best of my knowledge and belief the (Quantity) (cubic meters or board feed scribner) of unprocessed western red cedar timber that (Exporter) proposes to export was not harvested from State or Federal lands under contracts entered into after October 1, 1979.

Signature

Date

(2) In Blocks 16 and 18 of the application, ''Various'' may be entered when there is more than one purchaser or ultimate consignee.

(3) For each application submitted, and for each export shipment made under a license, the exporter must assemble and retain for the period described in part 762 of the EAR, and produce or make available for inspection, the following:

(i) A signed statement(s) by the harvester or producer, and each subsequent party having held title to the commodities, that the commodities in question were harvested under a contract to harvest unprocessed western red cedar from State or Federal lands, entered into before October 1, 1979; and

(ii) The Automated Export System record.

(4) A shipping tolerance of 5 percent in cubic feet or board feet scribner is allowed on the un-shipped balance of a commodity listed on a license. This tolerance applies only to the final quantity remaining un-shipped on a license against which more than one shipment is made and not to the original quantity authorized by such license. See §750.11 of the EAR for an explanation of shipping tolerances.

(e) *Definitions.* When used in this section, the following terms have the meaning indicated:

(1) *Unprocessed western red cedar* means western red cedar (thuja plicata) timber, logs, cants, flitches, and processed lumber containing wane on one or more sides, as defined in ECCN 1C988, that has not been processed into:

(i) Lumber of American Lumber Standards Grades of Number 3 dimension or better, or Pacific Lumber Inspection Bureau Export R-List Grades of Number 3 common or better grades, with a maximum cross section of 2,000 square centimeters (310 square inches) for any individual piece of processed western red cedar (WRC) being exported, regardless of grade;

(ii) Chips, pulp, and pulp products;

(iii) Veneer and plywood;

(iv) Poles, posts, or pilings cut or treated with preservative for use as such and not intended to be further processed; and

(v) Shakes and shingles.

(2) *Federal and State lands* means Federal and State lands, excluding lands in the State of Alaska and lands held in trust by any Federal or State official or agency for a recognized Indian tribe or for any member of such tribe.

(3) *Contract harvester* means any person who, on October 1, 1979, had an outstanding contractual commitment to harvest western red cedar timber from State and Federal lands and who can show by previous business practice or other means that the contractual commitment was made with the intent of exporting or selling for export in unprocessed form all or part of the commodities to be harvested.

(4) *Producer* means any person engaged in a process that transforms an unprocessed western red cedar commodity (e.g., western red cedar timber) into another unprocessed western red cedar commodity (e.g., cants) primarily through a saw mill.

[61 FR 12844, Mar. 25, 1996, as amended at 68 FR 50473, Aug. 21, 2003; 73 FR 49331, Aug. 21, 2008; 78 FR 13470, Feb. 28, 2013; 79 FR 4617, Jan. 29, 2014; 79 FR 34411, June 17, 2014; 89 FR 28601, Apr. 19, 2024]

§ 754.5 Horses for export by sea.

(a) *License requirement.* As indicated by the letters ''SS'' in the ''Reason for Control'' paragraph of the ''License Requirements'' section of ECCN 0A980 on the CCL (supplement no. 1 to part 774

of the EAR) a license is required for the export of horses exported by sea to all destinations, including Australia, Canada, and the United Kingdom.

(b) *License policy*. (1) License applications for the export of horses by sea for the purposes of slaughter will be denied.

(2) Other license applications will be approved if BIS, in consultation with the Department of Agriculture, determines that the horses are not intended for slaughter. You must provide a statement in the additional information section of the application certifying that no horse under consignment is being exported for the purpose of slaughter.

(3) Each application for export may cover only one consignment of horses.

[61 FR 12844, Mar. 25, 1996, as amended at 73 FR 49331, Aug. 21, 2008; 89 FR 28601, Apr. 19, 2024]

§ 754.6 Registration of U.S. agricultural commodities for exemption from short supply limitations on export.

(a) *Scope*. Under the provisions of section 7(g) of the Export Administration Act of 1979 (EAA), agricultural commodities of U.S. origin purchased by or for use in a foreign country and stored in the United States for export at a later date may be registered with BIS for exemption from any quantitative limitations on export that may subsequently be imposed under section 7 of the EAA for reasons of short supply.

(b) *Applications for registration*. Applications to register agricultural commodities must be submitted by a person or firm subject to the jurisdiction of the United States who is acting as a duly authorized agent for the foreign purchaser.

(c) *Address*. Submit applications pursuant to the provisions of section 7(g) of the EAA, via courier, to: Bureau of Industry and Security, U.S. Department of Commerce, 14th and Pennsylvania Ave., NW., Room 2099B, Washington, DC 20230.

[61 FR 12844, Mar. 25, 1996, as amended at 62 FR 25467, May 9, 1997; 73 FR 37, Jan. 2, 2008; 78 FR 13470, Feb. 28, 2013]

§ 754.7 Petitions for the imposition of monitoring or controls on recyclable metallic materials; Public hearings.

(a) *Scope*. Section 7(c) of the Export Administration Act of 1979 (EAA) provides for the filing and review of petitions seeking the imposition of monitoring or controls on recyclable metallic materials.

(b) *Eligibility for filing petitions*. Any entity, including a trade association, firm or certified or recognized union or group of workers, which is representative of an industry or a substantial segment of an industry which processes metallic materials capable of being recycled with respect to which an increase in domestic prices or a domestic shortage, either of which results from increased exports, has or may have a significant adverse effect on the national economy or any sector thereof, may submit a written petition to BIS requesting the monitoring of exports, or the imposition of export controls, or both, with respect to such materials.

(c) *Public hearings*. The petitioner may also request a public hearing. Public hearings may also be requested by an entity, including a trade association, firm, or certified or recognized union or group of workers, which is representative of an industry or a substantial segment of an industry which processes, produces or exports the metallic materials which are the subject of a petition.

(d) *Address*. Submit petitions pursuant to section 7(c) of the EAA, via courier, to: Bureau of Industry and Security, U.S. Department of Commerce, 14th and Pennsylvania Ave., NW., Room 2099B, Washington, DC 20230.

[61 FR 12844, Mar. 25, 1996, as amended at 62 FR 25467, May 9, 1997; 73 FR 38, Jan. 2, 2008; 78 FR 13470, Feb. 28, 2013]

SUPPLEMENT NO. 1 TO PART 754—CRUDE PETROLEUM AND PETROLEUM PRODUCTS

This Supplement provides relevant Schedule B numbers and commodity descriptions for crude oil (EAR99) and for petroleum products other than crude oil that are controlled by

ECCN 1C980, 1C982, 1C983, or 1C984. The 10-digit Harmonized System-based Schedule B commodity numbers and descriptions below are drawn from *Chapter 27 of the Schedule B 2014* found at and the *AES 2014 Export Concordance* (December 30, 2013) *http://www.census.gov/foreign-trade/aes/documentlibrary/expaes.txt*. If there are any discrepancies between the information in this supplement and the information in the most current Schedule B, use the most current Schedule B commodity number on your Electronic Export Information filing on the Automated Export System.

Schedule B No.	Commodity description
	CRUDE OIL
2709001000	Petroleum oils and oils obtained from bituminous minerals, crude.
2709002010	Petroleum oils and oils obtained from bituminous minerals, testing 25 degrees API or more, condensate derived wholly from natural gas, crude.
2709002090	Petroleum oils and oils obtained from bituminous minerals, testing 25 degrees API or more, crude, NESOI.
2714100000	Bituminous or oil shale and tar sands.
	PETROLEUM PRODUCTS
2707999010	Carbon black feedstock.
2710121510	Leaded gasoline.
2710121514	Unleaded gasoline, reformulated.
2710121519	Unleaded gasoline, NESOI.
2710121520	Jet fuel, naphtha-type.
2710121550	Motor fuels, NESOI.
2710121805	Motor fuel blending stock, Reformulated Blendstock for Oxygenate Blending (RBOB).
2710121890	Motor fuel blending stock, except Reformulated Blendstock for Oxygenate Blending (RBOB).
2710122500	Naphthas, except motor fuel or motor fuel blending stock.
2710124500	Light oil and preparation, mixtures of hydrocarbons containing by weight not over 50 percent of any single hydrocarbon compound, NESOI.
2710129000	Light oils and preparations obtained from bituminous minerals containing by weight 70 percent or more of petroleum oils, NESOI.
2710190605	No. 4-type fuel oils, API lt 25 degrees, having a saybolt universal viscosity at 37.8 degrees C of 45–125 seconds, with not over 500 ppm of sulfur.
2710190615	No. 4-type fuel oils under 25 degrees API having a saybolt universal viscosity at 37.8 degrees C of 45–125 seconds, having over 500 ppm sulfur.
2710190620	Heavy fuel oils under 25 degrees API having saybolt universal viscosity at 37.8 degrees C of more than 125 seconds.
2710190650	Distillate and residual fuel oils (including blended fuel oils), testing under 25 degrees API, NESOI.
2710191106	Light fuel oils testing 25 degrees API or more, containing not more than 15 ppm of sulfur.
2710191109	Light fuel oils testing 25 degrees API or more, containing more than 15 ppm but not more than 500 ppm of sulfur.
2710191112	Light fuel oils 25 degrees API or more having a saybolt universal viscosity at 37.8 degrees C of less than 45 seconds, containing over 500 ppm sulfur.
2710191115	No. 4-type fuel oils containing not more than 500 ppm of sulfur.
2710191125	No. 4-type fuel oils containing more than 500 ppm of sulfur.
2710191150	Heavy fuel oils 25 degrees API or more with a saybolt universal viscosity at 37.8 degrees C of more than 125 seconds.
2710191600	Kerosene-type jet fuel, NESOI.
2710192400	Kerosene motor fuel.
2710192500	Kerosene motor fuel blending stock.
2710192600	Kerosene, except motor fuel or motor fuel blending stock, NESOI.
2710193010	Aviation engine lubricating oils (except jet engine lubricating oils).
2710193020	Automotive, diesel or marine engine (except turbine) lubricating oils.
2710193030	Turbine lubricating oil, including marine.
2710193040	Automotive gear oils.
2710193050	Steam cylinder oils.
2710193070	Quenching or cutting oils.
2710193080	Lubricating oils with or without additives, NESOI.
2710193750	Lubricating greases with or w/out additives.
2710194530	White mineral oils, medicinal grade.
2710194540	White mineral oils, except medicinal grade.
2710194545	Insulating or transformer oils, NESOI.
2710194590	Mixtures of hydrocarbons NESOI, containing by weight not over 50 percent of any single hydrocarbon compound.
2710199000	Petroleum oils or oils obtained from bituminous minerals, other than crude, containing by weight 70% or more of petroleum oils, NESOI.
2710200000	Petroleum oils or oils obtained from bituminous minerals, other than crude, containing by weight 70% or more of petroleum oils, containing biodiesel.
2710910000	Waste oils containing Polychlorinated Biphenyls (PCBs), Polychlorinated Terphenyls (PCTs), or Polybrominated Biphenyls (PBBs).
2710990000	Waste oils, not elsewhere specified or included.
2711110000	Natural gas, liquefied.
2711120000	Propane, liquefied.

Schedule B No.	Commodity description
2711130000	Butanes, liquefied.
2711140000	Ethylene, propylene, butylene and butadiene liquefied.
2711190000	Petroleum gases and other gaseous hydrocarbons, liquefied, NESOI.
2712200000	Paraffin wax containing less than 0.75 percent oil.
2712900000	Microcrystalline petroleum wax, slack wax, ozokerite, lignite wax, peat wax, other mineral waxes, and similar products, NESOI.
2713110000	Petroleum coke, not calcined.
2713120000	Petroleum coke, calcined.
2713200000	Petroleum bitumen.
2713900000	Residues of petroleum oils or of oils obtained from bituminous materials, NESOI.
2714900000	Bitumen and asphalt, natural; asphaltites and asphaltic rocks.
2715000000	Bituminous mixtures based on natural asphalt, natural bitumen, petroleum bitumen, mineral tar or mineral tar pitch.
2804100000	Hydrogen.
2804290010	Helium.
2811210000	Carbon dioxide.
2811299000	Carbon monoxide.
2814100000	Anhydrous ammonia.
2814200000	Ammonia in aqueous solution.
3819000000	Hydraulic brake fluids and other prepared liquids for hydraulic transmission, not containing or containing less than 70 percent by weight of petroleum oils or oils obtained from bituminous minerals.

[79 FR 34411, June 17, 2014, as amended at 81 FR 29486, May 12, 2016]

SUPPLEMENT NO. 2 TO PART 754—UNPROCESSED WESTERN RED CEDAR

This table is a non-exhaustive list of 10-digit Harmonized System-based Schedule B commodity numbers that may apply to unprocessed western red cedar products subject to license requirements of §754.4 of this part. The 10-digit Harmonized System-based Schedule B commodity numbers and descriptions below are drawn from *Chapter 44 of the Schedule B 2014* found at *http://www.census.gov/foreign-trade/schedules/b/2014/c44.html* and the *AES 2014 Export Concordance* (December 30, 2013) *http://www.census.gov/foreign-trade/aes/documentlibrary/expaes.txt*. If there are any discrepancies between the information in this supplement and the information in the most current Schedule B, use the most current Schedule B commodity number on your Electronic Export Information filing in the Automated Export System.

Schedule B commodity No.	Description
	Wood in the rough
4403100030	Poles, piles and posts; 'treated'.
4403100060	Wood in the rough; 'treated'.
4403200010	Not 'treated'; coniferous; poles, piles and posts.
4403200055	Not 'treated'; coniferous; logs and timber; Western Red Cedar (Thuja Plicata).
	'Lumber'
4407100101	Coniferous; finger-jointed.
4407100102	Coniferous; except finger-jointed; 'treated'.
4407100168	Coniferous; except finger-jointed; not 'treated'; Western Red Cedar (Thuja Plicata); 'rough'.
4407100169	Coniferous; except finger-jointed; not 'treated'; Western Red Cedar (Thuja Plicata); not 'rough'.

NOTE 1: *4403 heading in the Schedule B 2014 pertains to ''wood in the rough, whether or not stripped of bark or sapwood, or roughly squared (not including lumber of heading 4407).''*

NOTE 2: The *6-digit Harmonized System subheading 4403.10 and the 10-digit Harmonized System code 4407.10.0102 in Schedule B 2014 state that 'treated' means ''treated with paint, stain, creosote or other preservatives.''*

NOTE 3: The *4407 heading in the Schedule B 2014 refers to 'lumber' as ''wood sawn or chipped lengthwise, sliced or peeled, whether or not planed, sanded or end-jointed, of a thickness exceeding 6mm (.236 inch).''*

NOTE 4: Section IX—Chapter 44 of *Schedule B 2014, Statistical Note 3 states, ''for the purpose of heading 4407, the term ''rough'' includes wood that has been edged, resawn, crosscut or trimmed to smaller sizes but it does not include wood that has been dressed or surfaced by planing on one or more edges or faces or has been edge-glued or end-glued.''*

[79 FR 34412, June 17, 2014]

SUPPLEMENT NO. 3 TO PART 754
[RESERVED]

PART 756—APPEALS AND JUDICIAL REVIEW

Sec.
756.1 Introduction.
756.2 Appeal from an administrative action.
756.3 Judicial review of agency action.

AUTHORITY: 50 U.S.C. 4801–4852; 50 U.S.C. 4601 *et seq.;* 50 U.S.C. 1701 *et seq.;* E.O. 13222, 66 FR 44025, 3 CFR, 2001 Comp., p. 783.

SOURCE: 61 FR 12851, Mar. 25, 1996, unless otherwise noted.

§ 756.1 Scope.

Section 756.2 describes the procedures applicable to appeals from administrative actions taken under the Export Administration Act (EAA) or the Export Administration Regulations (EAR). (In this part, references to the EAR are references to 15 CFR chapter VII, subchapter C). Section 756.3 describes the procedures under which the Bureau of Industry and Security (BIS) can safeguard national security information when agency action is under judicial review.

[85 FR 63012, Oct. 6, 2020]

§ 756.2 Appeal from an administrative action.

(a) *Scope.* Any person directly and adversely affected by an administrative action taken by BIS may appeal to the Under Secretary for reconsideration of that administrative action. The following types of administrative actions are not subject to the appeals procedures described in this part:

(1) Issuance, amendment, revocation, or appeal of a regulation. (These requests may be submitted to BIS at any time.)

(2) Denial or probation orders, civil penalties, sanctions, or other actions under parts 764 and 766 of the EAR, except that, any appeal from an action taken under §766.25 and any appeal from an action taken in accordance with §766.23 to make an action taken under §766.25 applicable to a related person shall be subject to the appeals procedures described in this part.

(3) A decision on a request to remove or modify an Entity List entry made pursuant to §744.16 of the EAR, a decision on a request to remove or modify an Unverified List entry made pursuant to §744.15 of the EAR, or a request to remove or modify a Military End User entry made pursuant to §744.21(b) of the EAR.

(4) A decision on whether License Exception Strategic Trade Authorization (STA) is available for ''600 series'' ''end items'' pursuant to §740.20(g) of the EAR.

(b) *Review and appeal officials.* The Under Secretary may delegate to the Deputy Under Secretary for Industry and Security or to another BIS official the authority to review and decide the appeal. In addition, the Under Secretary may designate any employee of the Department of Commerce to be an appeals coordinator to assist in the review and processing of an appeal under this part. If such employee is not an employee of BIS, such designation may be made only with the concurrence of the head of the operating unit in which that employee is employed. The responsibilities of an appeals coordinator may include presiding over informal hearings.

(c) *Appeal procedures*—(1) *Filing.* An appeal under this part must be received by the Under Secretary for Industry and Security, Bureau of Industry and Security, U.S. Department of Commerce, Room 3898, 14th Street and Pennsylvania Avenue, NW., Washington, DC 20230 not later than 45 days after the date appearing on the written notice of administrative action.

(2) *Content of appeal.* The appeal must include a full written statement in support of appellant's position. The appeal must include a precise statement of why the appellant believes the administrative action has a direct and adverse effect and should be reversed or modified. The Under Secretary may request additional information that would be helpful in resolving the appeal, and may accept additional submissions. The Under Secretary will not ordinarily accept any submission filed more than 30 days after the filing of

the appeal or of any requested submission.

(3) *Request for informal hearing.* In addition to the written statement submitted in support of an appeal, an appellant may request, in writing, at the time an appeal is filed, an opportunity for an informal hearing. The Under Secretary may grant or deny a request for an informal hearing. Any hearings will be held in the District of Columbia unless the Under Secretary determines, based upon good cause shown, that another location would be better.

(4) *Informal hearing procedures*—(i) *Presentations.* The Under Secretary shall provide an opportunity for the appellant to make an oral presentation based on the materials previously submitted by the appellant or made available by the Department in connection with the administrative action. The Under Secretary may require that any facts in controversy be covered by an affidavit or testimony given under oath or affirmation.

(ii) *Evidence.* The rules of evidence prevailing in courts of law do not apply, and all evidentiary material deemed by the Under Secretary to be relevant and material to the proceeding, and not unduly repetitious, will be received and considered.

(iii) *Procedural questions.* The Under Secretary has the authority to limit the number of people attending the hearing, to impose any time or other limitations deemed reasonable, and to determine all procedural questions.

(iv) *Transcript.* A transcript of an informal hearing shall not be made, unless the Under Secretary determines that the national interest or other good cause warrants it, or the appellant requests a transcript. If the appellant requests a transcript, the appellant will be responsible for paying all expenses related to production of the transcript.

(v) *Report.* Any person designated by the Under Secretary to conduct an informal hearing shall submit a written report containing a summary of the hearing and recommend action to the Under Secretary.

(d) *Decisions*—(1) *Determination of appeals.* In addition to the documents specifically submitted in connection with the appeal, the Under Secretary shall consider any recommendations, reports, or relevant documents available to BIS in determining the appeal, but shall not be bound by any such recommendation, nor prevented from considering any other information, or consulting with any other person or groups, in making a determination. The Under Secretary may adopt any other procedures deemed necessary and reasonable for considering an appeal. The Under Secretary shall decide an appeal within a reasonable time after receipt of the appeal. The decision shall be issued to the appellant in writing and contain a statement of the reasons for the action.

(2) *Effect of the determination.* The decision of the Under Secretary shall be final.

(e) *Effect of appeal.* Acceptance and consideration of an appeal shall not affect any administrative action, pending or in effect, unless the Under Secretary, upon request by the appellant and with opportunity for response, grants a stay.

[61 FR 12851, Mar. 25, 1996, as amended at 62 FR 25467, May 9, 1997; 65 FR 14860, Mar. 20, 2000; 70 FR 8250, Feb. 18, 2005; 71 FR 34009, June 13, 2006; 85 FR 63012, Oct. 6, 2020; 85 FR 83804, Dec. 23, 2020]

§ 756.3 Judicial review of agency action.

(a) *Definition.* For purposes of this section, the term *agency action* has the same meaning given such term in 5 U.S.C. 551(13), *i.e.,* includes the whole or a part of an agency rule, order, license, sanction, relief, or the equivalent or denial thereof, or failure to act.

(b) *Classified national security information.* In any judicial review of any agency action under the EAR, if such action was based in whole or in part on classified national security information as defined in Executive Order 13526 (December 29, 2009), such information may be submitted to the reviewing court *ex parte* and *in camera.* This paragraph (b) does not confer or imply any right to review in any tribunal, judicial or otherwise.

[85 FR 63012, Oct. 6, 2020]

PART 758—EXPORT CLEARANCE REQUIREMENTS AND AUTHORITIES

Sec.

758.1 The Electronic Export Information (EEI) filing to the Automated Export System (AES).
758.2 Automated Export System (AES).
758.3 Responsibilities of parties to the transaction.
758.4 Use of export license.
758.5 Conformity of documents and unloading of items.
758.6 Destination control statement and other information furnished to consignees.
758.7 Authorities of the Bureau of Industry and Security, Office of Export Enforcement (OEE).
758.8 Return or unloading of cargo.
758.9 Other applicable laws and regulations.
758.10 Entry clearance requirements for temporary imports.
758.11 Export clearance requirements for firearms and related items.

AUTHORITY: 50 U.S.C. 4801–4852; 50 U.S.C. 4601 *et seq.;* 50 U.S.C. 1701 *et seq.*

SOURCE: 61 FR 12852, Mar. 25, 1996, unless otherwise noted.

§ 758.1 The Electronic Export Information (EEI) filing to the Automated Export System (AES).

(a) The *Electronic Export Information (EEI) filing to the Automated Export System (AES).* The EEI is used by the Bureau of Census to collect trade statistics and by the Bureau of Industry and Security for export control purposes. The EEI collects basic information such as the names and addresses of the parties to a transaction; the Export Control Classification Number (ECCN) (when required), the Schedule B number or Harmonized Tariff Schedule of the United States (HTS) number, the description, quantity and value of the items exported; and the license authority for the export. The EEI is a statement to the United States Government that the transaction occurred as described.

(b) *When is an EEI filing required to be filed in the AES.* Except when the export of items subject to the EAR is to take place electronically or in an otherwise intangible form, you must file EEI in the AES with the United States Government for items subject to the EAR, including exports by U.S. mail, in the following situations:

(1) For all exports of items subject to the EAR that are destined to a country in Country Group E:1 or E:2 of supplement no. 1 to part 740 of the EAR regardless of value;

(2) For all exports subject to the EAR that require submission of a license application, regardless of value or destination;

(3) For all exports of 9x515 or ''600 series'' items enumerated or otherwise described in paragraphs .a through .x of a 9x515 or ''600 series'' ECCN regardless of value or destination, including exports to Australia, Canada, and the United Kingdom;

(4) For all exports under license exception Strategic Trade Authorization (STA);

(5) For all exports of commodities and mass market software subject to the EAR when the value of the commodities or mass market software classified under a single Schedule B Number (or HTS) is over $2,500, except as exempted by the Foreign Trade Regulations (FTR) in 15 CFR Part 30 and referenced in paragraph (c) of this section;

(6) For all exports of items subject to the EAR that will be transshipped through Australia, Canada, or the United Kingdom to a third destination, where the export would require EEI or license if shipped directly to the final destination from the United States (see 15 CFR 30.36(b)(2) of the FTR);

(7) For all items exported under authorization Validated End-User (VEU);

(8) For all exports of tangible items subject to the EAR where parties to the transaction, as described in § 748.5(d) through (f) of the EAR, are listed on the Unverified List (supplement no. 6 to part 744 of the EAR), regardless of value or destination; or

(9) For all exports, except for exports authorized under License Exception BAG, as set forth in § 740.14 of the EAR, of commodities controlled under ECCNs 0A501.a or .b, 0A506, or 0A507, shotguns with a barrel length less than 18 inches controlled under ECCNs 0A502 or 0A508, or ammunition controlled under ECCN 0A505 except for .c, regardless of value or destination, including exports to Australia, Canada, and the United Kingdom.

(10) For all exports of items on the Commerce Control List to the People's

Republic of China, Russia, or Venezuela, regardless of value, unless the export may be made under the exemption listed under paragraph (c)(4) of this section.

NOTE 1 TO PARAGRAPH (b)(10): Paragraph (b)(10) applies to exports to Hong Kong, as this destination is considered a part of the People's Republic of China under the EAR, even if the AES requirements state that the destination filed in EEI is to be listed as Hong Kong.

(11) For all exports of items in ECCN 3A069 when destined to a destination in Country Group D.

(c) *Exemptions.* A complete list of exemptions from the EEI filing requirement is set forth in the 15 CFR 30.35 through 30.40 of the FTR. Some of these FTR exemptions have elements in common with certain EAR license exceptions. An FTR exemption may be narrower than an EAR license exception. The following references are provided in order to direct you to the FTR exemptions that relate to EAR license exceptions:

(1) License Exception Baggage (BAG), as set forth in §740.14 of the EAR. See 15 CFR 30.37(x) of the FTR;

NOTE 1 TO PARAGRAPH (c)(1): See the export clearance requirements for exports of firearms controlled under ECCNs 0A501.a or .b, 0A506, or 0A507, shotguns with a barrel length less than 18 inches controlled under ECCNs 0A502 or 0A508, or ammunition controlled under ECCN 0A505, authorized under License Exception BAG, as set forth in §740.14 of the EAR.

(2) License Exception Gift Parcels and Humanitarian Donations (GFT), as set forth in §740.12 of the EAR. See 15 CFR 30.37(h) of the FTR;

(3) License Exception Aircraft and Vessels (AVS), as set forth in §740.15 of the EAR. See 15 CFR 30.37(o) (5) of the FTR;

(4) License Exception Governments and International Organizations (GOV), as set forth in §740.11 of the EAR. See 15 CFR 30.39 and 30.40 of the FTR;

(5) License Exception Technology and Software Under Restriction (TSR), as set forth in §740.6 of the EAR. See 15 CFR 30.37(f) of the FTR; or

(6) License Exception Temporary Imports, Exports, and Reexports (TMP) ''tools of trade'', as set forth in §740.9(a)(1) of the EAR. See 15 CFR 30.37(b) of the FTR.

(d) *Notation on export documents for exports exempt from EEI filing requirements.* When an exemption from filing the EEI applies, the export authority (license exception or NLR) of all the items must be entered on the loading document (e.g., Cargo Declaration, manifest, bill of lading, (master) air waybill) by the person responsible for preparing the document, see 15 CFR 30.35 of the FTR. This requirement is intended to parallel the Bureau of Census requirement, so that notations as to the basis for the EEI exemption and the license authority are entered in the same place and manner (see 15 CFR 30.45(e) and (f) of the FTR for detailed requirements). The loading document must be available for inspection by government officials, along with the items, prior to lading on the carrier.

(e) *Filing the Electronic Export Information (EEI) to the AES.* The person who files the EEI to the AES must be in the United States at the time of filing. The person who transmits the EEI to the AES must be a certified AES participant in accordance with 15 CFR 30.5 of the FTR. The person who transmits EEI to the AES, whether exporter (U.S. principal party in interest) or agent, is responsible for the truth, accuracy, and completeness of the EEI, except insofar as that person can demonstrate that he or she reasonably relied on information furnished by others.

(f) *The EEI is an export control document.* The EEI is a statement to the United States Government. The EEI is an export control document as defined in part 772 of the EAR. False statements made thereon may be a violation of §764.2(g) of the EAR. When EEI is filed to the AES, the filer of the EEI represents the following:

(1) Export of the items described on the EEI filing is authorized under the terms and conditions of a license issued by BIS; is in accordance with the terms and conditions of a license exception; is authorized under ''NLR'' as no license is required for the shipment; or is not subject to the EAR;

(2) Statements on the EEI filing are in conformity with the contents of any license issued by BIS, with the possible exception of the USPPI and USPPI

identification blocks in routed transactions or any name change approved by BIS in writing in accordance with § 750.7(c)(2) of the EAR; and

(3) All information shown on the EEI filing is true, accurate, and complete.

(g) *Export control information on the EEI filing in AES.* For each item on the EEI filing, you must report the license authority (license number, License Exception symbol, or No License Required (NLR) designator), the Export Control Classification Number (ECCN) (when required), and the item description in the designated blocks. The item description must be stated in Commerce Control List (CCL) terms. If those terms are inadequate to meet the Bureau of Census requirements, the FTR requires that you give enough additional detail to permit verification of the Schedule B Number (or Harmonized Tariff Schedule of the United States (HTS) number). See 15 CFR part 30, appendix B, part III of the FTR for license codes.

(1) *Exports under a license.* When exporting under the authority of a license, you must report on the EEI filing to the AES the license code that corresponds to the license, license number, the ECCN, and an item description identical to the item description on the license.

(2) *Exports under a license exception.* You must report on any required EEI filing to the AES the ECCN and the correct License Exception symbol (e.g., LVS, GBS, CIV) for the License Exception(s) and the license code/license exception code that corresponds to the license exception under which you are exporting. Items temporarily in the United States meeting the provisions of License Exception TMP, under § 740.9(b)(3), are exempted from entering the ECCN. See also § 740.1(d) of the EAR.

(3) *No License Required (NLR) exports.* You must report on any required EEI filing to the AES the correct license code/license exception code when using the ''NLR'' designation for the items that are subject to the EAR but not listed on the Commerce Control List (CCL) (*i.e.,* items are designated as EAR99) (FTR license code ''C33''), and when the items to be exported are listed on the CCL but are not subject to a license requirement. In addition, you must enter the correct ECCN on any required EEI filing for all items being exported under the NLR provisions that have a reason for control other than or in addition to anti-terrorism (AT), unless the items are destined to China, Russia, or Venezuela. For items destined to China, Russia, or Venezuela, you must enter the correct ECCN on any required EEI filing regardless of reason for control.

(4) *Exports of firearms and related items.* This paragraph (g)(4) includes two separate requirements under paragraphs (g)(4)(i) and (ii) of this section that are used to better identify exports of certain firearms under the EAR. Paragraph (g)(4)(i) of this section is limited to certain EAR authorizations. Paragraph (g)(4)(ii) of this section applies to all EAR authorizations that require EEI filing in AES.

(i) *Identifying firearms by manufacturer, model, caliber, and serial number in the EEI filing in AES.* For any export authorized under License Exception TMP or a BIS license authorizing a temporary export of items controlled under ECCNs 0A501.a or .b, 0A506, or 0A507 or shotguns with a barrel length less than 18 inches controlled under ECCNs 0A502 or 0A508, in addition to any other required data for the associated EEI filing, you must report the manufacturer, model, caliber, and serial number of the exported items. The requirements of this paragraph (g)(4)(i) also apply to any other export authorized under a BIS license that includes a condition or proviso on the license requiring the submission of this information specified in paragraph (g) of this section when the EEI is filed in AES.

(ii) *Identifying firearms by ''items'' level classification or other control descriptor in the EEI filing in AES.* For any export of items controlled under ECCNs 0A501.a or .b, 0A506, 0A507, or shotguns with a barrel length less than 18 inches controlled under ECCNs 0A502 or 0A508.a or .b, in addition to any other required data for the associated EEI filing, the exporter must include the items paragraph classification or other control descriptor as specified in paragraphs (g)(4)(ii)(A) through (E) for ECCNs 0A501, 0A502, 0A506, 0A507, or 0A508, as applicable, as the first text to

appear in the Commodity description block in the EEI filing in AES. (*See* § 743.4 of the EAR for the use of this information for ECCNs 0A501.a or .b, 0A506.a or .b, and 0A507.a, or .b for conventional arms reporting).

NOTE 2 TO PARAGRAPH (g)(4): If a commodity described in paragraph (g)(4) of this section is exported under License Exception TMP under § 740.9(a)(6) of the EAR for inspection, test, calibration, or repair is not consumed or destroyed in the normal course of authorized temporary use abroad, the commodity must be disposed of or retained in one of the ways specified in § 740.9(a)(14)(i), (ii), or (iii) of the EAR. For example, if a commodity described in this paragraph (g)(4) was destroyed while being repaired after being exported under § 740.9(a)(6), the commodity described in this paragraph (g)(4) would not be required to be returned. If the entity doing the repair returned a replacement of the commodity to the exporter from the United States, the import would not require an EAR authorization. The entity that exported the commodity described in this paragraph (g)(4) and the entity that received the commodity would need to document this as part of their recordkeeping related to this export and subsequent import to the United States.

(5) *Exports of .z items that meet or exceed the performance parameters of ECCN 3A090 or 4A090.* This paragraph (g)(5) imposes a requirement for identifying .z items by ''items'' level classification in the EEI filing in AES. For any export of .z items controlled under ECCNs 3A001, 4A003, 4A004, 4A005, 5A002, 5A004, 5A992, 5D002, or 5D992 in addition to any other required data for the associated EEI filing, you must include the items paragraph classification (*i.e.*, .z), when applicable, as the first text to appear in the Commodity description block in the EEI filing in AES.

(h) *Power of attorney or other written authorization.* In a ''power of attorney'' or other written authorization, authority is conferred upon an agent to perform certain specified acts or kinds of acts on behalf of a principal.

(1) An agent must obtain a power of attorney or other written authorization in the following circumstances:

(i) An agent that represents a foreign principal party in interest in a routed transaction must obtain a power of attorney or other written authorization that sets forth his authority; and

(ii) An agent that applies for a license on behalf of a principal party in interest must obtain a power of attorney or other written authorization that sets forth the agent's authority to apply for the license on behalf of the principal.

NOTE 3 TO PARAGRAPH (h)(1): The Bureau of Census Foreign Trade Regulations impose additional requirements for a power of attorney or other written authorization. See 15 CFR 30.3(f) of the FTR.

(2) This requirement for a power of attorney or other written authorization is a legal requirement aimed at ensuring that the parties to a transaction negotiate and understand their responsibilities. The absence of a power of attorney or other written authorization does not prevent BIS from using other evidence to establish the existence of an agency relationship for purposes of imposing liability.

(i) *Filing the Electronic Export Information (EEI).* The EEI must be filed with the United States Government in the manner prescribed by the Bureau of Census Foreign Trade Regulations (15 CFR part 30).

[79 FR 4617, Jan. 29, 2014, as amended at 79 FR 32626, June 5, 2014; 79 FR 34221, June 16, 2014; 79 FR 48661, Aug. 18, 2014; 80 FR 3466, Jan. 23, 2015; 80 FR 43319, July 22, 2015; 83 FR 38021, Aug. 3, 2018; 85 FR 4178, Jan. 23, 2020; 85 FR 23465, Apr. 28, 2020; 85 FR 83792, Dec. 23, 2020; 86 FR 46595, Aug. 19, 2021; 88 FR 73497, Oct. 25, 2023; 89 FR 28601, Apr. 19, 2024; 89 FR 34709, Apr. 30, 2024; 90 FR 4615, Jan. 16, 2025; 90 FR 47195, Sept. 30, 2025]

§ 758.2 Automated Export System (AES).

The Bureau of the Census' Foreign Trade Regulations (FTR) (15 CFR Part 30) contain provisions for filing Electronic Export Information (EEI) using the Automated Export System (AES). In order to use AES, you must apply directly to the Bureau of the Census (Census Bureau) for certification and approval (see 15 CFR 30.5(a) of the FTR). Two electronic filing options (predeparture and postdeparture) are available for transmitting EEI. Predeparture filing requires that all information be reported in AES prior to export (15 CFR 30.4(a) and (b) of the FTR). Postdeparture filing is available only for approved companies (approved

by the Census Bureau, U.S. Customs and Border Protection, and BIS) and requires no information to be transmitted prior to export with complete information reported postdeparture no later than five (5) calendar days after the date of exportation (15 CFR 30.4(c) of the FTR).

(a) *Census Bureau's postdeparture application process.* Exporters, or agents applying on behalf of an exporter, may apply for postdeparture privileges by submitting a Letter of Intent to the Bureau of Census (Census Bureau) Census Bureau in accordance with 15 CFR 30.5(a) of the FTR. The Census Bureau will distribute the Letter of Intent to BIS and other agencies participating in the postdeparture approval process. Any agency may notify the Census Bureau that an applicant has failed to meet its acceptance standards, and the Census Bureau will provide a denial letter to the applicant naming the denying agency. If the Census Bureau receives neither notification of denial, nor a request for an extension from the agency within 30 days of the date of referral of the letter of intent to the agency, the applicant is deemed to be approved by that agency. (15 CFR 30.5(c) of the FTR).

(b) *BIS postdeparture evaluation criteria.* BIS will consider the grounds for denial of postdeparture filing status set forth in 15 CFR 30.5(c)(1) of the FTR, as well as the additional grounds for denial set forth in this paragraph.

(1) Applicants have not been approved for postdeparture filing privileges by the Census Bureau or other agency;

(2) Any party to the export transaction is contained on BIS's Denied Party, Entity Lists, [SDN], or Unverified List;

(3) Exports are destined to a country in Country Group E:1 or E:2 (supplement no. 1 to part 740 of the EAR);

(4) Exports are made under License Exception Strategic Trade Authorization (STA); are made under Authorization Validated End User (VEU); or are of 9x515 or ''600 series'' items.

(5) Exports containing items that require a BIS license or have an ECCN controlled for reasons other than Anti-Terrorism only or Encryption Items.

(c) *Contacts for assistance.* (1) For additional information on the AES in general, please contact the Foreign Trade Division, U.S. Census Bureau, (800) 549–0595, ext. 1.

(2) For information about BIS's postdeparture approval process for items subject to the EAR, contact: Director, Office of Technology Evaluation, Bureau of Industry and Security, (202) 482–4933, facsimile: (202) 482–5361.

[79 FR 4617, Jan. 29, 2014, as amended at 79 FR 27437, May 13, 2014; 80 FR 43319, July 22, 2015]

§ 758.3 Responsibilities of parties to the transaction.

All parties that participate in transactions subject to the EAR must comply with the EAR. Parties are free to structure transactions as they wish, and to delegate functions and tasks as they deem necessary, as long as the transaction complies with the EAR. However, acting through a forwarding or other agent, or delegating or redelegating authority, does not in and of itself relieve anyone of responsibility for compliance with the EAR.

(a) *Export transactions.* The U.S. principal party in interest is the exporter, except in certain routed transactions. The exporter must determine licensing authority (License, License Exception, or NLR), and obtain the appropriate license or other authorization. The exporter may hire forwarding or other agents to perform various tasks, but doing so does not necessarily relieve the exporter of compliance responsibilities.

(b) *Routed export transactions.* All provisions of the EAR, including the end-use and end-user controls found in part 744 of the EAR, and the General Prohibitions found in part 736 of the EAR, apply to routed export transactions. The U.S. principal party in interest is the exporter and must determine licensing authority (License, License Exception, or NLR), and obtain the appropriate license or other authorization, *unless* the U.S. principal party in interest obtains from the foreign principal party in interest a writing wherein the foreign principal party in interest expressly assumes responsibility for determining licensing requirements and obtaining license authority, making

the U.S. agent of the foreign principal party in interest the exporter for EAR purposes. One writing may cover multiple transactions between the same principals. See §748.4(a)(3) of the EAR.

(c) *Information sharing requirements.* In routed export transactions where the foreign principal party in interest assumes responsibility for determining and obtaining licensing authority, the U.S. principal party in interest must, upon request, provide the foreign principal party in interest and its forwarding or other agent with the correct Export Control Classification Number (ECCN), or with sufficient technical information to determine classification. In addition, the U.S. principal party in interest must provide the foreign principal party in interest or the foreign principal's agent any information that it knows will affect the determination of license authority, see §758.1(g) of the EAR.

(d) *Power of attorney or other written authorization.* In routed export transactions, a forwarding or other agent that represents the foreign principal party in interest, or who applies for a license on behalf of the foreign principal party in interest, must obtain a power of attorney or other written authorization from the foreign principal party in interest to act on its behalf. See §748.4(b)(2) and §758.1(h) of the EAR.

[65 FR 42572, July 10, 2000, as amended at 79 FR 4619, Jan. 29, 2014]

§758.4 Use of export license.

(a) *License valid for shipment from any port.* An export license issued by BIS authorizes exports from any port of export in the United States unless the license states otherwise. Items that leave the United States at one port, cross adjacent foreign territory, and reenter the United States at another port before being exported to a foreign country, are treated as exports from the last U.S. port of export.

(b) *Shipments against expiring license.* Any item requiring a license that has not departed from the final U.S. port of export by midnight of the expiration date on an export license may not be exported under that license unless the shipment meets the requirements of paragraphs (b)(1) or (2) of this section.

(1) BIS grants an extension; or

(2) Prior to midnight on the date of expiration on the license, the items:

(i) Were laden aboard the vessel;

(ii) Were located on a pier ready for loading and not for storage, and were booked for a vessel that was at the pier ready for loading; or

(iii) The vessel was expected to be at the pier for loading before the license expired, but exceptional and unforseen circumstances delayed it, and BIS or the U.S. Customs Service makes a judgment that undue hardship would result if a license extension were required.

(c) *Reshipment of undelivered items.* If the consignee does not receive an export made under a license because the carrier failed to deliver it, the exporter may reship the same or an identical item, subject to the same limitations as to quantity and value as described on the license, to the same consignee and destination under the same license. If an item is to be reshipped to any person other than the original consignee, the shipment is considered a new export and requires a new license. Before reshipping, satisfactory evidence of the original export and of the delivery failure, together with a satisfactory explanation of the delivery failure, must be submitted by the exporter to the following address: Operations Division, Bureau of Industry and Security, U.S. Department of Commerce, Room 2099B, 14th Street & Pennsylvania Avenue, NW., Washington, DC 20230.

(d) *Exports against license with approved name changes.* If you are exporting against a license with approved name changes under §750.7(c)(2) of the EAR, prior to using that export license you are required to include in the respective name field in AES (e.g., in the USPPI name field in AES), the new name followed by the original name in this format ''[new name] f.k.a. [original name].'' This reporting requirement would be completed by the authorized filer of the electronic export information (EEI) in AES. Although not required, the exporter may include a copy of the BIS written response approving the non-material name changes in accordance with §750.7(c)(2) of the EAR. If the items have already been exported against the license by

the time the name changes are approved, you are not required to report this additional information in AES, but you still must follow the recordkeeping requirements in part 762 of the EAR.

[65 FR 42572, July 10, 2000, as amended at 78 FR 13470, Feb. 28, 2013; 79 FR 32626, June 5, 2014]

§ 758.5 Conformity of documents and unloading of items.

(a) *Purpose.* The purpose of this section is to prevent items licensed for export from being diverted while in transit or thereafter. It also sets forth the duties of the parties when the items are unloaded in a country other than that of the ultimate consignee or end user as stated on the export license.

(b) *Conformity of documents.* When a license is issued by BIS, the information entered on related export control documents (e.g., Electronic Export Information (EEI) filing, bill of lading or air waybill) must be consistent with the license.

(c) *Issuance of the bill of lading or air waybill*—(1) *Ports in the country of the ultimate consignee or end user.* No person may issue a bill of lading or air waybill that provides for delivery of licensed items to any foreign port located outside the country of an intermediate consignee, ultimate consignee, or end user named on the BIS license and in the EEI filing.

(2) *Optional ports of unloading*—(i) *Licensed items.* No person may issue a bill of lading or air waybill that provides for delivery of licensed items to optional ports of unloading unless all the optional ports are within the country of ultimate destination or are included on the BIS license and in the EEI filing.

(ii) *Unlicensed items.* For shipments of items that do not require a license, the exporter may designate optional ports of unloading in EEI filing and on other export control documents, so long as the optional ports are in countries to which the items could also have been exported without a license.

(d) *Delivery of items.* No person may deliver items to any country other than the country of an intermediate consignee, ultimate consignee, or end user named on the BIS license and EEI filing without prior written authorization from BIS, except for reasons beyond the control of the carrier (such as acts of God, perils of the sea, damage to the carrier, strikes, war, political disturbances or insurrection).

(e) *Procedures for unscheduled unloading*—(1) *Unloading in country where no license is required.* When items are unloaded in a country to which the items could be exported without a license issued by BIS, no notification to BIS is required. However, any persons disposing of the items must continue to comply with the terms and conditions of any License Exception, and with any other relevant provisions of the EAR.

(2) *Unloading in a country where a license is required.* (i) When items are unloaded in a country to which the items would require a BIS license, no person may effect delivery or entry of the items into the commerce of the country where unloaded without prior written approval from BIS. The carrier, in ensuring that the items do not enter the commerce of the country, may have to place the items in custody, or under bond or other guaranty. In addition, the carrier must inform the exporter and BIS of the unscheduled unloading in a time frame that will enable the exporter to submit its report within 10 days from the date of unscheduled unloading. The exporter must within 10 days of the unscheduled unloading report the facts to and request authorization for disposition from BIS using either: mail, fax, or E-mail. The report to BIS must include:

(A) A copy of the manifest of the diverted cargo;

(B) Identification of the place of unloading;

(C) Statement that explains why the unloading was necessary; and

(D) A proposal for disposition of the items and a request for authorization for such disposition from BIS.

(ii) *Contact information.* U.S. Department of Commerce, Bureau of Industry and Security, Office of Exporter Services, Room 2099B, 14th and Pennsylvania Avenue, NW., Washington, DC

20230; phone number 202–482–0436; facsimile number 202–482–3322; and E-Mail address: *rpd2@bis.doc.gov*.

[65 FR 42573, July 10, 2000, as amended at 72 FR 3946, Jan. 29, 2007; 78 FR 13470, Feb. 28, 2013; 78 FR 22726, Apr. 16, 2013; 79 FR 4619, Jan. 29, 2014]

§ 758.6 Destination control statement and other information furnished to consignees.

(a) The exporter must incorporate the following information as an integral part of the commercial invoice whenever items on the Commerce Control List are shipped (*i.e.*, exported in tangible form), unless the shipment (*i.e.*, the tangible export) may be made under License Exception BAG or GFT (see part 740 of the EAR) or the item is designated as EAR99:

(1) The following statement: ''These items are controlled by the U.S. Government and authorized for export only to the country of ultimate destination for use by the ultimate consignee or end-user(s) herein identified. They may not be resold, transferred, or otherwise disposed of, to any other country or to any person other than the authorized ultimate consignee or end-user(s), either in their original form or after being incorporated into other items, without first obtaining approval from the U.S. government or as otherwise authorized by U.S. law and regulations'' and

(2) The ECCN(s) for any 3A001.z, 3A090, 4A003.z, 4A004.z, 4A005.z, 4A090, 5A002.z, 5A004.z, 5A992.z, 9x515 or ''600 series'' ''items'' being shipped (*i.e.*, exported in tangible form). For the seven ECCNs with a .z paragraph, the requirement to include the classification only applies to commodities specified under the .z paragraphs. If the commodity is specified under any other paragraph in one of those seven ECCNs, then the requirement under this paragraph is not applicable. For ECCN 3A090, identify the commodity as either 3A090.a, .b, or .c.

NOTE 1 TO PARAGRAPH (a): In paragraph (a)(1), the term 'authorized' includes exports, reexports and transfers (in-country) designated under No License Required (NLR).

NOTE 2 TO PARAGRAPH (a): The phrase 'country of ultimate destination' means the country specified on the commercial invoice where the ultimate consignee or end user will receive the items as an ''export.''

NOTE 3 TO PARAGRAPH (a): The phrase 'or as otherwise authorized by U.S. law and regulations' is included because the EAR contain specific exemptions from licensing (*e.g.*, EAR license exceptions and NLR designations) and do not control the reexport of foreign-made items containing less than a de minimis amount of controlled content. See §734.4 and supplement no. 2 to part 748.

(b) [Reserved]

[81 FR 54731, Aug. 17, 2016, as amended at 88 FR 73497, Oct. 25, 2023; 89 FR 96818, Dec. 5, 2024]

§ 758.7 Authorities of the Bureau of Industry and Security, Office of Export Enforcement (OEE).

(a) *Actions to assure compliance with export laws and regulations.* OEE officials and any other officials of the United States designated by OEE are authorized and directed to take appropriate action to enforce the authorities granted to the Secretary under the laws and regulations of the United States, including ECRA, 13 U.S.C. 305, 22 U.S.C. 401, 50 U.S.C. 1701 *et seq.*, the EAR, and the Foreign Trade Regulations (FTR) (15 CFR part 30). This includes, but is not limited to, assuring that:

(1) Exports, reexports, and transfers (in-country) without a license issued by BIS are either outside the scope of the license requirements of the EAR or authorized by a license exception and comply with the terms of the license exception;

(2) Exports, reexports, transfers (in-country) purporting to be authorized by licenses issued by BIS are, in fact, so authorized and the transaction complies with the terms of the license;

(3) Accurate EEI filings have been made for exports as required by this part, the FTR, and other federal regulations; and

(4) The activities of U.S. persons, wherever located, which are subject to a license requirement pursuant to §744.6 of the EAR, are authorized by and comply with the terms of a BIS license.

(b) *Types of actions.* In carrying out the authorities granted to, and exercised by, the Secretary pursuant to ECRA, 13 U.S.C. 305, 22 U.S.C. 401, 50 U.S.C. 1701 *et seq.*, the EAR, the FTR,

and other applicable laws and regulations of the United States, including the authority to control the export, reexport, and transfer (in-country) of items, in any form, subject to the jurisdiction of the United States, whether by U.S. or foreign persons; control the activities of U.S. persons, wherever located, as described in § 744.6 of the EAR; ensure compliance with export controls; monitor shipments and other means of transfer; conduct investigations; and issue orders, OEE officials and any other officials of the United States designated by OEE are authorized to take the types of enforcement actions described below.

(1) *Inspection, search, and detention of items*—(i) *Purpose of inspection, search, and detention.* All items subject to export laws and regulations administered or enforced by the Secretary that have been, are being, or are about to be exported, reexported, or transferred (in-country) are subject to inspection, search, and detention. The scope of inspection may include, but is not limited to, item identification; technical appraisal (analysis) or both; verifying the accuracy of the EEI filing, or if there is no EEI filing, the air waybill, bill of lading or other loading document covering the item about to be exported, reexported, or transferred (in-country); and verifying the value and quantity of such item.

(ii) *Place of inspection, search, and detention.* Inspection, search, and detention may take place at any location inside or outside of the United States, to include, but not limited to, the borders of the United States, all ports of exit, the premises of freight forwarders, bonded warehouses, foreign trade zones, and manufacturing, transportation, and storage facilities.

(iii) *Technical identification.* Where, in the judgment of the official making the inspection, the item cannot be properly identified, a sample may be taken for more detailed examination or for laboratory analysis.

(A) *Obtaining samples.* The sample will be obtained by the official making the inspection in accordance with the provisions for sampling imported merchandise. The size of the sample will be the minimum representative amount necessary for identification or analysis. This will depend on such factors as the physical condition of the material (whether solid, liquid, or gas) and the size and shape of the container.

(B) *Notification.* When a sample is taken, the exporter, reexporter, or transferor, or their agent(s), and the ultimate consignee will be notified by letter from an OEE official, documenting the port of export, reexport, or other place of inspection, date of sampling, BIS license number (if any) or other authorization, invoice number, quantity of sample taken, description of item, marks and packing case numbers, and manufacturer's number for the item. A copy of the letter will be placed in the container that had been opened by the inspecting official, and a copy will be retained by the inspecting official's office.

(C) *Disposal of samples.* Samples will be disposed of in accordance with the U.S. Customs and Border Protection procedure for imported commodities.

(2) *Inspection and production of books, records, and other information.* OEE officials are authorized to require any person subject to export laws and regulations administered or enforced by the Secretary, including, but not limited to, exporters, reexporters, transferors, or their agent(s), and owners and operators of carriers or their agents, as well as intermediate consignees, ultimate consignees, and end users, and their agent(s) to produce for inspection and copying any books, records and other information, including, but not limited to, invoices, orders, letters of credit, inspection reports, technical documentation, packing lists, shipping documents and instructions, and correspondence.

(3) *Questioning of individuals.* OEE officials are authorized to question any person, including, but not limited to, the owner or operator of a carrier and the carrier's agent(s), as well as the exporter, reexporter, transferor (in-country), or their agent(s).

(4) *Prohibiting lading.* OEE officials may prevent the lading of items on a conveyance.

(5) *Inspection, search, and detention of conveyance.* OEE officials are authorized to inspect, search, and detain any conveyance at any time to determine whether items have been, are being, or

are about to be exported, reexported, or transferred (in-country). Inspection, search, and detention of a conveyance may take place at any location inside or outside of the United States, to include, but not limited to, the borders of the United States, all ports of exit, the premises of freight forwarders, bonded warehouses, foreign trade zones, and manufacturing, transportation, and storage facilities.

(6) *Seizure of property.* OEE officials are authorized to seize any property, tangible or intangible, when there is probable cause to believe that such property is subject to administrative forfeiture (nonjudicial civil forfeiture or summary forfeiture), civil judicial forfeiture, or criminal forfeiture. Seizures of property subject to forfeiture may take place at any location inside or outside of the United States, to include, but not limited to, the borders of the United States, all ports of exit, the premises of freight forwarders, bonded warehouses, foreign trade zones, and manufacturing, transportation, and storage facilities.

(7) *Administrative forfeiture authority.* OEE is authorized to initiate administrative forfeiture (nonjudicial civil forfeiture or summary forfeiture) proceedings and forfeit property in accordance with the procedures set forth in 18 U.S.C. 981(d) and the Customs laws (19 U.S.C. 1602 *et seq*).

(8) *Enforcement activity.* (i) All BIS actions taken to implement, administer, and enforce the authorities granted to the Secretary shall be conducted pursuant to the U.S. Constitution and all applicable laws and regulations, including judicially recognized exceptions to the requirement for a search warrant under the Fourth Amendment, for example, consent of the person to be searched, exigent circumstances, searches incident to a lawful arrest, and border searches.

(ii) BIS may enter into any such agreements (*e.g.*, memoranda of understanding) with other Federal agencies as deemed necessary by BIS to execute the authorities set forth in this part in a lawful and orderly manner.

(iii) BIS shall issue additional guidance as necessary to ensure the lawful and orderly execution of the Secretary's authorities.

(iv) Nothing in this section is intended to limit or abridge BIS law enforcement officers from exercising their lawful authority in carrying out their official duties.

[85 FR 73414, Nov. 18, 2020]

§ 758.8 Return or unloading of cargo.

(a) *Carrier.* As used in this section, the term ''carrier'' includes a connecting or on-forwarding carrier, as well as the owner, charterer, agent, master, or any other person in possession, control, or charge of the vessel, aircraft, vehicle, or other kind of conveyance, whether such person is located in the United States or in a foreign country.

(b) *Ordering return or unloading of shipment.* In order to ensure compliance with export laws and regulations administered or enforced by the Secretary, OEE officials, or any other official of the United States designated by OEE, may, with respect to a particular export, reexport, or transfer (in-country), order any carrier to return or unload the shipment. For the purpose of this section, furnishing a copy of the order to any person included within the definition of carrier will be sufficient notice of the order to the carrier. The carrier must, as ordered:

(1) Unload the shipment and make it available to OEE officials for search and inspection; or

(2) Return the shipment to the United States or cause it to be returned; or

(3) Unload the shipment at a port of call and take steps to assure that it is placed in custody under bond or other guaranty not to enter the commerce of any foreign country without the prior approval of BIS.

(c) *Requirements regarding shipment to be unloaded.* The provisions of § 758.5(d) and (e) of this part, relating to reporting, notification to BIS, and the prohibition against unauthorized delivery or entry of the item into a foreign country shall apply also when items are unloaded at a port of call, as provided in paragraph (b)(3) of this section.

(d) *Notification.* Upon discovery by any person included within the term ''carrier,'' as defined in paragraph (a) of this section, that a violation of the

export laws and regulations administered or enforced by the Secretary has occurred, is occurring, or is about to occur with respect to a shipment on board, or otherwise in the possession or control of the carrier, such person must immediately notify both:

(1) The Office of Export Enforcement at the following address: Room H–4508, U.S. Department of Commerce, 14th Street and Constitution Ave. NW, Washington, DC 20230, Telephone: (202) 482–1208, Facsimile: (202) 482–0964; and

(2) The person in actual possession or control of the shipment.

[85 FR 73415, Nov. 18, 2020]

§ 758.9 Other applicable laws and regulations.

The provisions of this part apply only to exports, reexports, and transfers (in-country), as well as the activities of U.S. persons described in § 744.6 of the EAR, which are subject to the export laws and regulations administered or enforced by the Secretary. Nothing contained in this part shall relieve any person from complying with any other law of the United States or rules and regulations issued thereunder, including those governing EEI filings to AES, manifests, or any other applicable rules and regulations.

[85 FR 73415, Nov. 18, 2020]

§ 758.10 Entry clearance requirements for temporary imports.

(a) *Scope.* This section specifies the temporary import entry clearance requirements for firearms ''subject to the EAR'' that are on the United States Munitions Import List (USMIL, 27 CFR 447.21), except for firearms ''subject to the EAR'' that are temporarily brought into the United States by non-immigrant aliens under the provisions of Department of Justice regulations at 27 CFR part 478 (*See* § 740.14(e) of the EAR for information on the export of these firearms ''subject to the EAR''). These firearms are controlled in ECCNs 0A501.a or .b, 0A506 or 0A507, or shotguns with a barrel length less than 18 inches controlled in ECCNs 0A502 or 0A508. Items that are temporarily exported under the EAR must have met the export clearance requirements specified in § 758.1.

(1) An authorization under the EAR is *not* required for the temporary import of ''items'' that are ''subject to the EAR,'' including for ''items'' ''subject to the EAR'' that are on the USMIL. Temporary imports of firearms described in this section must meet the entry clearance requirements specified in paragraph (b) of this section.

(2) Permanent imports are regulated by the Attorney General under the direction of the Department of Justice's Bureau of Alcohol, Tobacco, Firearms and Explosives (see 28 CFR 0.130; 27 CFR parts 447, 478, 479, and 555).

(b) *EAR procedures for temporary imports and subsequent exports.* To the satisfaction of U.S. Customs and Border Protection, the temporary importer must comply with the following procedures:

(1) At the time of entry into the U.S. of the temporary import:

(i) Provide one of the following statements specified in paragraph (b)(1)(i)(A), (B), or (C) of this section to U.S. Customs and Border Protection:

(A) ''This shipment is being temporarily imported in accordance with the EAR. This shipment will be exported in accordance with and under the authority of License Exception TMP (15 CFR 740.9(b)(5));''

(B) ''This shipment is being temporarily imported in accordance with the EAR. This shipment will be exported in accordance with and under the authority of License Exception RPL (15 CFR 740.10(b));'' or

(C) ''This shipment is being temporarily imported in accordance with the EAR. This shipment will be exported in accordance with and under the authority of BIS license number (provide the license number) (15 CFR 750.7(a) and 758.4);''

(ii) Provide to U.S. Customs and Border Protection an invoice or other appropriate import-related documentation (or electronic equivalents) that includes a complete list and description of the firearms being temporarily imported, including their model, make, caliber, serial numbers, quantity, and U.S. dollar value;

(iii) Provide (if temporarily imported for a trade show, exhibition, demonstration, or testing) to U.S. Customs

and Border Protection the relevant invitation or registration documentation for the event and an accompanying letter that details the arrangements to maintain effective control of the firearms while they are in the United States; or

(iv) Provide (if temporarily imported for servicing or replacement) to U.S. Customs and Border Protection the name, address and contact information (telephone number and/or email) of the organization or individual in the U.S. that will be receiving the item for servicing or replacement).

NOTE 1 TO PARAGRAPH (b)(1): In accordance with the exclusions in License Exception TMP under §740.9(b)(5) of the EAR, the entry clearance requirements in §758.1(b)(9) do not permit the temporary import of: Firearms controlled in ECCN 0A501.a or .b, 0A506 or 0A507 that are shipped from or manufactured in a Country Group D:5 country; or that are shipped from or manufactured in Georgia, Kazakhstan, Kyrgyzstan, Moldova, Turkmenistan, Ukraine, or Uzbekistan (except for any firearm model controlled by 0A501.a or .b, 0A506, or 0A507 that is specified under annex A in supplement no. 4 to part 740 of the EAR); or shotguns with a barrel length less than 18 inches controlled in ECCNs 0A502 or 0A508 that are shipped from or manufactured in a Country Group D:5 country, or from Georgia, Kazakhstan, Kyrgyzstan, Moldova, Turkmenistan, Ukraine, or Uzbekistan, because of the exclusions in License Exception TMP under §740.9(b)(5).

NOTE 2 TO PARAGRAPH (b)(1): In accordance with the exclusions in License Exception RPL under §740.10(b)(4) and supplement no. 2 to part 748, paragraph (z), of the EAR, the entry clearance requirements in §758.1(b)(9) do not permit the temporary import of: Firearms controlled in ECCN 0A501.a or .b, 0A506, or 0A507 that are shipped from or manufactured in Russia, Georgia, Kazakhstan, Kyrgyzstan, Moldova, Turkmenistan, Ukraine, or Uzbekistan (except for any firearm model controlled by 0A501.a or .b, 0A506, or 0A507 that is specified under Annex A in Supplement No. 4 to part 740 of the EAR); or shotguns with a barrel length less than 18 inches controlled in ECCNs 0A502 or 0A508 that are shipped from or manufactured in Russia, Georgia, Kazakhstan, Kyrgyzstan, Moldova, Turkmenistan, Ukraine, or Uzbekistan, because of the exclusions in License Exception RPL under §740.10(b)(4) and supplement no. 2 to part 748, paragraph (z), of the EAR.

(2) At the time of export, in accordance with the U.S. Customs and Border Protection procedures, the eligible exporter, or an agent acting on the filer's behalf, must as required under §758.1(b)(9) file the export information with CBP by filing EEI in AES, noting the applicable EAR authorization as the authority for the export, and provide, upon request by CBP, the entry document number or a copy of the CBP document under which the ''item'' subject to the EAR'' on the USMIL was temporarily imported. *See* also the additional requirements in §758.1(g)(4).

[85 FR 4179, Jan. 23, 2020, as amended at 89 FR 34709, Apr. 30, 2024; 89 FR 40372, May 10, 2024]

§758.11 Export clearance requirements for firearms and related items.

(a) *Scope.* The export clearance requirements of this section apply to all exports of commodities controlled under ECCNs 0A501.a or .b, 0A506, or 0A507, or shotguns with a barrel length less than 18 inches controlled under ECCNs 0A502 or 0A508, or ammunition controlled under ECCN 0A505 except for .c, regardless of value or destination, including exports to Australia, Canada, and the United Kingdom, that are authorized under License Exception BAG, as set forth in §740.14 of the EAR.

(b) *Required form.* Prior to making any export described in paragraph (a) of this section, the exporter is required to submit a properly completed Department of Homeland Security, CBP Form 4457, (Certificate of Registration for Personal Effects Taken Abroad) (OMB Control Number 1651–0010), to the U.S. Customs and Border Protection (CBP), pursuant to 19 CFR 148.1, and as required by this section.

(1) *Where to obtain the form*? The CBP Certification of Registration Form 4457 can be found on the following CBP website: *https://www.cbp.gov/document/forms/form-4457-certificate-registration-personal-effects-taken-abroad.*

(2) Required ''description of articles'' for firearms to be included on the CBP Form 4457. For all exports of firearms controlled under ECCNs 0A501.a or .b, 0A506, or 0A507, or shotguns with a barrel length less than 18 inches controlled under ECCNs 0A502 or 0A508, the exporter must provide to CBP the serial number, make, model, and caliber

for each firearm being exported by entering this information under the ''Description of Articles'' field of the CBP Form 4457, Certificate of Registration for Personal Effects Taken Abroad.

(c) *Where to find additional information on the CBP Form 4457*? See the following CBP website page for additional information: *https://help.cbp.gov/app/answers/detail/a_id/323/~/traveling-outside-of-the-u.s.-temporarily-taking-a-firearm%2C-rifle%2C-gun%2C*.

(d) *Return of items exported pursuant to this section*. The exporter when returning with a commodity authorized under License Exception BAG and exported pursuant this section, is required to present a copy of the CBP Form 4457, Certificate of Registration for Personal Effects Taken Abroad) (OMB Control Number 1651–0010), to CBP, pursuant to 19 CFR 148.1, and as required by this section.

[85 FR 4179, Jan. 23, 2020, as amended at 89 FR 28601, Apr. 19, 2024; 89 FR 34710, Apr. 30, 2024]

PART 760—RESTRICTIVE TRADE PRACTICES OR BOYCOTTS

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AUTHORITY: 50 U.S.C. 4801–4852; 50 U.S.C. 4601 *et seq.*; 50 U.S.C. 1701 *et seq.*; E.O. 13222, 66 FR 44025, 3 CFR, 2001 Comp., p. 783.

SOURCE: 61 FR 12862, Mar. 25, 1996, unless otherwise noted.

§ 760.1 Definitions.

In this part, references to the EAR are references to 15 CFR chapter VII, subchapter C.

(a) *Definition of person*. For purposes of this part, the term *person* means any individual, or any association or organization, public or private, which is organized, permanently established, resident, or registered to do business, in the United States or any foreign country. This definition of person includes both the singular and plural and, in addition, includes:

(1) Any partnership, corporation, company, branch, or other form of association or organization, whether organized for profit or non-profit purposes;

(2) Any government, or any department, agency, or commission of any government;

(3) Any trade association, chamber of commerce, or labor union;

(4) Any charitable or fraternal organization; and

(5) Any other association or organization not specifically listed in paragraphs (a)(1) through (4) of this section.

(b) *Definition of ''United States person''*. (1) This part applies to United States persons. For purposes of this part, the term *United States person* means any person who is a United States resident or national, including individuals, domestic concerns, and ''controlled in fact'' foreign subsidiaries, affiliates, or other permanent foreign establishments of domestic concerns. This definition of United States person includes both the singular and plural and, in addition, includes:

(i) The government of the United States or any department, agency, or commission thereof;

(ii) The government of any State of the United States, the District of Columbia, the Commonwealth of Puerto Rico, any territory or possession of the United States, or any subdivision, department, agency, or commission of any such government;

(iii) Any partnership, corporation, company, association, or other entity organized under the laws of paragraph (b)(1)(i) or (ii) of this section;

(iv) Any foreign concern's subsidiary, partnership, affiliate, branch, office, or other permanent establishment in any state of the United States, the District of Columbia, the Commonwealth of Puerto Rico, or any territory or possession of the United States; and

(v) Any domestic concern's foreign subsidiary, partnership, affiliate, branch, office, or other permanent foreign establishment which is controlled in fact by such domestic concern. (See paragraph (c) of this section on ''Definition of 'Controlled in Fact'.'')

(2) The term *domestic concern* means any partnership, corporation, company, association, or other entity of, or organized under the laws of, any jurisdiction named in paragraph (b)(1) (i) or (ii) of this section, or any permanent domestic establishment of a foreign concern.

(3) The term *foreign concern* means any partnership, corporation, company, association, or other entity of, or organized under the laws of, any jurisdiction other than those named in paragraph (b)(1)(i) or (ii) of this section.

(4) The term *United States person* does not include an individual United States national who is resident outside the United States and who is either employed permanently or temporarily by a non-United States person or assigned to work as an employee for, and under the direction and control of, a non-United States person.

EXAMPLES OF ''UNITED STATES PERSON''

The following examples are intended to give guidance in determining whether a person is a ''United States person.'' They are illustrative, not comprehensive.

(i) U.S. bank A has a branch office in foreign country P. Such branch office is a United States person, because it is a permanent foreign establishment of a domestic concern.

(ii) Ten foreign nationals establish a manufacturing plant, A, in the United States, incorporating the plant under New York law.

A is a United States person, because it is a corporation organized under the laws of one of the states of the United States.

(iii) A, a foreign corporation, opens an office in the United States for purposes of soliciting U.S. orders. The office is not separately incorporated.

A's U.S. office is a United States person, because it is a permanent establishment, in the United States, of a foreign concern.

(iv) A, a U.S. individual, owns stock in foreign corporation B.

A is a United States person. However, A is not a ''domestic concern,'' because the term ''domestic concern'' does not include individuals.

(v) A, a foreign national resident in the United States, is employed by B, a foreign corporation.

A is a United States person, because he is resident in the United States.

(vi) A, a foreign national, who is resident in a foreign country and is employed by a foreign corporation, makes occasional visits to the United States, for purposes of exploring business opportunities.

A is not a United States person, because he is not a United States resident or national.

(vii) A is an association of U.S. firms organized under the laws of Pennsylvania for the purpose of expanding trade.

A is a United States person, because it is an association organized under the laws of one of the states of the United States.

(viii) At the request of country Y, A, an individual employed by U.S. company B, is assigned to company C as an employee. C is a foreign company owned and controlled by country Y. A, a U.S. national who will reside in Y, has agreed to the assignment provided he is able to retain his insurance, pension, and other benefits. Accordingly, company B has agreed to keep A as an employee in order to protect his employee benefits, and company C has agreed to pay for A's salary. At all times while he works for C, A will be under C's direction and control.

A is not a United States person while under C's direction and control, because he will be resident outside the United States and assigned as an employee to a non-United States person. The arrangement designed to protect A's insurance, pension, and other benefits does not destroy his status as an employee of C so long as he is under the direction and control of C.

(ix) A, a U.S. citizen, has resided in Europe for three years, where he is a self-employed consultant for United States and foreign companies in the communications industry.

A is a United States person, because he is a U.S. national and because he is not a resident outside the United States who is employed by other than a United States person.

(c) *Definition of ''Controlled in Fact''.* (1) This part applies to any domestic concern's foreign subsidiary, partnership, affiliate, branch, office, or other permanent foreign establishment which is *controlled in fact* by such domestic concern. *Control in fact* consists of the authority or ability of a domestic concern to establish the general policies or to control day-to-day operations of its foreign subsidiary, partnership, affiliate, branch, office, or other permanent foreign establishment.

(2) A foreign subsidiary or affiliate of a domestic concern will be presumed to be controlled in fact by that domestic concern, subject to rebuttal by competent evidence, when:

(i) The domestic concern beneficially owns or controls (whether directly or indirectly) more than 50 percent of the outstanding voting securities of the foreign subsidiary or affiliate;

(ii) The domestic concern beneficially owns or controls (whether directly or indirectly) 25 percent or more of the voting securities of the foreign subsidiary or affiliate, if no other person owns or controls (whether directly or indirectly) an equal or larger percentage;

(iii) The foreign subsidiary or affiliate is operated by the domestic concern pursuant to the provisions of an exclusive management contract;

(iv) A majority of the members of the board of directors of the foreign subsidiary or affiliate are also members of the comparable governing body of the domestic concern;

(v) The domestic concern has authority to appoint the majority of the members of the board of directors of the foreign subsidiary or affiliate; or

(vi) The domestic concern has authority to appoint the chief operating officer of the foreign subsidiary or affiliate.

(3) A brokerage firm or other person which holds simple record ownership of securities for the convenience of clients will not be deemed to control the securities.

(4) A domestic concern which owns, directly or indirectly, securities that are immediately convertible at the option of the holder or owner into voting securities is presumed to own or control those voting securities.

(5) A domestic concern's foreign branch office or other unincorporated permanent foreign establishment is deemed to be controlled in fact by such domestic concern under all circumstances.

EXAMPLES OF ''CONTROLLED IN FACT''

The following examples are intended to give guidance in determining the circumstances in which a foreign subsidiary, affiliate, or other permanent foreign establishment of a domestic concern is ''controlled in fact.'' They are illustrative, not comprehensive.

(i) Company A is incorporated in a foreign country. Fifty-one percent of the voting stock of A is owned by U.S. company B.

A is presumed to be controlled in fact by B. This presumption may be rebutted by competent evidence showing that control does not, in fact, lie with B.

(ii) Company A is incorporated in a foreign country. Ten percent of the voting stock of A is owned by U.S. company B. A has an exclusive management contract with B pursuant to which A is operated by B.

As long as such contract is in effect, A is presumed to be controlled in fact by B. This presumption may be rebutted by competent evidence showing that control does not, in fact, lie with B.

(iii) Company A is incorporated in a foreign country. Ten percent of the voting stock of A is owned by U.S. company B. A has 10 persons on its board of directors. Six of those persons are also members of the board of directors of U.S. company B.

A is presumed to be controlled in fact by B. This presumption may be rebutted by competent evidence showing that control does not, in fact, lie with B.

(iv) Company A is incorporated in a foreign country. Thirty percent of the voting securities of A is owned by U.S. company B and no other person owns or controls an equal or larger share.

A is presumed to be controlled in fact by B. This presumption may be rebutted by competent evidence showing that control does not, in fact, lie with B.

(v) Company A is incorporated in a foreign country. In A's articles of incorporation, U.S. company B has been given authority to appoint A's board of directors.

A is presumed to be controlled in fact by B. This presumption may be rebutted by competent evidence showing that control does not, in fact, lie with B.

(vi) Company A is a joint venture established in a foreign country, with equal participation by U.S. company B and foreign company C. U.S. Company B has authority to appoint A's chief operating officer.

A is presumed to be controlled in fact by B. This presumption may be rebutted by competent evidence showing that control does not, in fact, lie with B.

(vii) Same as (vi), except that B has no authority to appoint A's chief operating officer.

B is not presumed to control A, absent other facts giving rise to a presumption of control.

(viii) Company A is incorporated in a foreign country. U.S. companies B, C, and D each own 20 percent of A's voting securities and regularly cast their votes in concert.

A is presumed to be controlled in fact by B, C, and D, because these companies are acting in concert to control A.

(ix) U.S. bank B located in the United States has a branch office, A, in a foreign country. A is not separately incorporated.

A is deemed to be controlled in fact by B, because A is a branch office of a domestic concern.

(x) Company A is incorporated in a foreign country. Fifty-one percent of the voting stock of A is owned by company B, which is incorporated in another foreign country. Fifty-one percent of the voting stock of B is owned by C, a U.S. company.

Both A and B are presumed to be controlled in fact by C. The presumption of C's control over B may be rebutted by competent evidence showing that control over B does not, in fact, lie with C. The presumption of B's control over A (and thus C's control over A) may be rebutted by competent evidence showing that control over A does not, in fact, lie with B.

(xi) B, a U.S. individual, owns 51 percent of the voting securities of A, a manufacturing company incorporated and located in a foreign country.

A is not ''controlled in fact'' under this part, because it is not controlled by a ''domestic concern.''

(d) *Definition of ''Activities in the Interstate or Foreign Commerce of the United States''.*

ACTIVITIES INVOLVING UNITED STATES PERSONS LOCATED IN THE UNITED STATES

(1) For purposes of this part, the activities of a United States person located in the United States are in the interstate or foreign commerce of the United States if they involve the sale, purchase, or transfer of goods or services (including information) between:

(i) Two or more of the several States (including the District of Columbia);

(ii) Any State (including the District of Columbia) and any territory or possession of the United States;

(iii) Two or more of the territories or possessions of the United States; or

(iv) A State (including the District of Columbia), territory or possession of the United States and any foreign country.

(2) For purposes of this part, the export of goods or services from the United States and the import of goods or services into the United States are activities in United States commerce. In addition, the action of a domestic concern in specifically directing the activities of its controlled in fact foreign subsidiary, affiliate, or other permanent foreign establishment is an activity in United States commerce.

(3) Activities of a United States person located in the United States may be in United States commerce even if they are part of or ancillary to activities outside United States commerce. However, the fact that an ancillary activity is in United States commerce does not, in and of itself, mean that the underlying or related activity is in United States commerce.

(4) Hence, the action of a United States bank located in the United States in providing financing from the United States for a foreign transaction that is not in United States commerce is nonetheless itself in United States commerce. However, the fact that the financing is in United States commerce does not, in and of itself, make the underlying foreign transaction an activity in United States commerce, even if the underlying transaction involves a foreign company that is a *United States person* within the meaning of this part.

(5) Similarly, the action of a United States person located in the United States in providing financial, accounting, legal, t ransportation, or other ancillary services to its controlled in fact foreign subsidiary, affiliate, or other permanent foreign establishment in connection with a foreign transaction is in United States commerce. But the provision of such ancillary services will not, in and of itself, bring the foreign transaction of such subsidiary, affiliate, or permanent foreign establishment into United States commerce.

ACTIVITIES OF CONTROLLED IN FACT FOREIGN SUBSIDIARIES, AFFILIATES, AND OTHER PERMANENT FOREIGN ESTABLISHMENTS

(6) Any transaction between a controlled in fact foreign subsidiary, affiliate, or other permanent foreign establishment of a domestic concern and a person located in the United States is an activity in United States commerce.

(7) Whether a transaction between such a foreign subsidiary, affiliate, or other permanent foreign establishment and a person located outside the United States is an activity in United States commerce is governed by the following rules.

ACTIVITIES IN UNITED STATES COMMERCE

(8) A transaction between a domestic concern's controlled in fact foreign subsidiary, affiliate, or other permanent foreign establishment and a person outside the United States, involving goods or services (including information but not including ancillary services) acquired from a person in the United States is in United States commerce under any of the following circumstances—

(i) If the goods or services were acquired for the purpose of filling an order from a person outside the United States;

(ii) If the goods or services were acquired for incorporation into, refining into, reprocessing into, or manufacture of another product for the purpose of filling an order from a person outside the United States;

(iii) If the goods or services were acquired for the purpose of fulfilling or engaging in any other transaction with a person outside the United States; or

(iv) If the goods were acquired and are ultimately used, without substantial alteration or modification, in filling an order from, or fulfilling or engaging in any other transaction with, a person outside the United States (whether or not the goods were originally acquired for that purpose). If the goods are indistinguishable as to origin from similar foreign-trade goods with which they have been mingled in a stockpile or inventory, the subsequent transaction involving the goods is presumed to be in United States commerce unless, at the time of filling the order, the foreign-origin inventory on hand was sufficient to fill the order.

(9) For purposes of this section, goods or services are considered to be acquired for the purpose of filling an order from or engaging in any other transaction with a person outside the United States where:

(i) They are purchased by the foreign subsidiary, affiliate, or other permanent foreign establishment upon the receipt of an order from or on behalf of a customer with the intention that the goods or services are to go to the customer;

(ii) They are purchased by the foreign subsidiary, affiliate, or other permanent foreign establishment to meet the needs of specified customers pursuant to understandings with those customers, although not for immediate delivery; or

(iii) They are purchased by the foreign subsidiary, affiliate, or other permanent foreign establishment based on the anticipated needs of specified customers.

(10) If any non-ancillary part of a transaction between a domestic concern's controlled foreign subsidiary, affiliate, or other permanent foreign establishment and a person outside the United States is in United States commerce, the entire transaction is in United States commerce. For example, if such a foreign subsidiary is engaged in filling an order from a non-United States customer both with goods acquired from the United States and with goods acquired elsewhere, the entire transaction with that customer is in United States commerce.

ACTIVITIES OUTSIDE UNITED STATES COMMERCE

(11) A transaction between a domestic concern's controlled foreign subsidiary, affiliate, or other permanent foreign establishment and a person outside the United States, not involving the purchase, sale, or transfer of goods or services (including information) to or from a person in the United States, is not an activity in United States commerce.

(12) The activities of a domestic concern's controlled foreign subsidiary, affiliate, or other permanent foreign establishment with respect to goods acquired from a person in the United States are not in United States commerce where:

(i) They were acquired without reference to a specific order from or transaction with a person outside the United States; and

(ii) They were further manufactured, incorporated into, refined into, or reprocessed into another product.

(13) The activities of a domestic concern's controlled foreign subsidiary, affiliate, or other permanent foreign establishment with respect to services acquired from a person in the United States are not in United States commerce where:

(i) They were acquired without reference to a specific order from or transaction with a person outside the United States; or

(ii) They are ancillary to the transaction with the person outside the United States.

(14) For purposes of this section, services are *ancillary services* if they are provided to a controlled foreign subsidiary, affiliate, or other permanent foreign establishment primarily for its own use rather than for the use of a third person. These typically include financial, accounting, legal,transportation, and other services, whether provided by a domestic concern or an unrelated entity.

(15) Thus, the provision of the project financing by a United States bank located in the United States to a controlled foreign subsidiary unrelated to the bank is an ancillary service which will not cause the underlying transaction to be in United States commerce. By contrast, where a domestic concern, on behalf of its controlled foreign subsidiary, gives a guaranty of performance to a foreign country customer, that is a service provided to the customer and, as such, brings that subsidiary's transaction with the customer into United States commerce. Similarly, architectural or engineering services provided by a domestic concern in connection with its controlled foreign subsidiary's construction project in a third country

are services passed through to the subsidiary's customer and, as such, bring that subsidiary's foreign transaction into United States commerce.

GENERAL

(16) Regardless of whether the subsequent disposition of goods or services from the United States is in United States commerce, the original acquisition of goods or services from a person in the United States is an activity in United States commerce subject to this part. Thus, if a domestic concern's controlled foreign subsidiary engages in a prohibited refusal to do business in stocking its inventory with goods from the United States, that action is subject to this part whether or not subsequent sales from that inventory are.

(17) In all the above, goods and services will be considered to have been acquired from a person in the United States whether they were acquired directly or indirectly through a third party, where the person acquiring the goods or services knows or expects, at the time he places the order, that they will be delivered from the United States.

LETTERS OF CREDIT

(18) Implementation of a letter of credit in the United States by a United States person located in the United States, including a permanent United States establishment of a foreign concern, is an activity in United States commerce.

(19) Implementation of a letter of credit outside the United States by a United States person located outside the United States is in United States commerce where the letter of credit (a) specifies a United States address for the beneficiary, (b) calls for documents indicating shipment from the United States, or (c) calls for documents indicating that the goods are of United States origin.

(20) See § 760.2(f) of this part on ''Letters of Credit'' to determine the circumstances in which paying, honoring, confirming, or otherwise implementing a letter of credit is covered by this part.

EXAMPLES OF ACTIVITIES IN THE INTERSTATE OR FOREIGN COMMERCE OF THE UNITED STATES

The following examples are intended to give guidance in determining the circumstances in which an activity is in the interstate or foreign commerce of the United States. They are illustrative, not comprehensive.

UNITED STATES PERSON LOCATED IN THE UNITED STATES

(i) U.S. company A exports goods from the United States to a foreign country. A's activity is in U.S. commerce, because A is exporting goods from the United States.

(ii) U.S. company A imports goods into the United States from a foreign country. A's activity is in U.S. commerce, because A is importing goods into the United States.

(iii) U.S. engineering company A supplies consulting services to its controlled foreign subsidiary, B. A's activity is in U.S. commerce, because A is exporting services from the United States.

(iv) U.S. company A supplies consulting services to foreign company B. B is unrelated to A or any other U.S. person.

A's activity is in U.S. commerce even though B, a foreign-owned company located outside the United States, is not subject to this part, because A is exporting services from the United States.

(v) Same as (iv), except A is a bank located in the United States and provides a construction loan to B.

A's activity is in U.S. commerce even though B is not subject to this part, because A is exporting financial services from the United States.

(vi) U.S. company A issues policy directives from time to time to its controlled foreign subsidiary, B, governing the conduct of B's activities with boycotting countries.

A's activity in directing the activities of its foreign subsidiary, B, is an activity in U.S. commerce.

FOREIGN SUBSIDIARIES, AFFILIATES, AND OTHER PERMANENT FOREIGN ESTABLISHMENTS OF DOMESTIC CONCERNS

(i) A, a controlled foreign subsidiary of U.S. company B, purchases goods from the United States.

A's purchase of goods from the United States is in U.S. commerce, because A is importing goods from the United States. Whether A's subsequent disposition of these goods is in U.S. commerce is irrelevant. Similarly, the fact that A purchased goods from the United States does not, in and of itself, make any subsequent disposition of those goods an activity in U.S. commerce.

(ii) A, a controlled foreign subsidiary of U.S. company B, receives an order from boycotting country Y for construction materials. A places an order with U.S. company B for the materials.

A's transaction with Y is an activity in U.S. commerce, because the materials are purchased from the United States for the purpose of filling the order from Y.

(iii) A, a controlled foreign subsidiary of U.S. company B, receives an order from boycotting country Y for construction materials. A places an order with U.S. company B for some of the materials, and with U.S. company C, an unrelated company, for the rest of the materials.

A's transaction with Y is an activity in U.S. commerce, because the materials are purchased from the United States for the purpose of filling the order from Y. It makes

no difference whether the materials are ordered from B or C.

(iv) A, a controlled foreign subsidiary of U.S. company B, is in the wholesale and retail appliance sales business. A purchases finished air conditioning units from the United States from time to time in order to stock its inventory. A's inventory is also stocked with air conditioning units purchased outside the United States. A receives an order for air conditioning units from Y, a boycotting country. The order is filled with U.S.-origin units in A's inventory.

A's transaction with Y is in U.S. commerce, because its U.S.-origin goods are resold without substantial alteration.

(v) Same as (iv), except that A is in the chemicals distribution business. Its U.S.-origin goods are mingled in inventory with foreign-origin goods.

A's sale to Y of unaltered goods from its general inventory is presumed to be in U.S. commerce unless A can show that at the time of the sale the foreign-origin inventory on hand was sufficient to cover the shipment to Y.

(vi) A, a foreign subsidiary of U.S. company B, receives an order from boycotting country Y for computers. A places an order with U.S. company B for some of the components; with U.S. company C, an unrelated company, for other components; and with foreign company D for the rest of the components. A then assembles the computers and ships them to Y.

A's transaction with Y is an activity in U.S. commerce, because some of the components are acquired from the United States for purposes of filling an order from Y.

(vii) Same as (vi), except A purchases all the components from non-U.S.sources.

A's transaction with Y is not an activity in U.S. commerce, because it involves no export of goods from the United States. It makes no difference whether the technology A uses to manufacture computers was originally acquired from its U.S. parent.

(viii) A, a controlled foreign subsidiary of U.S. company B, manufactures computers. A stocks its general components and parts inventory with purchases made at times from the United States and at times from foreign sources. A receives an order from Y, a boycotting country, for computers. A fills that order by manufacturing the computers using materials from its general inventory.

A's transaction with Y is not in U.S. commerce, because the U.S.-origin components are not acquired for the purpose of meeting the anticipated needs of specified customers in Y. It is irrelevant that A's operations may be based on U.S.-origin technology.

(ix) Same as (viii), except that in anticipation of the order from Y, A orders and receives the necessary materials from the United States.

A's transaction with Y is in U.S. commerce, because the U.S.-origin goods were acquired for the purpose of filling an anticipated order from Y.

(x) A, a controlled foreign subsidiary of U.S. company B, manufactures typewriters. It buys typewriter components both from the United States and from foreign sources. A sells its output in various places throughout the world, including boycotting country Y. Its sales to Y vary from year to year, but have averaged approximately 20 percent of sales for the past five years. A expects that its sales to Y will remain at approximately that level in the years ahead although it has no contracts or orders from Y on hand.

A's sales of typewriters to Y are not in U.S. commerce, because the U.S. components are not acquired for the purpose of filling an order from Y. A general expectancy of future sales is not an ''order'' within the meaning of this section.

(xi) U.S. company A's corporate counsel provides legal advice to B, its controlled foreign subsidiary, on the applicability of this Part to B's transactions.

While provision of this legal advice is itself an activity in U.S. commerce, it does not, in and of itself, bring B's activities into U.S. commerce.

(xii) A, a controlled foreign subsidiary of U.S. company B, is in the general construction business. A enters into a contract with boycotting country Y to construct a power plant in Y. In preparing engineering drawings and specifications, A uses the advice and assistance of B.

A's transaction with Y is in U.S. commerce, because B's services are used for purposes of fulfilling the contract with Y. B's services are not ancillary services, because the engineering services in connection with construction of the power plant are part of the services ultimately provided to Y by A.

(xiii) Same as (xii), except that A gets no engineering advice or assistance from B. However, B's corporate counsel provides legal advice to A regarding the structure of the transaction. In addition, B's corporate counsel draws up the contract documents.

A's transaction with Y is not in U.S. commerce. The legal services provided to A are ancillary services, because they are not part of the services provided to Y by A in fulfillment of its contract with Y.

(xiv) A, a controlled foreign subsidiary of U.S. company B, enters into a contract to construct an apartment complex in boycotting country Y. A will fulfill its contract completely with goods and services from outside the United States. Pursuant to a provision in the contract, B guarantees A's performance of the contract.

A's transaction with Y is in U.S. commerce, because B's guaranty of A's performance involves the acquisition of services

from the United States for purposes of fulfilling the transaction with Y, and those services are part of the services ultimately provided to Y.

(xv) Same as (xiv), except that the guaranty of A's performance is supplied by C, a non-U.S. person located outside the United States. However, unrelated to any particular transaction, B from time to time provides general financial, legal, and technical services to A.

A's transaction with Y is not in U.S. commerce, because the services acquired from the United States are not acquired for purposes of fulfilling the contract with Y.

(xvi) A, a foreign subsidiary of U.S. company B, has a contract with boycotting country Y to conduct oil drilling operations in that country. In conducting these operations, A from time to time seeks certain technical advice from B regarding the operation of the drilling rigs.

A's contract with Y is in U.S. commerce, because B's services are sought for purposes of fulfilling the contract with Y and are part of the services ultimately provided to Y.

(xvii) A, a controlled foreign subsidiary of U.S. company B, enters into a contract to sell typewriters to boycotting country Y. A is located in non-boycotting country P. None of the components are acquired from the United States. A engages C, a U.S. shipping company, to transport the typewriters from P to Y.

A's sales to Y are not in U.S. commerce, because in carrying A's goods, C is providing an ancillary service to A and not a service to Y.

(xviii) Same as (xvii), except that A's contract with Y calls for title to pass to Y in P. In addition, the contract calls for A to engage a carrier to make delivery to Y.

A's sales to Y are in U.S. commerce, because in carrying Y's goods, C is providing a service to A which is ultimately provided to Y.

(xix) A, a controlled foreign subsidiary of U.S. company B, has general product liability insurance with U.S. company C. Foreign-origin goods sold from time to time by A to boycotting country Y are covered by the insurance policy.

A's sales to Y are not in U.S. commerce, because the insurance provided by C is an ancillary service provided to A which is not ultimately provided to Y.

(xx) A, a controlled foreign subsidiary of U.S. company B, manufactures automobiles abroad under a license agreement with B. From time to time, A sells such goods to boycotting country Y.

A's sales to Y are not in U.S. commerce, because the rights conveyed by the license are not acquired for the specific purpose of engaging in transactions with Y.

(e) ''*Intent*''. (1) This part prohibits a United States person from taking or knowingly agreeing to take certain specified actions with intent to comply with, further, or support an unsanctioned foreign boycott.

(2) A United States person has the intent to comply with, further, or support an unsanctioned foreign boycott when such a boycott is at least one of the reasons for that person's decision whether to take a particular prohibited action. So long as that is at least one of the reasons for that person's action, a violation occurs regardless of whether the prohibited action is also taken for non-boycott reasons. Stated differently, the fact that such action was taken for legitimate business reasons does not remove that action from the scope of this part if compliance with an unsanctioned foreign boycott was also a reason for the action.

(3) Intent is a necessary element of any violation of any of the prohibitions under § 760.2. It is not sufficient that one take action that is specifically prohibited by this part. It is essential that one take such action with intent to comply with, further,or support an unsanctioned foreign boycott. Accordingly, a person who inadvertently, without boycott intent, takes a prohibited action, does not commit any violation of this part.

(4) Intent in this context means the reason or purpose for one's behavior. It does not mean that one has to agree with the boycott in question or desire that it succeed or that it be furthered or supported. But it does mean that the reason why a particular prohibited action was taken must be established.

(5) Reason or purpose can be proved by circumstantial evidence. For example, if a person receives a request to supply certain boycott information, the furnishing of which is prohibited by this part, and he knowingly supplies that information in response, he clearly intends to comply with that boycott request. It is irrelevant that he may disagree with or object to the boycott itself. Information will be deemed to be furnished with the requisite intent if the person furnishing the information knows that it was sought for boycott purposes. On the other hand, if a person refuses to do business with someone

who happens to be blacklisted, but the reason is because that person produces an inferior product, the requisite intent does not exist.

(6) Actions will be deemed to be taken with intent to comply with an unsanctioned foreign boycott if the person taking such action knew that such action was required or requested for boycott reasons. On the other hand, the mere absence of a business relationship with a blacklisted person or with or in a boycotted country does not indicate the existence of the requisite intent.

(7) In seeking to determine whether the requisite intent exists, all available evidence will be examined.

EXAMPLES OF ''INTENT''

The following examples are intended to illustrate the factors which will be considered in determining whether the required intent exists. They are illustrative, not comprehensive.

(i) U.S. person A does business in boycotting country Y. In selecting firms to supply goods for shipment to Y, A chooses supplier B because B's products are less expensive and of higher quality than the comparable products of supplier C. A knows that C is blacklisted, but that is not a reason for A's selection of B.

A's choice of B rather than C is not action with intent to comply with Y's boycott, because C's blacklist status is not a reason for A's action.

(ii) Same as (i), except that A chooses B rather than C in part because C is blacklisted by Y.

Since C's blacklist status is a reason for A's choice, A's action is taken with intent to comply with Y's boycott.

(iii) U.S. person A bids on a tender issued by boycotting country Y. A inadvertently fails to notice a prohibited certification which appears in the tender document. A's bid is accepted.

A's action in bidding was not taken with intent to comply with Y's boycott, because the boycott was not a reason for A's action.

(iv) U.S. bank A engages in letter of credit transactions, in favor of U.S. beneficiaries, involving the shipments of U.S. goods to boycotting country Y. As A knows, such letters of credit routinely contain conditions requiring prohibited certifications. A fails to take reasonable steps to prevent the implementation of such letters of credit. A receives for implementation a letter of credit which in fact contains a prohibited condition but does not examine the letter of credit to determine whether it contains such a condition.

Although Y's boycott may not be a specific reason for A's action in implementing the letter of credit with a prohibited condition, all available evidence shows that A's action was taken with intent to comply with the boycott, because A knows or should know that its procedures result in compliance with the boycott.

(v) U.S. bank A engages in letter of credit transactions, in favor of U.S. beneficiaries, involving the shipment of U.S. goods to boycotting country Y. As A knows, the documentation accompanying such letters of credit sometimes contains prohibited certifications. In accordance with standard banking practices applicable to A, it does not examine such accompanying documentation. A receives a letter of credit in favor of a U.S. beneficiary. The letter of credit itself contains no prohibited conditions. However, the accompanying documentation, which A does not examine, does contain such a condition.

All available evidence shows that A's action in implementing the letter of credit was not taken with intent to comply with the boycott, because A has no affirmative obligation to go beyond applicable standard banking practices in implementing letters of credit.

(vi) A, a U.S. company, is considering opening a manufacturing facility in boycotted country X. A already has such a facility in boycotting country Y. After exploring the possibilities in X, A concludes that the market does not justify the move. A is aware that if it did open a plant in X, Y might object because of Y's boycott of X. However Y's possible objection is not a reason for A's decision not to open a plant in X.

A's decision not to proceed with the plant in X is not action with intent to comply with Y's boycott, because Y's boycott of X is not a reason for A's decision.

(vii) Same as (vi), except that after exploring the business possibilities in X, A concludes that the market does justify the move to X. However, A does not open the plant because of Y's possible objections due to Y's boycott of X.

A's decision not to proceed with the plant in X is action taken with intent to comply with Y's boycott, because Y's boycott is a reason for A's decision.

(viii) A, a U.S. chemical manufacturer, receives a ''boycott questionnaire'' from boycotting country Y asking, among other things, whether A has any plants located in boycotted country X. A, which has never supported Y's boycott of X, responds to Y's questionnaire, indicating affirmatively that it does have plants in X and that it intends to continue to have plants in X.

A's responding to Y's questionnaire is deemed to be action with intent to comply with Y's boycott because A knows that the

questionnaire is boycott-related. It is irrelevant that A does not also wish to support Y's boycott.

(ix) U.S. company A has a manufacturing facility in boycotted country X. A receives an invitation to bid on a construction project in boycotting country Y. The invitation states that all bidders must complete a boycott questionnaire and send it in with the bid. The questionnaire asks for information about A's business relationships with X. Regardless of whether A's bid is successful, A intends to continue its business in X undiminished and in fact is exploring and intends to continue exploring an expansion of its activities in X without regard to Y's boycott.

A may not answer the questionnaire, because, despite A's intentions with regard to its business operations in X, Y's request for completion of the questionnaire is for boycott purposes and by responding, A's action would be taken with intent to comply with Y's boycott.

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§ 760.2 Prohibitions.

(a) *Refusals to do business.*

PROHIBITION AGAINST REFUSALS TO DO BUSINESS

(1) No United States person may: refuse, knowingly agree to refuse, require any other person to refuse, or knowingly agree to require any other person to refuse, to do business with or in a boycotted country, with any business concern organized under the laws of a boycotted country, with any national or resident of a boycotted country, or with any other person, when such refusal is pursuant to an agreement with the boycotting country, or a requirement of the boycotting country, or a request from or on behalf of the boycotting country.

(2) Generally, a refusal to do business under this section consists of action that excludes a person or country from a transaction for boycott reasons. This includes a situation in which a United States person chooses or selects one person over another on a boycott basis or takes action to carry out another person's boycott-based selection when he knows or has reason to know that the other person's selection is boycott-based.

(3) Refusals to do business which are prohibited by this section include not only specific refusals, but also refusals implied by a course or pattern of conduct. There need not be a specific offer and refusal to constitute a refusal to do business; a refusal may occur when a United States person has a financial or commercial opportunity and declines for boycott reasons to consider or accept it.

(4) A United States person's use of either a boycott-based list of persons with whom he will not deal (a so-called ''blacklist'') or a boycott-based list of persons with whom he will deal (a so-called ''whitelist'') constitutes a refusal to do business.

(5) An agreement by a United States person to comply generally with the laws of the boycotting country with which it is doing business or an agreement that local laws of the boycotting country shall apply or govern is not, in and of itself, a refusal to do business. Nor, in and of itself, is use of a contractual clause explicitly requiring a person to assume the risk of loss of nondelivery of his products a refusal to do business with any person who will not or cannot comply with such a clause. (But see §760.4 of this part on ''Evasion.'')

(6) If, for boycott reasons, a United States general manager chooses one supplier over another, or enters into a contract with one supplier over another, or advises its client to do so, then the general manager's actions constitute a refusal to do business under this section. However, it is not a refusal to do business under this section for a United States person to provide management, procurement, or other pre-award services for another person so long as the provision of such pre-award services is customary for that firm (or industry of which the firm is a part), without regard to the boycotting or non-boycotting character of the countries in which they are performed, and the United States person, in providing such services, does not act to exclude a person or country from the transaction for boycott reasons, or otherwise take actions that are boycott-based. For example, a United States person under contract to provide general management services

in connection with a construction project in a boycotting country may compile lists of qualified bidders for the client if that service is a customary one and if persons who are qualified are not excluded from that list because they are blacklisted.

(7) With respect to post-award services, if a client makes a boycott-based selection, actions taken by the United States general manager or contractor to carry out the client's choice are themselves refusals to do business if the United States contractor knows or has reason to know that the client's choice was boycott-based. (It is irrelevant whether the United States contractor also provided pre-award services.) Such actions include entering into a contract with the selected supplier, notifying the supplier of the client's choice, executing a contract on behalf of the client, arranging for inspection and shipment of the supplier's goods, or taking any other action to effect the client's choice. (But see §760.3(d) on ''Compliance with Unilateral Selection'' as it may apply to post-award services.)

(8) An agreement is not a prerequisite to a violation of this section since the prohibition extends to actions taken pursuant not only to agreements but also to requirements of, and requests from or on behalf of, a boycotting country.

(9) Agreements under this section may be either express or implied by a course or pattern of conduct. There need not be a direct request from a boycotting country for action by a United States person to have been taken pursuant to an agreement with or requirement of a boycotting country.

(10) This prohibition, like all others, applies only with respect to a United States person's activities in the interstate or foreign commerce of the United States and only when such activities are undertaken with intent to comply with, further, or support an unsanctioned foreign boycott. The mere absence of a business relationship with or in the boycotted country, with any business concern organized under the laws of the boycotted country, with national(s) or resident(s) of the boycotted country, or with any other person does not indicate the existence of the required intent.

EXAMPLES OF REFUSALS AND AGREEMENTS TO REFUSE TO DO BUSINESS

The following examples are intended to give guidance in determining the circumstances in which, in a boycott situation, a refusal to do business or an agreement to refuse to do business is prohibited. They are illustrative, not comprehensive.

REFUSALS TO DO BUSINESS

(i) A, a U.S. manufacturer, receives an order for its products from boycotting country Y. To fill that order, A solicits bids from U.S. companies B and C, manufacturers of components used in A's products. A does not, however, solicit bids from U.S. companies D or E, which also manufacture such components, because it knows that D and E are restricted from doing business in Y and that their products are, therefore, not importable into that country.

Company A may not refuse to solicit bids from D and E for boycott reasons, because to do so would constitute a refusal to do business with those persons.

(ii) A, a U.S. exporter, uses company B, a U.S. insurer, to insure the shipment of its goods to all its overseas customers. For the first time, A receives an order for its products from boycotting country Y. Knowing that B is on the blacklist of Y, A arranges with company C, a non-blacklisted U.S. insurer, to insure the shipment of its goods to Y.

A's action constitutes a refusal to do business with B.

(iii) A, a U.S. exporter, purchases all its liability insurance from company B, a U.S. company that does business in boycotted country X. A wishes to expand its operations into country Y, the boycotting country. Before doing so, A decides to switch from insurer B to insurer C in anticipation of a request from Y that A sever its relations with B as a condition of doing business in Y.

A may not switch insurers for this reason, because doing so would constitute a refusal to do business with B.

(iv) U.S. company A exports goods to boycotting country Y. In selecting vessels to transport the goods to Y, A chooses only from among carriers which call at ports in Y.

A's action is not a refusal to do business with carriers which do not call at ports in Y.

(v) A, a U.S. bank with a branch office in boycotting country Y, sends representatives to boycotted country X to discuss plans for opening a branch office in X. Upon learning of these discussions, an official of the local boycott office in Y advises A's local branch manager that if A opens an office in X it will no longer be allowed to do business in Y. As

a result of this notification, A decides to abandon its plans to open a branch in X.

Bank A may not abandon its plans to open a branch in X as a result of Y's notification, because doing so would constitute a refusal to do business in boycotted country X.

(vi) A, a U.S. company that manufactures office equipment, has been restricted from doing business in boycotting country Y because of its business dealings with boycotted country X. In an effort to have itself removed from Y's blacklist, A ceases its business in X.

A's action constitutes a refusal to do business in boycotted country X.

(vii) A, a U.S. computer company, does business in boycotting country Y. A decides to explore business opportunities in boycotted country X. After careful analysis of possible business opportunities in X, A decides, solely for business reasons, not to market its products in X.

A's decision not to proceed is not a refusal to do business, because it is not based on boycott considerations. A has no affirmative obligation to do business in X.

(viii) A, a U.S. oil company with operations in boycotting country Y, has regularly purchased equipment from U.S. petroleum equipment suppliers B, C, and D, none of whom is on the blacklist of Y. Because of its satisfactory relationship with B, C, and D, A has not dealt with other suppliers, including supplier E, who is blacklisted by Y.

A's failure affirmatively to seek or secure business with blacklisted supplier E is not a refusal to do business with E.

(ix) Same as (viii), except U.S. petroleum equipment supplier E, a company on boycotting country Y's blacklist, offers to supply U.S. oil company A with goods comparable to those provided by U.S. suppliers B, C, and D. A, because it has satisfactorily, established relationships with suppliers B, C, and D, does not accept supplier E's offer.

A's refusal of supplier E's offer is not a refusal to do business, because it is based solely on non-boycott considerations. A has no affirmative obligation to do business with E.

(x) A, a U.S. construction company, enters into a contract to build an office complex in boycotting country Y. A receives bids from B and C, U.S. companies that are equally qualified suppliers of electrical cable for the project. A knows that B is blacklisted by Y and that C is not. A accepts C's bid, in part because C is as qualified as the other potential supplier and in part because C is not blacklisted.

A's decision to select supplier C instead of blacklisted supplier B is a refusal to do business, because the boycott was one of the reasons for A's decision.

(xi) A, a U.S. general contractor, has been retained to construct a highway in boycotting country Y. A circulates an invitation to bid to U.S. manufacturers of road-building equipment. One of the conditions listed in the invitation to bid is that, in order for A to obtain prompt service, suppliers will be required to maintain a supply of spare parts and a service facility in Y. A includes this condition solely for commercial reasons unrelated to the boycott. Because of this condition, however, those suppliers on Y's blacklist do not bid, since they would be unable to satisfy the parts and services requirements.

A's action is not a refusal to do business, because the contractual condition was included solely for legitimate business reasons and was not boycott-based.

(xii) Company A, a U.S. oil company, purchases drill bits from U.S. suppliers for export to boycotting country Y. In its purchase orders, A includes a provision requiring the supplier to make delivery to A's facilities in Y and providing that title to the goods does not pass until delivery has been made. As is customary under such an arrangement, the supplier bears all risks of loss, including loss from fire, theft, perils of the sea, and inability to clear customs, until title passes.

Insistence on such an arrangement does not constitute a refusal to do business, because this requirement is imposed on all suppliers whether they are blacklisted or not. (But see §760.4 on ''Evasion''.)

(xiii) A, a U.S. engineering and construction company, contracts with a government agency in boycotting country Y to perform a variety of services in connection with the construction of a large industrial facility in Y. Pursuant to this contract, A analyzes the market of prospective suppliers, compiles a suggested bidders list, analyzes the bids received, and makes recommendations to the client. The client independently selects and awards the contract to supplier C for boycott reasons. All of A's services are performed without regard to Y's blacklist or any other boycott considerations, and are the type of services A provides clients in both boycotting and non-boycotting countries.

A's actions do not constitute a refusal to do business, because, in the provision of pre-award services, A has not excluded the other bidders and because A customarily provides such services to its clients.

(xiv) Same as (xiii), except that in compiling a list of prospective suppliers, A deletes suppliers he knows his client will refuse to select because they are blacklisted. A knows that including the names of blacklisted suppliers will neither enhance their chances of being selected nor provide his client with a useful service, the function for which he has been retained.

A's actions, which amount to furnishing a so-called ''whitelist'', constitute refusals to do business, because A's pre-award services have not been furnished without regard to boycott considerations.

(xv) A, a U.S. construction firm, provides its boycotting country client with a permissible list of prospective suppliers, B, C, D, and E. The client independently selects and awards the contract to C, for boycott reasons, and then requests A to advise C of his selection, negotiate the contract with C, arrange for the shipment, and inspect the goods upon arrival. A knows that C was chosen by the client for boycott reasons.

A's action in complying with his client's direction is a refusal to do business, because A's post-award actions carry out his client's boycott-based decision. (Note: Whether A's action comes within the unilateral selection exception depends upon factors discussed in §760.3(d) of this part).

(xvi) Same as (xv), except that A is building the project on a turnkey basis and will retain title until completion. The client instructs A to contract only with C.

A's action in contracting with C constitutes a refusal to do business, because it is action that excludes blacklisted persons from the transaction for boycott reasons. (Note: Whether A's action comes within the unilateral selection exception depends upon factors discussed in §760.3(d) of this part).

(xvii) A, a U.S. exporter of machine tools, receives an order for drill presses from boycotting country Y. The cover letter from Y's procurement official states that A was selected over other U.S. manufacturers in part because A is not on Y's blacklist.

A's action in filling this order is not a refusal to do business, because A has not excluded anyone from the transaction.

(xviii) A, a U.S. engineering firm under contract to construct a dam in boycotting country Y, compiles, on a non-boycott basis, a list of potential heavy equipment suppliers, including information on their qualifications and prior experience. A then solicits bids from the top three firms on its list—B, C, and D—because they are the best qualified. None of them happens to be blacklisted. A does not solicit bids from E, F, or G, the next three firms on the list, one of whom is on Y's blacklist.

A's decision to solicit bids from only B, C, and D, is not a refusal to do business with any person, because the solicited bidders were not selected for boycott reasons.

(xix) U.S. bank A receives a letter of credit in favor of U.S. beneficiary B. The letter of credit requires B to certify that he is not blacklisted. B meets all other conditions of the letter of credit but refuses to certify as to his blacklist status. A refuses to pay B on the letter of credit solely because B refuses to certify as to his blacklist status.

A has refused to do business with another person pursuant to a boycott requirement or request.

(xx) U.S. bank A receives a letter of credit in favor of U.S. beneficiary B. The letter of credit requires B to provide a certification from the steamship line that the vessel carrying the goods is not blacklisted. B seeks payment from A and meets all other conditions of the letter of credit but refuses or is unable to provide the certification from the steamship line about the vessel's blacklist status. A refuses to pay B on the letter of credit solely because B cannot or will not provide the certification.

A has required another person to refuse to do business pursuant to a boycott requirement or request by insisting that B obtain such a certificate. (Either A or B may request an amendment to the letter of credit substituting a certificate of vessel eligibility, however. See Example (xxi) below).

(xxi) U.S. bank A receives a letter of credit from a bank in boycotting country Y in favor of U.S. beneficiary B. The letter of credit requires B to provide a certification from the steamship line that the vessel carrying the goods is eligible to enter the ports in Y. B seeks payment from A and meets all other conditions of the letter of credit. A refuses to pay B solely because B cannot or will not provide the certification.

A has neither refused, nor required another person to refuse, to do business with another person pursuant to a boycott requirement or request because a request for a vessel eligibility certificate to be furnished by the steamship line is not a prohibited condition. (See supplement no. 1 to this part, paragraph (I)(B), ''Shipping Certificate''.)

(xxii) U.S. bank A confirms a letter of credit in favor of U.S. beneficiary B. The letter of credit contains a requirement that B certify that he is not blacklisted. B presents the letter of credit to U.S. bank C, a correspondent of bank A. B does not present the certificate of blacklist status to bank C, but, in accordance with these rules, bank C pays B, and then presents the letter of credit and documentation to bank A for reimbursement. Bank A refuses to reimburse bank C because the blacklist certification of B is not included in the documentation.

A has required another person to refuse to do business with a person pursuant to a boycott requirement or request by insisting that C obtain the certificate from B.

(xxiii) U.S. bank A receives a letter of credit in favor of U.S. beneficiary B. The letter of credit requires B to certify that he is not blacklisted. B fails to provide such a certification when he presents the documents to A for payment. A notifies B that the certification has not been submitted.

A has not refused to do business with another person pursuant to a boycott requirement by notifying B of the omitted certificate. A may not refuse to pay on the letter of credit, however, if B states that B will not provide such a certificate.

(xxiv) U.S. bank A receives a letter of credit in favor of U.S. beneficiary B from the issuing bank for the purpose of confirmation,

negotiation or payment. The letter of credit requires B to certify that he is not blacklisted. A notifies B that it is contrary to the policy of A to handle letters of credit containing this condition and that, unless an amendment is obtained deleting this condition, A will not implement the letter of credit.

A has not refused to do business with another person pursuant to a boycott requirement, because A has indicated its policy against implementing the letter of credit containing the term without regard to B's ability or willingness to furnish such a certificate.

AGREEMENTS TO REFUSE TO DO BUSINESS

(i) A, a U.S. construction firm, is retained by an agency of boycotting country Y to build a primary school. The proposed contract contains a clause stating that A ''may not use goods or services in the project that are produced or provided by any person restricted from having a business relationship with country Y by reason of Y's boycott against country X''.

A's action in entering into such a contract would constitute an agreement to refuse to do business, because it is an agreement to exclude blacklisted persons from the transaction. A may, however, renegotiate this clause so that it does not contain terms prohibited by this part.

(ii) A, a U.S. manufacturer of commercial refrigerators and freezers, receives an invitation to bid from boycotting country Y. The tender states that the bidder must agree not to deal with companies on Y's blacklist. A does not know which companies are on the blacklist; however, A submits a bid without taking exception to the boycott conditions. A's bid makes no commitment regarding not dealing with certain companies.

At the point when A submits its bid without taking exception to the boycott request in Y's tender, A has agreed to refuse to do business with blacklisted persons, because the terms of Y's tender require A to agree to refuse to do business.

(iii) A, a U.S. construction firm, is offered a contract to perform engineering and construction services in connection with a project located in boycotting country Y. The contract contains a clause stating that, in the event of a contract dispute, the laws of Y will apply.

A may enter into the contract. Agreement that the laws of boycotting country Y will control in resolving a contract dispute is not an agreement to refuse to do business.

(iv) Same as (iii), except that the contract contains a clause that A and its employees will comply with the laws of boycotting country Y. A knows that Y has a number of boycott laws.

Such an agreement is not, in and of itself, an agreement to refuse to do business. If, however, A subsequently refuses to do business with someone because of the laws of Y, A's action would be a refusal to do business.

(v) Same as (iv), except that the contract contains a clause that A and its employees will comply with the laws of boycotting country Y, ''including boycott laws.''

A's agreeing, without qualification, to comply with local boycott laws constitutes an agreement to refuse to do business.

(vi) Same as (v), except that A inserts a proviso ''except insofar as Y's laws conflict with U.S. laws,'' or words to that effect.

Such an agreement is not an agreement to refuse to do business.

(vii) A, a U.S. general contractor, is retained to construct a pipeline in boycotting country Y. A provision in the proposed contract stipulates that in purchasing equipment, supplies, and services A must give preference to companies located in host country Y.

A may agree to this contract provision. Agreeing to a ''buy local'' contract provision is not an agreement to refuse to do business, because A's agreement is not made for boycott reasons.

(viii) A, a U.S. exporter planning to sell retail goods to customers in boycotting country Y, enters into a contract to purchase goods wholesale from B, a U.S. appliance manufacturer. A's contract with B includes a provision stipulating that B may not use components or services of blacklisted companies in the manufacture of its appliances.

A's contract constitutes a refusal to do business, because it would require another person, B, to refuse to do business with other persons for boycott reasons. B may not agree to such a contract, because it would be agreeing to refuse to do business with other persons for boycott reasons.

(ix) Same as (viii), except that A and B reach an implicit understanding that B will not use components or services of blacklisted companies in the manufacture of goods to be exported to Y. In the manufacture of appliances to be sold to A for export to non-boycotting countries, B uses components manufactured by blacklisted companies.

The actions of both A and B constitute agreement to refuse to do business. The agreement is implied by their pattern of conduct.

(x) Boycotting country Y orders goods from U.S. company B. Y opens a letter of credit with foreign bank C in favor of B. The letter of credit specifies that negotiation of the letter of credit with a bank that appears on the country X boycott blacklist is prohibited. U.S. bank A, C's correspondent bank, advises B of the letter of credit. B presents documentation to bank A seeking to be paid on the letter of credit, without amending or otherwise taking exception to the boycott condition.

B has agreed to refuse to do business with blacklisted banks because, by presenting the letter of credit for payment, B has accepted all of its terms and conditions.

(b) *Discriminatory actions.*

PROHIBITION AGAINST TAKING DISCRIMINATORY ACTIONS

(1) No United States person may:

(i) Refuse to employ or otherwise discriminate against any individual who is a United States person on the basis of race, religion, sex, or national origin;

(ii) Discriminate against any corporation or other organization which is a United States person on the basis of the race, religion, sex, or national origin of any owner, officer, director, or employee of such corporation or organization;

(iii) Knowingly agree to take any of the actions described in paragraph (b)(1)(i) and (ii) of this section; or

(iv) Require or knowingly agree to require any other person to take any of the actions described in paragraph (b)(1)(i) and (ii) of this section.

(2) This prohibition shall apply whether the discriminatory action is taken by a United States person on its own or in response to an agreement with, request from, or requirement of a boycotting country. This prohibition, like all others, applies only with respect to a United States person's activities in the interstate or foreign commerce of the United States and only when such activities are undertaken with intent to comply with, further, or support an unsanctioned foreign boycott.

(3) The section does not supersede or limit the operation of the civil rights laws of the United States.

EXAMPLES OF DISCRIMINATORY ACTIONS

The following examples are intended to give guidance in determining the circumstances in which the taking of particular discriminatory actions is prohibited. They are illustrative, not comprehensive.

(i) U.S. construction company A is awarded a contract to build an office complex in boycotting country Y. A, believing that employees of a particular religion will not be permitted to work in Y because of Y's boycott against country X, excludes U.S. persons of that religion from consideration for employment on the project.

A's refusal to consider qualified U.S. persons of a particular religion for work on the project in Y constitutes a prohibited boycott-based discriminatory action against U.S. persons on the basis of religion.

(ii) Same as (i), except that a clause in the contract provides that ''no persons of country X origin are to work on this project.''

A's agreement constitutes a prohibited boycott-based agreement to discriminate against U.S. persons, among others, on the basis of national origin.

(iii) Same as (i), except that a clause in the contract provides that ''no persons who are citizens, residents, or nationals of country X are to work on this project.''

A's agreement does not constitute a boycott-based agreement to discriminate against U.S. persons on the basis of race, religion, sex, or national origin, because the clause requires exclusion on the basis of citizenship, residency, and nationality only.

(iv) U.S. construction company A enters into a contract to build a school in boycotting country Y. Y's representative orally tells A that no persons of country X origin are to work on the project.

A may not comply, because to do so would constitute discrimination on the basis of national origin.

It makes no difference that A learned of Y's requirement orally. It makes no difference how A learns about Y's discriminatory requirement.

(v) Boycotting country Y tenders an invitation to bid on a construction project in Y. The tender requires that the successful bidder's personnel will be interviewed and that persons of a particular religious faith will not be permitted to work on the project. Y's requirement is based on its boycott of country X, the majority of whose citizens are of that particular faith.

Agreement to this provision in the tender document by a U.S. person would constitute a prohibited agreement to engage in boycott-based discrimination against U.S. persons of a particular religion.

(vi) Same as (v), except that the tender specifies that ''women will not be allowed to work on this project.''

Agreement to this provision in the tender by a U.S. person does not constitute a prohibited agreement to engage in boycott-based discrimination, because the restriction against employment of women is not boycott-based. Such an agreement may, however, constitute a violation of U.S. civil rights laws.

(vii) A is a U.S. investment banking firm. As a condition of participating in an underwriting of securities to be issued by boycotting country Y, A is required to exclude

investment banks owned by persons of a particular faith from participation in the underwriting. Y's requirement is based on its boycott of country X, the majority of whose citizens are of that particular faith.

A's agreement to such a provision constitutes a prohibited agreement to engage in boycott-based discrimination against U.S. persons on the basis of religion. Further, if A requires others to agree to such a condition, A would be acting to require another person to engage in such discrimination.

(viii) U.S. company A is asked by boycotting country Y to certify that A will not use a six-pointed star on the packaging of its products to be imported into Y. The requirement is part of the enforcement effort by Y of its boycott against country X.

A may not so certify. The six-pointed star is a religious symbol, and the certification by A that it will not use such a symbol constitutes a statement that A will not ship products made or handled by persons of that religion.

(ix) Same as (viii), except that A is asked to certify that no symbol of boycotted country X will appear on the packaging of its products imported into Y.

Such a certification conveys no statement about any person's religion and, thus, does not come within this prohibition.

(c) *Furnishing information about race, religion, sex, or national origin.*

PROHIBITION AGAINST FURNISHING INFORMATION ABOUT RACE, RELIGION, SEX, OR NATIONAL ORIGIN

(1) No United States person may:

(i) Furnish information about the race, religion, sex, or national origin of any United States person;

(ii) Furnish information about the race, religion, sex, or national origin of any owner, officer, director, or employee of any corporation or other organization which is a United States person;

(iii) Knowingly agree to furnish information about the race, religion, sex, or national origin of any United States person; or

(iv) Knowingly agree to furnish information about the race, religion, sex, or national origin of any owner, officer, director, or employee of any corporation or other organization which is a United States person.

(2) This prohibition shall apply whether the information is specifically requested or is offered voluntarily by the United States person. It shall also apply whether the information requested or volunteered is stated in the affirmative or the negative.

(3) Information about the place of birth of or the nationality of the parents of a United States person comes within this prohibition, as does information in the form of code words or symbols which could identify a United States person's race, religion, sex, or national origin.

(4) This prohibition, like all others, applies only with respect to a United States person's activities in the interstate or foreign commerce of the United States and only when such activities are undertaken with intent to comply with, further, or support an unsanctioned foreign boycott.

EXAMPLES OF THE PROHIBITION AGAINST FURNISHING DISCRIMINATORY INFORMATION

The following examples are intended to give guidance in determining the circumstances in which the furnishing of discriminatory information is prohibited. They are illustrative, not comprehensive.

(i) U.S. company A receives a boycott questionnaire from boycotting country Y asking whether it is owned or controlled by persons of a particular faith, whether it has any persons on its board of directors who are of that faith, and what the national origin of its president is. The information is sought for purposes of enforcing Y's boycott against country X, and A knows or has reason to know that the information is sought for that reason.

A may not answer the questionnaire, because A would be furnishing information about the religion and national origin of U.S. persons for purposes of complying with or supporting Y's boycott against X.

(ii) U.S. company A, located in the United States, is asked by boycotting country Y to certify that A has no persons of a particular national origin on its board of directors. A knows that Y's purpose in asking for the certification is to enforce its boycott against country X.

A may not make such a certification, because A would be furnishing information about the national origin of U.S. persons for purposes of complying with or supporting Y's boycott against X.

(iii) U.S. company A believes that boycotting country Y will select A's bid over those of other bidders if A volunteers that it has no shareholders, officers, or directors of a particular national origin. A's belief is based on its knowledge that Y generally refuses, as part of its boycott against country X, to do business with companies owned, controlled, or managed by persons of this particular national origin.

A may not volunteer this information, because it would be furnishing information about the national origin of U.S. persons for purposes of complying with or supporting Y's boycott against X.

(iv) U.S. company A has a contract to construct an airport in boycotting country Y. Before A begins work, A is asked by Y to identify the national origin of its employees who will work on the site. A knows or has reason to know that Y is seeking this information in order to enforce its boycott against X.

A may not furnish this information, because A would be providing information about the national origin of U.S. persons for purposes of complying with or supporting Y's boycott against X.

(v) Same as (iv), except that in order to assemble its work force on site in Y, A sends visa forms to its employees and asks that the forms be returned to A for transmittal to Y's consulate or embassy. A, itself, furnishes no information about its employees, but merely transmits the visa forms back and forth.

In performing the ministerial function of transmitting visa forms, A is not furnishing information about any U.S. person's race, religion, sex, or national origin.

(vi) Same as (iv), except that A is asked by Y to certify that none of its employees in Y will be women, because Y's laws prohibit women from working.

Such a certification does not constitute a prohibited furnishing of information about any U.S. person's sex, since the reason the information is sought has nothing to do with Y's boycott of X.

(vii) U.S. company A is considering establishing an office in boycotting country Y. In order to register to do business in Y, A is asked to furnish information concerning the nationalities of its corporate officers and board of directors.

A may furnish the information about the nationalities of its officers and directors, because in so doing A would not be furnishing information about the race, religion, sex, or national origin of any U.S. person.

(d) *Furnishing information about business relationships with boycotted countries or blacklisted persons.*

PROHIBITION AGAINST FURNISHING INFORMATION ABOUT BUSINESS RELATIONSHIPS WITH BOYCOTTED COUNTRIES OR BLACKLISTED PERSONS

(1) No United States person may furnish or knowingly agree to furnish information concerning his or any other person's past, present or proposed business relationships:

(i) With or in a boycotted country;

(ii) With any business concern organized under the laws of a boycotted country;

(iii) With any national or resident of a boycotted country; or

(iv) With any other person who is known or believed to be restricted from having any business relationship with or in a boycotting country.

(2) This prohibition shall apply:

(i) Whether the information pertains to a business relationship involving a sale, purchase, or supply transaction; legal or commercial representation; shipping or other transportation transaction; insurance; investment; or any other type of business transaction or relationship; and

(ii) Whether the information is directly or indirectly requested or is furnished on the initiative of the United States person.

(3) This prohibition does not apply to the furnishing of normal business information in a commercial context. Normal business information may relate to factors such as financial fitness, technical competence, or professional experience, and may be found in documents normally available to the public such as annual reports, disclosure statements concerning securities, catalogs, promotional brochures, and trade and business handbooks. Such information may also appear in specifications or statements of experience and qualifications.

(4) Normal business information furnished in a commercial context does not cease to be such simply because the party soliciting the information may be a boycotting country or a national or resident thereof. If the information is of a type which is generally sought for a legitimate business purpose (such as determining financial fitness, technical competence, or professional experience), the information may be furnished even if the information could be used, or without the knowledge of the person supplying the information is intended to be used, for boycott purposes. However, no information about business relationships with blacklisted persons or boycotted countries, their residents or nationals, may be furnished in response to a boycott request, even if the information is publicly available. Requests for such information from a

boycott office will be presumed to be boycott-based.

(5) This prohibition, like all others, applies only with respect to a United States person's activities in the interstate or foreign commerce of the United States and only when such activities are undertaken with intent to comply with, further, or support an unsanctioned foreign boycott.

EXAMPLES CONCERNING FURNISHING OF INFORMATION

The following examples are intended to give guidance in determining the circumstances in which the furnishing of information is prohibited. They are illustrative, not comprehensive.

(i) U.S. contractor A is considering bidding for a contract to build a dam in boycotting country Y. The invitation to bid, which appears in a trade journal, specifies that each bidder must state that he does not have any offices in boycotted country X. A knows or has reason to know that the requirement is boycott-based.

A may not make this statement, because it constitutes information about A's business relationships with X.

(ii) U.S. contractor A is considering bidding for a contract to construct a school in boycotting country Y. Each bidder is required to submit copies of its annual report with its bid. Since A's annual report describes A's worldwide operations, including the countries in which it does business, it necessarily discloses whether A has business relations with boycotted country X. A has no reason to know that its report is being sought for boycott purposes.

A, in furnishing its annual report, is supplying ordinary business information in a commercial context.

(iii) Same as (ii), except that accompanying the invitation to bid is a questionnaire from country Y's boycott office asking each bidder to supply a copy of its annual report.

A may not furnish the annual report despite its public availability, because it would be furnishing information in response to a questionnaire from a boycott office.

(iv) U.S. company A is on boycotting country Y's blacklist. For reasons unrelated to the boycott, A terminates its business relationships with boycotted country X. In exploring other marketing areas, A determines that boycotting country Y offers great potential. A is requested to complete a questionnaire from a central boycott office which inquires about A's business relations with X.

A may not furnish the information, because it is information about A's business relationships with a boycotted country.

(v) U.S. exporter A is seeking to sell its products to boycotting country Y. A is informed by Y that, as a condition of sale, A must certify that it has no salesmen in boycotted country X. A knows or has reason to know that the condition is boycott-based.

A may not furnish the certification, because it is information about A's business relationships in a boycotted country.

(vi) U.S. engineering company A receives an invitation to bid on the construction of a dam in boycotting country Y. As a condition of the bid, A is asked to certify that it does not have any offices in boycotted country X. A is also asked to furnish plans for other dams it has designed.

A may not certify that it has no office in X, because this is information about its business relationships in a boycotted country. A may submit plans for other dams it has designed, because this is furnishing normal business information, in a commercial context, relating to A's technical competence and professional experience.

(vii) U.S. company A, in seeking to expand its exports to boycotting country Y, sends a sales representative to Y for a one week trip. During a meeting in Y with trade association representatives, A's representative desires to explain that neither A nor any companies with which A deals has any business relationship with boycotted country X. The purpose of supplying such information is to ensure that A does not get blacklisted.

A's representative may not volunteer this information even though A, for reasons unrelated to the boycott, does not deal with X, because A's representative would be volunteering information about A's business relationships with X for boycott reasons.

(viii) U.S. company A is asked by boycotting country Y to furnish information concerning its business relationships with boycotted country X. A, knowing that Y is seeking the information for boycott purposes, refuses to furnish the information asked for directly, but proposes to respond by supplying a copy of its annual report which lists the countries with which A is presently doing business. A does not happen to be doing business with X.

A may not respond to Y's request by supplying its annual report, because A knows that it would be responding to a boycott-based request for information about its business relationships with X.

(ix) U.S. company A receives a letter from a central boycott office asking A to ''clarify'' A's operations in boycotted country X. A intends to continue its operations in X, but fears that not responding to the request will result in its being placed on boycotting country Y's blacklist. A knows or has reason to know that the information is sought for boycott reasons.

A may not respond to this request, because the information concerns its business relationships with a boycotted country.

(x) U.S. company A, in the course of negotiating a sale of its goods to a buyer in boycotting country Y, is asked to certify that its supplier is not on Y's blacklist.

A may not furnish the information about its supplier's blacklist status, because this is information about A's business relationships with another person who is believed to be restricted from having any business relationship with or in a boycotting country.

(xi) U.S. company A has a manufacturing plant in boycotted country X and is on boycotting country Y's blacklist. A is seeking to establish operations in Y, while expanding its operations in X. A applies to Y to be removed from Y's blacklist. A is asked, in response, to indicate whether it has manufacturing facilities in X.

A may not supply the requested information, because A would be furnishing information about its business relationships in a boycotted country.

(xii) U.S. bank A plans to open a branch office in boycotting country Y. In order to do so, A is required to furnish certain information about its business operations, including the location of its other branch offices. Such information is normally sought in other countries where A has opened a branch office, and A does not have reason to know that Y is seeking the information for boycott reasons.

A may furnish this information, even though in furnishing it A would disclose information about its business relationships in a boycotted country, because it is being furnished in a normal business context and A does not have reason to know that it is sought for boycott reasons.

(xiii) U.S. architectural firm A responds to an invitation to submit designs for an office complex in boycotting country Y. The invitation states that all bidders must include information concerning similar types of buildings they have designed. A has not designed such buildings in boycotted country X. Clients frequently seek information of this type before engaging an architect.

A may furnish this information, because this is furnishing normal business information, in a commercial context, relating to A's technical competence and professional experience.

(xiv) U.S. oil company A distributes to potential customers promotional brochures and catalogs which give background information on A's past projects. A does not have business dealings with boycotted country X. The brochures, which are identical to those which A uses throughout the world, list those countries in which A does or has done business. In soliciting potential customers in boycotting country Y, A desires to distribute copies of its brochures.

A may do so, because this is furnishing normal business information, in a commercial context, relating to professional experience.

(xv) U.S. company A is interested in doing business with boycotting country Y. A wants to ask Y's Ministry of Trade whether, and if so why, A is on Y's blacklist or is otherwise restricted for boycott reasons from doing business with Y.

A may make this limited inquiry, because it does not constitute furnishing information.

(xvi) U.S. company A is asked by boycotting country Y to certify that it is not owned by subjects or nationals of boycotted country X and that it is not resident in boycotted country X.

A may not furnish the certification, because it is information about A's business relationships with or in a boycotted country, or with nationals of a boycotted country.

(xvii) U.S. company A, a manufacturer of certain patented products, desires to register its patents in boycotting country Y. A receives a power of attorney form required to register its patents. The form contains a question regarding A's business relationships with or in boycotted country X. A has no business relationships with X and knows or has reason to know that the information is sought for boycott reasons.

A may not answer the question, because A would be furnishing information about its business relationships with or in a boycotted country.

(xviii) U.S. company A is asked by boycotting country Y to certify that it is not the mother company, sister company, subsidiary, or branch of any blacklisted company, and that it is not in any way affiliated with any blacklisted company.

A may not furnish the certification, because it is information about whether A has a business relationship with another person who is known or believed to be restricted from having any business relationship with or in a boycotting country.

(e) *Information concerning association with charitable and fraternal organizations.*

PROHIBITION AGAINST FURNISHING INFORMATION ABOUT ASSOCIATIONS WITH CHARITABLE AND FRATERNAL ORGANIZATIONS

(1) No United States person may furnish or knowingly agree to furnish information about whether any person is a member of, has made contributions to, or is otherwise associated with or involved in the activities of any charitable or fraternal organization which supports a boycotted country.

(2) This prohibition shall apply whether:

(i) The information concerns association with or involvement in any charitable or fraternal organization which (a) has, as one of its stated purposes, the support of a boycotted country through financial contributions or other means, or (b) undertakes, as a major organizational activity, to offer financial or other support to a boycotted country;

(ii) The information is directly or indirectly requested or is furnished on the initiative of the United States person; or

(iii) The information requested or volunteered concerns membership in, financial contributions to, or any other type of association with or involvement in the activities of such charitable or fraternal organization.

(3) This prohibition does not prohibit the furnishing of normal business information in a commercial context as defined in paragraph (d) of this section.

(4) This prohibition, like all others, applies only with respect to a United States person's activities in the interstate or foreign commerce of the United States and only when such activities are undertaken with intent to comply with, further, or support an unsanctioned foreign boycott.

EXAMPLES OF PROHIBITION AGAINST FURNISHING INFORMATION ABOUT ASSOCIATIONS WITH CHARITABLE OR FRATERNAL ORGANIZATIONS

The following examples are intended to give guidance in determining the circumstances in which the furnishing of information concerning associations with charitable or fraternal organizations is prohibited. They are illustrative, not comprehensive.

(i) U.S. engineering firm A receives an invitation to bid from boycotting country Y. The invitation includes a request to supply information concerning any association which A's officers have with charitable organization B, an organization which is known by A to contribute financial support to boycotted country X. A knows or has reason to know that the information is sought for boycott reasons.

A may not furnish the information.

(ii) U.S. construction company A, in an effort to establish business dealings with boycotting country Y, proposes to furnish information to Y showing that no members of its board of directors are in any way associated with charitable organizations which support boycotted country X. A's purpose is to avoid any possibility of its being blacklisted by Y.

A may not furnish the information, because A's purpose in doing so is boycott-based. It makes no difference that no specific request for the information has been made by Y.

(iii) A, a citizen of the United States, is applying for a teaching position in a school in boycotting country Y. In connection with his application, A furnishes a resume which happens to disclose his affiliation with charitable organizations. A does so completely without reference to Y's boycott and without knowledge of any boycott requirement of Y that pertains to A's application for employment.

The furnishing of a resume by A is not a boycott-related furnishing of information about his association with charitable organizations which support boycotted country X.

(f) *Letters of credit.*

PROHIBITION AGAINST IMPLEMENTING LETTERS OF CREDIT CONTAINING PROHIBITED CONDITIONS OR REQUIREMENTS

(1) No United States person may pay, honor, confirm, or otherwise implement a letter of credit which contains a condition or requirement compliance with which is prohibited by this part, nor shall any United States person, as a result of the application of this section, be obligated to pay, honor or otherwise implement such a letter of credit.

(2) For purposes of this section, ''implementing'' a letter of credit includes:

(i) Issuing or opening a letter of credit at the request of a customer;

(ii) Honoring, by accepting as being a valid instrument of credit, any letter of credit;

(iii) Paying, under a letter of credit, a draft or other demand for payment by the beneficiary;

(iv) Confirming a letter of credit by agreeing to be responsible for payment to the beneficiary in response to a request by the issuer;

(v) Negotiating a letter of credit by voluntarily purchasing a draft from a beneficiary and presenting such draft for reimbursement to the issuer or the confirmer of the letter of credit; and

(vi) Taking any other action to implement a letter of credit.

(3) In the standard international letter of credit transaction facilitating

payment for the export of goods from the United States, a bank in a foreign country may be requested by its customer to issue a revocable or irrevocable letter of credit in favor of the United States exporter. The customer usually requires, and the letter of credit provides, that the issuing (or a confirming) bank will make payment to the beneficiary against the bank's receipt of the documentation specified in the letter of credit. Such documentation usually includes commercial and consular invoices, a bill of lading, and evidence of insurance, but it may also include other required certifications or documentary assurances such as the origin of the goods and information relating to the carrier or insurer of the shipment.

Banks usually will not accept drafts for payment unless the documents submitted therewith comply with the terms and conditions of the letter of credit.

(4) A United States person is not prohibited under this section from advising a beneficiary of the existence of a letter of credit in his favor, or from taking ministerial actions to dispose of a letter of credit which it is prohibited from implementing.

(5) Compliance with this section shall provide an absolute defense in any action brought to compel payment of, honoring of, or other implementation of a letter of credit, or for damages resulting from failure to pay or otherwise honor or implement the letter of credit. This section shall not otherwise relieve any person from any obligations or other liabilities he may incur under other laws or regulations, except as may be explicitly provided in this section.

LETTERS OF CREDIT TO WHICH THIS SECTION APPLIES

(6) This prohibition, like all others, applies only with respect to a United States person's activities taken with intent to comply with, further, or support an unsanctioned foreign boycott. In addition, it applies only when the transaction to which the letter of credit applies is in United States commerce and the beneficiary is a United States person.

IMPLEMENTATION OF LETTERS OF CREDIT IN THE UNITED STATES

(7) A letter of credit implemented in the United States by a United States person located in the United States, including a permanent United States establishment of a foreign bank, will be presumed to apply to a transaction in United States commerce and to be in favor of a United States beneficiary where the letter of credit specifies a United States address for the beneficiary. These presumptions may be rebutted by facts which could reasonably lead the bank to conclude that the beneficiary is not a United States person or that the underlying transaction is not in United States commerce.

(8) Where a letter of credit implemented in the United States by a United States person located in the United States does not specify a United States address for the beneficiary, the beneficiary will be presumed to be other than a United States person. This presumption may be rebutted by facts which could reasonably lead the bank to conclude that the beneficiary is a United States person despite the foreign address.

IMPLEMENTATION OF LETTERS OF CREDIT OUTSIDE THE UNITED STATES

(9) A letter of credit implemented outside the United States by a United States person located outside the United States will be presumed to apply to a transaction in United States commerce and to be in favor of a United States beneficiary where the letter of credit specifies a United States address for the beneficiary and calls for documents indicating shipment from the United States or otherwise indicating that the goods are of United States origin. These presumptions may be rebutted by facts which could reasonably lead the bank to conclude that the beneficiary is not a United States person or that the underlying transaction is not in United States commerce.

(10) Where a letter of credit implemented outside the United States by a United States person located outside the United States does not specify a

United States address for the beneficiary, the beneficiary will be presumed to be other than a United States person. In addition, where such a letter of credit does not call for documents indicating shipment from the United States or otherwise indicating that the goods are of United States origin, the transaction to which it applies will be presumed to be outside United States commerce. The presumption that the beneficiary is other than a United States person may be rebutted by facts which could reasonably lead the bank to conclude that the beneficiary is a United States person. The presumption that the transaction to which the letter of credit applies is outside United States commerce may be rebutted by facts which could reasonably lead the bank to conclude that the underlying transaction is in United States commerce.

EXAMPLES OF THE PROHIBITION AGAINST IMPLEMENTING LETTERS OF CREDIT

The following examples are intended to give guidance in determining the circumstances in which this section applies to the implementation of a letter of credit and in which such implementation is prohibited. They are illustrative, not comprehensive.

IMPLEMENTATION OF LETTERS OF CREDIT IN UNITED STATES COMMERCE

(i) A, a U.S. bank located in the United States, opens a letter of credit in the United States in favor of B, a foreign company located outside the United States. The letter of credit specifies a non-U.S. address for the beneficiary.

The beneficiary is presumed to be other than a U.S. person, because it does not have a U.S. address. The presumption may be rebutted by facts showing that A could reasonably conclude that the beneficiary is a U.S. person despite the foreign address.

(ii) A, a branch of a foreign bank located in the United States, opens a letter of credit in favor of B, a foreign company located outside the United States. The letter of credit specifies a non-U.S. address for the beneficiary.

The beneficiary is presumed to be other than a U.S.person, because it does not have a U.S. address. The presumption may be rebutted by facts showing that A could reasonably conclude that the beneficiary is a U.S. person despite the foreign address.

(iii) A, a U.S. bank branch located outside the United States, opens a letter of credit in favor of B, a person with a U.S. address. The letter of credit calls for documents indicating shipment of goods from the United States.

The letter of credit is presumed to apply to a transaction in U.S. commerce and to be in favor of a U.S. beneficiary because the letter of credit specifies a U.S. address for the beneficiary and calls for documents indicating that the goods will be shipped from the United States. These presumptions may be rebutted by facts showing that A could reasonably conclude that the beneficiary is not a U.S. person or that the underlying transaction is not in U.S. commerce.

(iv) A, a U.S. bank branch located outside the United States, opens a letter of credit which specifies a beneficiary, B, with an address outside the United States and calls for documents indicating that the goods are of U.S.-origin. A knows or has reason to know that although B has an address outside the United States, B is a U.S. person.

The letter of credit is presumed to apply to a transaction in U.S. commerce, because the letter of credit calls for shipment of U.S.-origin goods. In addition, the letter of credit is presumed to be in favor of a beneficiary who is a U.S. person, because A knows or has reason to know that the beneficiary is a U.S. person despite the foreign address.

(v) A, a U.S. bank branch located outside the United States, opens a letter of credit which specifies a beneficiary with a U.S. address. The letter of credit calls for documents indicating shipment of foreign-origin goods.

The letter of credit is presumed to be in favor of a U.S. beneficiary but to apply to a transaction outside U.S. commerce, because it calls for documents indicating shipment of foreign-origin goods. The presumption of non-U.S. commerce may be rebutted by facts showing that A could reasonably conclude that the underlying transaction involves shipment of U.S.-origin goods or goods from the United States.

PROHIBITION AGAINST IMPLEMENTING LETTERS OF CREDIT

(i) Boycotting country Y orders goods from U.S. company B. Y opens a letter of credit with foreign bank C in favor of B. The letter of credit specifies as a condition of payment that B certify that it does not do business with boycotted country X. Foreign bank C forwards the letter of credit it has opened to U.S. bank A for confirmation.

A may not confirm or otherwise implement this letter of credit, because it contains a condition with which a U.S. person may not comply.

(ii) Same as (i), except U.S. bank A desires to advise the beneficiary, U.S. company B, of the letter of credit.

A may do so, because advising the beneficiary of the letter of credit (including the term which prevents A from implementing

it) is not implementation of the letter of credit.

(iii) Same as (i), except foreign bank C sends a telegram to U.S. bank A stating the major terms and conditions of the letter of credit. The telegram does not reflect the boycott provision. Subsequently, C mails to A documents setting forth the terms and conditions of the letter of credit, including the prohibited boycott condition.

A may not further implement the letter of credit after it receives the documents, because they reflect the prohibited boycott condition in the letter of credit. A may advise the beneficiary and C of the existence of the letter of credit (including the boycott term), and may perform any essentially ministerial acts necessary to dispose of the letter of credit.

(iv) Same as (iii), except that U.S. company B, based in part on information received from U.S. bank A, desires to obtain an amendment to the letter of credit which would eliminate or nullify the language in the letter of credit which prevents A from paying or otherwise implementing it.

Either company B or bank A may undertake, and the other may cooperate and assist in, this endeavor. A could then pay or otherwise implement the revised letter of credit, so long as the original prohibited boycott condition is of no force or effect.

(v) Boycotting country Y requests a foreign bank in Y to open a letter of credit to effect payment for goods to be shipped by U.S. supplier B, the beneficiary of the letter of credit. The letter of credit contains prohibited boycott clauses. The foreign bank forwards a copy of the letter of credit to its branch office A, in the United States.

A may advise the beneficiary but may not implement the letter of credit, because it contains prohibited boycott conditions.

(vi) Boycotting country Y orders goods from U.S. company B. U.S. bank A is asked to implement, for the benefit of B, a letter of credit which contains a clause requiring documentation that the goods shipped are not of boycotted country X origin.

A may not implement the letter of credit with a prohibited condition, and may accept only a positive certificate of origin as satisfactory documentation. (See §760.3(c) on ''Import and Shipping Document Requirements.'')

(vii) [Reserved]

(viii) B is a foreign bank located outside the United States. B maintains an account with U.S. bank A, located in the United States. A letter of credit issued by B in favor of a U.S. beneficiary provides that any negotiating bank may obtain reimbursement from A by certifying that all the terms and conditions of the letter of credit have been met and then drawing against B's account. B notifies A by cable of the issuance of a letter of credit and the existence of reimbursement authorization; A does not receive a copy of the letter of credit.

A may reimburse any negotiating bank, even when the underlying letter of credit contains a prohibited boycott condition, because A does not know or have reason to know that the letter of credit contains a prohibited boycott condition.

(ix) Same as (viii), except that foreign bank B forwards a copy of the letter of credit to U.S. bank A, which then becomes aware of the prohibited boycott clause.

A may not thereafter reimburse a negotiating bank or in any way further implement the letter of credit, because it knows of the prohibited boycott condition.

(x) Boycotting country Y orders goods from U.S. exporter B and requests a foreign bank in Y to open a letter of credit in favor of B to cover the cost. The letter of credit contains a prohibited boycott clause. The foreign bank asks U.S. bank A to advise and confirm the letter of credit. Through inadvertence, A does not notice the prohibited clause and confirms the letter of credit. A thereafter notices the clause and then refuses to honor B's draft against the letter of credit. B sues bank A for payment.

A has an absolute defense against the obligation to make payment under this letter of credit. (Note: Examples (ix) and (x) do not alter any other obligations or liabilities of the parties under appropriate law.)

(xi) [Reserved]

(xii) Boycotting country Y orders goods from U.S. company B. A letter of credit which contains a prohibited boycott clause is opened in favor of B by a foreign bank in Y. The foreign bank asks U.S. bank A to advise and confirm the letter of credit, which it forwards to A.

A may advise B that it has received the letter of credit (including the boycott term), but may not confirm the letter of credit with the prohibited clause.

(xiii) Same as (xii), except U.S. bank A fails to tell B that it cannot process the letter of credit. B requests payment.

A may not pay. If the prohibited language is eliminated or nullified as the result of renegotiation, A may then pay or otherwise implement the revised letter of credit.

(xiv) U.S. bank A receives a letter of credit in favor of U.S. beneficiary B. The letter of credit requires B to certify that he is not blacklisted.

A may implement such a letter of credit, but it may not insist that the certification be furnished, because by so insisting it would be refusing to do business with a blacklisted person in compliance with a boycott.

(xv) A, a U.S. bank located in the U.S. opens a letter of credit in favor of U.S. beneficiary B for B's sale of goods to boycotting country Y. The letter of credit contains no

boycott conditions, but A knows that Y customarily requires the seller of goods to certify that it has dealt with no blacklisted supplier. A, therefore, instructs B that it will not make payment under the letter of credit unless B makes such a certification.

A's action in requiring the certification from B constitutes action to require another person to refuse to do business with blacklisted persons.

(xvi) A, a U.S. bank located in the U.S., opens a letter of credit in favor of U.S. beneficiary B for B's sale of goods to boycotting country Y. The letter of credit contains no boycott conditions, but A has actual knowledge that B has agreed to supply a certification to Y that it has not dealt with blacklisted firms, as a condition of receiving the letter of credit in its favor.

A may not implement the letter of credit, because it knows that an implicit condition of the credit is a condition with which B may not legally comply.

(xvii) Boycotting country Y orders goods from U.S. company B. Y opens a letter of credit with foreign bank C in favor of B. The letter of credit includes the statement, ''Do not negotiate with blacklisted banks.'' C forwards the letter of credit it has opened to U.S. bank A for confirmation.

A may not confirm or otherwise implement this letter of credit, because it contains a condition with which a U.S. person may not comply.

[61 FR 12862, Mar. 25, 1996, as amended at 65 FR 34945, June 1, 2000]

§ 760.3 Exceptions to prohibitions.

(a) *Import requirements of a boycotting country.*

COMPLIANCE WITH IMPORT REQUIREMENTS OF A BOYCOTTING COUNTRY

(1) A United States person, in supplying goods or services to a boycotting country, or to a national or resident of a boycotting country, may comply or agree to comply with requirements of such boycotting country which prohibit the import of:

(i) Goods or services from the boycotted country;

(ii) Goods produced or services provided by any business concern organized under the laws of the boycotted country; or

(iii) Goods produced or services provided by nationals or residents of the boycotted country.

(2) A United States person may comply or agree to comply with such import requirements whether or not he has received a specific request to comply. By its terms, this exception applies only to transactions involving imports into a boycotting country. A United States person may not, under this exception, refuse on an across-the-board basis to do business with a boycotted country or a national or resident of a boycotted country.

(3) In taking action within the scope of this exception, a United States person is limited in the types of boycott-related information he can supply. (See § 760.2(d) of this part on ''Furnishing Information About Business Relationships with Boycotted Countries or Blacklisted Persons'' and paragraph (c) of this section on ''Import and Shipping Document Requirements.'')

EXAMPLES OF COMPLIANCE WITH IMPORT REQUIREMENTS OF A BOYCOTTING COUNTRY

The following examples are intended to give guidance in determining the circumstances in which compliance with the import requirements of a boycotting country is permissible. They are illustrative, not comprehensive.

(i) A, a U.S. manufacturer, receives an order from boycotting country Y for its products. Country X is boycotted by country Y, and the import laws of Y prohibit the importation of goods produced or manufactured in X. In filling this type of order, A would usually include some component parts produced in X.

For the purpose of filling this order, A may substitute comparable component parts in place of parts produced in X, because the import laws of Y prohibit the importation of goods manufactured in X.

(ii) Same as (i), except that A's contract with Y expressly provides that in fulfilling the contract A ''may not include parts or components produced or manufactured in boycotted country X.''

A may agree to and comply with this contract provision, because Y prohibits the importation of goods from X. However, A may not furnish negative certifications regarding the origin of components in response to import and shipping document requirements.

(iii) A, a U.S. building contractor, is awarded a contract to construct a plant in boycotting country Y. A accepts bids on goods required under the contract, and the lowest bid is made by B, a business concern organized under the laws of X, a country boycotted by Y. Y prohibits the import of goods produced by companies organized under the laws of X.

For purposes of this contract, A may reject B's bid and accept another, because B's goods

would be refused entry into Y because of Y's boycott against X.

(iv) Same as (iii), except that A also rejects the low bid by B for work on a construction project in country M, a country not boycotted by Y.

This exception does not apply, because A's action is not taken in order to comply with Y's requirements prohibiting the import of products from boycotted country X.

(v) A, a U.S. management consulting firm, contracts to provide services to boycotting country Y. Y requests that A not employ residents or nationals of boycotted country X to provide those services.

A may agree, as a condition of the contract, not to have services furnished by nationals or residents of X, because importation of such services is prohibited by Y.

(vi) A, a U.S. company, is negotiating a contract to supply machine tools to boycotting country Y. Y insists that the contract contain a provision whereby A agrees that none of the machine tools will be produced by any business concern owned by nationals of boycotted country X, even if the business concern is organized under the laws of a non-boycotted country.

A may not agree to this provision, because it is a restriction on the import of goods produced by business concerns owned by nationals of a boycotted country even if the business concerns themselves are organized under the laws of a non-boycotted country.

(b) *Shipment of goods to a boycotting country.*

COMPLIANCE WITH REQUIREMENTS REGARDING THE SHIPMENT OF GOODS TO A BOYCOTTING COUNTRY

(1) A United States person, in shipping goods to a boycotting country, may comply or agree to comply with requirements of that country which prohibit the shipment of goods:

(i) On a carrier of the boycotted country; or

(ii) By a route other than that prescribed by the boycotting country or the recipient of the shipment.

(2) A specific request that a United States person comply or agree to comply with requirements concerning the use of carriers of a boycotted country is not necessary if the United States person knows, or has reason to know, that the use of such carriers for shipping goods to the boycotting country is prohibited by requirements of the boycotting country. This exception applies whether a boycotting country or the purchaser of the shipment:

(i) Explicitly states that the shipment should not pass through a port of the boycotted country; or

(ii) Affirmatively describes a route of shipment that does not include a port in the boycotted country.

(3) For purposes of this exception, the term *carrier of a boycotted country* means a carrier which flies the flag of a boycotted country or which is owned, chartered, leased, or operated by a boycotted country or by nationals or residents of a boycotted country.

EXAMPLES OF COMPLIANCE WITH THE SHIPPING REQUIREMENTS OF A BOYCOTTING COUNTRY

The following examples are intended to give guidance in determining the circumstances in which compliance with import and shipping document requirements of a boycotting country is permissible. They are illustrative, not comprehensive.

(i) A is a U.S. exporter from whom boycotting country Y is importing goods. Y directs that the goods not pass through a port of boycotted country X.

A may comply with Y's shipping instructions, because they pertain to the route of shipment of goods being shipped to Y.

(ii) A, a U.S. fertilizer manufacturer, receives an order from boycotting country Y for fertilizer. Y specifies in the order that A may not ship the fertilizer on a carrier of boycotted country X.

A may comply with this request, because it pertains to the carrier of a boycotted country.

(iii) B, a resident of boycotting country Y, orders textile goods from A, a U.S. distributor, specifying that the shipment must not be made on a carrier owned or leased by nationals of boycotted country X and that the carrier must not pass through a port of country X enroute to Y.

A may comply or agree to comply with these requests, because they pertain to the shipment of goods to Y on a carrier of a boycotted country and the route such shipment will take.

(iv) Boycotting country Y orders goods from A, a U.S. retail merchant. The order specifies that the goods shipped by A ''may not be shipped on a carrier registered in or owned by boycotted country X.''

A may agree to this contract provision, because it pertains to the carrier of a boycotted country.

(v) Boycotting country Y orders goods from A, a U.S. pharmaceutical company, and requests that the shipment not pass through a port of country P, which is not a country boycotted by Y.

This exception does not apply in a non-boycotting situation. A may comply with the shipping instructions of Y, because in

doing so he would not violate any prohibition of this part.

(vi) Boycotting country Y orders goods from A, a U.S. manufacturer. The order specifies that goods shipped by A ''must not be shipped on vessels blacklisted by country Y''.

A may not agree to comply with this condition because it is not a restriction limited to the use of carriers of the boycotted country.

(c) *Import and shipping document requirements.*

COMPLIANCE WITH IMPORT AND SHIPPING DOCUMENT REQUIREMENTS OF A BOYCOTTING COUNTRY

(1) A United States person, in shipping goods to a boycotting country, may comply or agree to comply with import and shipping document requirements of that country, with respect to:

(i) The country or origin of the goods;

(ii) The name and nationality of the carrier;

(iii) The route of the shipment;

(iv) The name, residence, or address of the supplier of the shipment;

(v) The name, residence, or address of the provider of other services.

(2) Such information must be stated in positive, non-blacklisting, non-exclusionary terms except for information with respect to the names or nationalities of carriers or routes of shipment, which may continue to be stated in negative terms in conjunction with shipments to a boycotting country, in order to comply with precautionary requirements protecting against war risks or confiscation.

EXAMPLES OF COMPLIANCE WITH IMPORT AND SHIPPING DOCUMENT REQUIREMENTS

The following examples are intended to give guidance in determining the circumstances in which compliance with the import requirements of a boycotting country is permissible. They are illustrative, not comprehensive.

(i) Boycotting country Y contracts with A, a U.S. petroleum equipment manufacturer, for certain equipment. Y requires that goods being imported into Y must be accompanied by a certification that the goods being supplied did not originate in boycotted country X.

A may not supply such a certification in negative terms but may identify instead the country of origin of the goods in positive terms only.

(ii) Same as (i), except that Y requires that the shipping documentation accompanying the goods specify the country of origin of the goods.

A may furnish the information.

(iii) [Reserved]

(iv) A, a U.S. apparel manufacturer, has contracted to sell certain of its products to B, a national of boycotting country Y. The form that must be submitted to customs officials of Y requires the shipper to certify that the goods contained in the shipment have not been supplied by ''blacklisted'' persons.

A may not furnish the information in negative terms but may certify, in positive terms only, the name of the supplier of the goods.

(v) Same as (iv), except the customs form requires certification that the insurer and freight forwarder used are not ''blacklisted.''

A may not comply with the request but may supply a certification stating, in positive terms only, the names of the insurer and freight forwarder.

(vi) A, a U.S. petrochemical manufacturer, executes a sales contract with B, a resident of boycotting country Y. A provision of A's contract with B requires that the bill of lading and other shipping documents contain certifications that the goods have not been shipped on a ''blacklisted'' carrier.

A may not agree to supply a certification that the carrier is not ''blacklisted'' but may certify the name of the carrier in positive terms only.

(vii) Same as (vi), except that the contract requires certification that the goods will not be shipped on a carrier which flies the flag of, or is owned, chartered, leased, or operated by boycotted country X, or by nationals or residents of X.

Such a certification, which is a reasonable requirement to protect against war risks or confiscation, may be furnished at any time.

(viii) Same as (vi), except that the contract requires that the shipping documents certify the name of the carrier being used.

A may, at any time, supply or agree to supply the requested documentation regarding the name of the carrier, either in negative or positive terms.

(ix) Same as (vi), except that the contract requires a certification that the carrier will not call at a port in boycotted country X before making delivery in Y.

Such a certification, which is a reasonable requirement to protect against war risks or confiscation, may be furnished at any time.

(x) Same as (vi), except that the contract requires that the shipping documents indicate the name of the insurer and freight forwarder.

A may comply at any time, because the statement is not required to be made in negative or blacklisting terms.

(xi) A, a U.S. exporter, is negotiating a contract to sell bicycles to boycotting country Y. Y insists that A agree to certify that the goods will not be shipped on a vessel which has ever called at a port in boycotted country X.

As distinguished from a certification that goods will not be shipped on a vessel which will call enroute at a port of boycotted country X, such a certification is not a reasonable requirement to protect against war risks or confiscation, and, hence, may not be supplied.

(xii) Same as (xi), except that Y insists that A agree to certify that the goods will not be shipped on a carrier that is ineligible to enter Y's waters.

Such a certification, which is not a reasonable requirement to protect against war risks or confiscation may not be supplied.

(d) *Unilateral and specific selection.*

COMPLIANCE WITH UNILATERAL AND SPECIFIC SELECTION

(1) A United States person may comply or agree to comply in the normal course of business with the unilateral and specific selection by a boycotting country, a national of a boycotting country, or a resident of a boycotting country (including a United States person who is a bona fide resident of a boycotting country) of carriers, insurers, suppliers of services to be performed within the boycotting country, or specific goods, provided that with respect to services, it is necessary and customary that a not insignificant part of the services be performed within the boycotting country. With respect to goods, the items, in the normal course of business, must be identifiable as to their source or origin at the time of their entry into the boycotting country by (a) uniqueness of design or appearance or (b) trademark, trade name, or other identification normally on the items themselves, including their packaging.

(2) This exception pertains to what is permissible for a United States person who is the recipient of a unilateral and specific selection of goods or services to be furnished by a third person. It does not pertain to whether the act of making such a selection is permitted; that question is covered, with respect to United States persons, in paragraph (g) of this section on ''Compliance with Local Law.'' Nor does it pertain to the United States person who is the recipient of an order to supply its own goods or services. Nothing in this part prohibits or restricts a United States person from filling an order himself, even if he is selected by the buyer on a boycott basis (e.g., because he is not blacklisted), so long as he does not himself take any action prohibited by this part.

UNILATERAL AND SPECIFIC CHARACTER OF THE SELECTION

(3) In order for this exception to apply, the selection with which a United States person wishes to comply must be unilateral and specific.

(4) A ''specific'' selection is one which is stated in the affirmative and which specifies a particular supplier of goods or services.

(5) A ''unilateral'' selection is one in which the discretion in making the selection is exercised by the boycotting country buyer. If the United States person who receives a unilateral selection has provided the buyer with any boycott-based assistance (including information for purposes of helping the buyer select someone on a boycott basis), then the buyer's selection is not unilateral, and compliance with that selection by a United States person does not come within this exception.

(6) The provision of so-called ''pre-selection'' or ''pre-award'' services, such as providing lists of qualified suppliers, subcontractors, or bidders, does not, in and of itself, destroy the unilateral character of a selection, provided such services are not boycott-based. Lists of qualified suppliers, for example, must not exclude anyone because he is blacklisted. Moreover, such services must be of the type customarily provided in similar transactions by the firm (or industry of which the firm is a part) as measured by the practice in non-boycotting as well as boycotting countries. If such services are not customarily provided in similar transactions or such services are provided in such a way as to exclude blacklisted persons from participating in a transaction or diminish their opportunity for such participation, then the services may not be provided without destroying the unilateral character of any subsequent selection.

SELECTION TO BE MADE BY BOYCOTTING COUNTRY RESIDENT

(7) In order for this exception to be available, the unilateral and specific selection must have been made by a boycotting country, or by a national or resident of a boycotting country. Such a resident may be a United States person. For purposes of this exception, a United States person will be considered a resident of a boycotting country only if he is a bona fide resident. A United States person may be a bona fide resident of a boycotting country even if such person's residency is temporary.

(8) Factors that will be considered in determining whether a United States person is a bona fide resident of a boycotting country include:

(i) Physical presence in the country;

(ii) Whether residence is needed for legitimate business reasons;

(iii) Continuity of the residency;

(iv) Intent to maintain the residency;

(v) Prior residence in the country;

(vi) Size and nature of presence in the country;

(vii) Whether the person is registered to do business or incorporated in the country;

(viii) Whether the person has a valid work visa; and

(ix) Whether the person has a similar presence in both boycotting and non-boycotting foreign countries in connection with similar business activities.

NOTE TO PARAGRAPH (d)(8) OF THIS SECTION: No one of the factors is dispositive. All the circumstances will be examined closely to ascertain whether there is, in fact, a bona fide residency. Residency established solely for purposes of avoidance of the application of this part, unrelated to legitimate business needs, does not constitute bona fide residency.

(9) The boycotting country resident must be the one actually making the selection. If a selection is made by a non-resident agent, parent, subsidiary, affiliate, home office or branch office of a boycotting country resident, it is not a selection by a resident within the meaning of this exception.

(10) A selection made solely by a bona fide resident and merely transmitted by another person to a United States person for execution is a selection by a bona fide resident within the meaning of this exception.

DUTY OF INQUIRY

(11) If a United States person receives, from another person located in the United States, what may be a unilateral selection by a boycotting country customer, and knows or has reason to know that the selection is made for boycott reasons, he has a duty to inquire of the transmitting person to determine who actually made the selection. If he knows or has reason to know that the selection was made by other than a boycotting country, or a national or resident of a boycotting country, he may not comply. A course or pattern of conduct which a United States person recognizes or should recognize as consistent with boycott restrictions will create a duty to inquire.

(12) If the United States person does not know or have reason to know that the selection it receives is boycott-based, its compliance with such a selection does not offend any prohibition and this exception is not needed.

SELECTION OF SERVICES

(13) This exception applies only to compliance with selections of certain types of suppliers of services-carriers, insurers, and suppliers of services to be performed ''within the boycotting country.'' Services to be performed wholly within the United States or wholly within any country other than the boycotting country are not covered.

(14) For purposes of this part, services are to be performed ''within the boycotting country'' only if they are of a type which would customarily be performed by suppliers of those services within the country of the recipient of those services, and if the part of the services performed within the boycotting country is a necessary and not insignificant part of the total services performed.

(15) What is ''customary and necessary'' for these purposes depends on the usual practice of the supplier of the services (or the industry of which he is a part) as measured by the practice in non-boycotting as well as boycotting countries, except where such practices are instituted to accommodate this part.

SELECTION OF GOODS

(16) This exception applies only to compliance with selections of certain types of goods—goods that, in the normal course of business, are identifiable as to their source or origin at the time of their entry into the boycotting country. The definition of ''specifically identifiable goods'' is the same under this section as it is in paragraph (g) of this section on ''Compliance with Local Law.''

(17) Goods ''specifically identifiable'' in the normal course of business are those items which at the time of their entry into a boycotting country are identifiable as to source or origin by uniqueness of design or appearance; or trademark, trade name, or other identification normally on the items themselves, including their packaging. Goods are ''specifically identifiable'' in the normal course of business if their source or origin is ascertainable by inspection of the items themselves, including their packaging, regardless of whether inspection takes place. Goods are not considered to be ''specifically identifiable'' in the normal course of business if a trademark, trade name, or other form of identification not normally present is added to the items themselves, including their packaging, to accommodate this part.

GENERAL

(18) If a unilateral selection meets the conditions described in paragraph (d) of this section, the United States person receiving the unilateral selection may comply or agree to comply, even if he knows or has reason to know that the selection was boycott-based. However, no United States person may comply or agree to comply with any unilateral selection if he knows or has reason to know that the purpose of the selection is to effect discrimination against any United States person on the basis of race, religion, sex, or national origin.

EXAMPLES OF COMPLIANCE WITH A UNILATERAL SELECTION

The following examples are intended to give guidance in determining what constitutes a unilateral selection and the circumstances in which compliance with such a selection is permissible. They are illustrative, not comprehensive.

SPECIFIC AND UNILATERAL SELECTION

(i) A, a U.S. manufacturer of road-grading equipment, is asked by boycotting country Y to ship goods to Y on U.S. vessel B, a carrier which is not blacklisted by Y. A knows or has reason to know that Y's selection of B is boycott-based.

A may comply with Y's request, or may agree to comply as a condition of the contract, because the selection is specific and unilateral.

(ii) A, a U.S. contractor building an industrial facility in boycotting country Y is asked by B, a resident of Y, to use C as the supplier of air conditioning equipment to be used in the facility. C is not blacklisted by country Y. A knows or has reason to know that B's request is boycott-based.

A may comply with B's request, or may agree to comply as a condition of the contract, because the selection of C is specific and unilateral.

(iii) A, a U.S. manufacturer of automotive equipment, is asked by boycotting country Y not to ship its goods to Y on U.S. carriers, B, C, or D. Carriers B, C, and D are blacklisted by boycotting country Y. A knows or has reason to know that Y's request is boycott-based.

A may not comply or agree to comply with Y's request, because no specific selection of any particular carrier has been made.

(iv) A, a U.S. exporter shipping goods ordered by boycotting country Y, is provided by Y with a list of eligible U.S. insurers from which A may choose in insuring the shipment of its goods. A knows or has reason to know that the list was compiled on a boycott basis.

A may not comply or agree to comply with Y's request that A choose from among the eligible insurers, because no specific selection of any particular insurer has been made.

(v) A, a U.S. aircraft manufacturer, is negotiating to sell aircraft to boycotting country Y. During the negotiations, Y asks A to identify the company which normally manufactures the engines for the aircraft. A responds that they are normally manufactured by U.S. engine manufacturer B. B is blacklisted by Y. In making the purchase, Y specifies that the engines for the aircraft should be supplied by U.S. engine manufacturer C.

A may comply or agree to comply with Y's selection of C, because Y's selection is unilateral and specific.

(vi) A, a U.S. construction firm, is retained by an agency of boycotting country Y to build a pipeline. Y requests A to suggest qualified engineering firms to be used on-site in the construction of the pipeline. It is customary for A, regardless of where it conducts

its operations, to identify qualified engineering firms to its customers so that its customers may make their own selection of the firm to be engaged. Choice of engineering firm is customarily a prerogative of the customer. A provides a list of five engineering firms, B-F, excluding no firm because it may be blacklisted, and then confers with and gives its recommendations to Y. A recommends C, because C is the best qualified. Y then selects B, because C is blacklisted.

A may comply with Y's selection of B, because the boycott-based decision is made by Y and is unilateral and specific. Since A's pre-award services are of the kind customarily provided in these situations, and since they are provided without reference to the boycott, they do not destroy the unilateral character of Y's selection.

(vii) A, a U.S. aircraft manufacturer, has an order to supply a certain number of planes to boycotting country Y. In connection with the order, Y asks A to supply it with a list of qualified aircraft tire manufacturers so that Y can select the tires to be placed on the planes. This is a highly unusual request, since, in A's worldwide business operations, choice of tires is customarily made by the manufacturer, not the customer. Nonetheless, A supplies a list of tire manufacturers, B, C, D, and E. Y chooses tire manufacturer B because B is not blacklisted. Had A, as is customary, selected the tires, company C would have been chosen. C happens to be blacklisted, and A knows that C's blacklist status was the reason for Y's selection of B.

A's provision of a list of tire manufacturers for Y to choose from destroys the unilateral character of Y's selection, because such a pre-selection service is not customary in A's worldwide business operations.

(viii) A, a U.S. aircraft manufacturer, receives an order from U.S. company C, which is located in the United States, for the sale of aircraft to company D, a U.S. affiliate of C. D is a bona fide resident of boycotting country Y. C instructs A that ''in order to avoid boycott problems,'' A must use engines that are manufactured by company B, a company that is not blacklisted by Y. Engines built by B are unique in design and also bear B's trade name.

Since A has reason to know that the selection is boycott-based, he must inquire of C whether the selection was in fact made by D. If C informs A that the selection was made by D, A may comply.

(ix) Same as (viii), except that C initially states that the designation was unilaterally and specifically made by D.

A may accept C's statement without further investigation and may comply with the selection, because C merely transmitted D's unilateral and specific selection.

(x) Same as (ix), except that C informs A that it, C, has selected B on behalf of or as an agent of its affiliated company resident in the boycotting country.

A may not comply with this selection, because the decision was not made by a resident of the boycotting country.

(xi) A, a U.S. management consulting firm, is advising boycotting country Y on the selection of a contracting firm to construct a plant for the manufacture of agricultural chemicals. As is customary in its business, A compiles a list of potential contractors on the basis of its evaluation of the capabilities of the respective candidates to perform the job. A has knowledge that company B is blacklisted, but provides Y with the names of companies B, C, D, and E, listing them in order of their qualifications. Y instructs A to negotiate with C.

A may comply with Y's instruction, because Y's selection is unilateral and specific.

(xii) A, a U.S. exporter, is asked by boycotting country Y not to ship goods on carriers B, C, or D, which are owned by nationals of and are registered in country P, a country not boycotted by Y.

A may comply or agree to comply with Y's request even though the selection is not specific, because A does not know or have reason to know that the request is boycott-based.

(NOTE: In example (xii), A has violated no prohibition, because it does not know or have reason to know that Y's instruction is boycott-based. Therefore, A could not act with the requisite intent to comply with the boycott.)

(xiii) A, a U.S. construction company, receives a contract to construct a hotel in boycotting country Y. As part of the contract, A is required to furnish Y with lists of qualified suppliers of various specifically identifiable items. A compiles lists of various qualified suppliers wholly without reference to the boycott, and thereafter Y instructs A to negotiate with, enter into contracts with, and arrange for delivery from each of the suppliers which Y designates. A knows that Y's choices are made on a boycott basis.

A may comply with Y's selections and carry out these post-award services for Y, because Y's selections were unilateral and specific and A's pre-award services were provided without reference to Y's boycott.

EXAMPLES OF BOYCOTTING COUNTRY BUYER

(The factors in determining whether a United States person is a ''bona fide resident'' of a boycotting country are the same as in paragraph (g) of this section on ''Compliance with Local Law.'' See also the examples in that section.)

(i) A, a U.S. exporter, is asked by B, a U.S. person who is a bona fide resident of boycotting country Y, to ship goods on U.S. carrier C. C is not blacklisted by Y, and A

knows that B has chosen on a boycott basis in order to comply with Y's boycott laws.

A may comply or agree to comply with B's request, because B is a bona fide resident of Y.

(ii) A is a U.S. computer company whose subsidiary, B, is a bona fide resident of boycotting country Y. A receives an order from B for specific, identifiable products manufactured by company C in connection with a computer which B is installing in Y.

A may comply or agree to comply with B's unilateral and specific selection, so long as the discretion was in fact exercised by B, not A.

(NOTE: Unilateral selection transactions involving related United States persons will be scrutinized carefully to ensure that the selection was in fact made by the bona fide resident of the boycotting country.)

(iii) A, a U.S. engineering firm, has chief engineer B as its resident engineer on a dam construction site in boycotting country Y. B's presence at the site is necessary in order to ensure proper supervision of the project. In order to comply with local law, B selects equipment supplier C rather than D, who is blacklisted, and directs A to purchase certain specific equipment from C for use in the project.

A may comply with this unilateral selection, because the decision was made by a bona fide resident of Y.

(As noted above, unilateral selections involving related United States persons will be scrutinized carefully to ensure that the selection was in fact made by the bona fide resident of the boycotting country.)

(iv) B, a branch of U.S. bank A, is located in boycotting country Y. B is in need of office supplies and asks the home office in New York to make the necessary purchases. A contacts C, a U.S. company in the office supply business, and instructs C to purchase various items from certain specific companies and ship them directly to B. In order to avoid any difficulties for B with respect to Y's boycott laws, A is careful to specify only non-blacklisted companies or suppliers. C knows that that was A's purpose. C may not comply with A's instruction, because the selection of suppliers was not made by a resident of a boycotting country.

(v) Same as (iv), except that A has given standing instructions to B that whenever it needs office supplies, it should specify certain suppliers designated by A. To avoid running afoul of Y's boycott laws, A's designations consist exclusively of non-blacklisted firms. A receives an order from B with the suppliers designated in accordance with A's instructions.

A may not comply with B's selection, because the selection was not in fact made by a bona fide resident of the boycotting country, but by a person located in the United States.

EXAMPLES OF SUPPLIERS OF SERVICES

(i) A, a U.S. manufacturer, is asked by boycotting country Y to ship goods to Y on U.S. vessel B, a carrier which is not blacklisted by Y.

A may comply or agree to comply with Y's request, because compliance with the unilateral and specific selection of carriers is expressly permitted under this exception.

(ii) A, a U.S. exporter shipping goods ordered by C, a national of boycotting country Y, is asked by C to insure the shipment through U.S. insurer B.

A may comply or agree to comply with C's request, because compliance with the unilateral and specific selection of an insurer is expressly permitted under this exception.

(iii) A, a U.S. construction company, is hired by C, an agency of the government of boycotting country Y, to build a power plant in Y. C specifies that A should subcontract the foundation work to U.S. contractor B. Part of the foundation design work will be done by B in the United States.

A may comply or agree to comply with Y's designation, because a necessary and not insignificant part of B's services are to be performed within the boycotting country, and such services are customarily performed on-site.

(iv) A, a U.S. contractor, is engaged by boycotting country Y to build a power plant. Y specifies that U.S. architectural firm B should be retained by A to design the plant. In order to design the plant, it is essential that B's personnel visit and become familiar with the site, although the bulk of the design and drawing work will be done in the United States.

A may comply or agree to comply with Y's unilateral and specific selection of architectural firm B, because a necessary and not insignificant part of B's services are to be performed within Y, and such on-site work is customarily involved in the provision of architectural services. The fact that the bulk of the actual work may be performed in the United States is irrelevant since the part to be performed within Y is necessary to B's effective performance.

(v) Same as (iv), except that Y specifies that the turbine for the power plant should be designed by U.S. engineer C. It is neither customary nor necessary for C to visit the site in order to do any of his work, but C has informed A that he would probably want to visit the site in Y if he were selected for the job.

A may not comply or agree to comply with Y's request, because, in the normal course of business, it is neither customary nor necessary for engineer C's services to be performed in Y.

(vi) A, a U.S. aircraft manufacturer, receives a contract from boycotting country Y to manufacture jet engines for Y's use. Y specifies that the engines should be designed by U.S. industrial engineering firm B.

A may not comply or agree to comply with Y's request, because, in the normal course of business, the services will not be performed in Y.

(vii) U.S. company A has a contract to supply specially designed road graders to boycotting country Y. Y has instructed A that it should engage engineering firm B in the design work rather than engineering firm C, which A normally uses, because C is blacklisted. When A contacts B, B informs A that one of B's personnel customarily visits the location in which any equipment B designs is used after it is in use, in order to determine how good a design job B has done. Such visits are necessary from B's point of view to provide a check on the quality of its work, and they are necessary from Y's point of view because they make it possible for Y to discuss possible design changes should deficiencies be detected.

A may not comply with Y's selection of B, because the services which B would perform in Y are an insignificant part of the total services to be performed by B.

EXAMPLES OF SPECIFICALLY IDENTIFIABLE GOODS

(The test of what constitutes ''specifically identifiable goods'' under this exception also applies to the term ''specifically identifiable goods'' as used in paragraph (g) of this section on ''Compliance with Local Law.'')

(i) A, a U.S. contractor, is constructing an apartment complex, on a turnkey basis, for boycotting country Y. Y instructs A to use only kitchen appliances manufactured by U.S. company B in completing the project. The appliances normally bear the manufacturer's name and trademark.

A may comply with Y's selection of B, because Y's unilateral and specific selection is of goods identifiable as to source or origin in the normal course of business at the time of their entry into Y.

(ii) Same as (i), except that Y directs A to use lumber manufactured only by U.S. company C. In the normal course of business, C neither stamps its name on the lumber nor identifies itself as the manufacturer on the packaging. In addition, normal export packaging does not identify the manufacturer.

A may not comply with Y's selection, because the goods selected are not identifiable by source or origin in the normal course of business at the time of their entry into Y.

(iii) B, a U.S. contractor who is a bona fide resident of boycotting country Y, is engaged in building roads. B retains the services of A, a U.S. engineering firm, to assist it in procuring construction equipment. B directs A to purchase road graders only from manufacturer C because other road grader manufacturers which A might use are blacklisted. C's road graders normally bear C's insignia.

A may comply with B's selection of C, because the goods selected are identifiable by source or origin in the normal course of business at the time of their entry into Y.

(iv) A, a U.S. company, manufactures computer-operated machine tools. The computers are mounted on a separate bracket on the side of the equipment and are readily identifiable by brand name imprinted on the equipment. There are five or six U.S. manufacturers of such computers which will function interchangeably to operate the machine tools manufactured by A. B, a resident of boycotting country Y, contracts to buy the machine tools manufactured by A on the condition that A incorporate, as the computer drive, a computer manufactured by U.S. company C. B's designation of C is made to avoid boycott problems which could be caused if computers manufactured by some other company were used.

A may comply with B's designation of C, because the goods selected are identifiable by source or origin in the normal course of business at the time of their entry into Y.

(v) A, a U.S. wholesaler of electronic equipment, receives an order from B, a U.S. manufacturer of radio equipment, who is a bona fide resident of boycotting country Y. B orders a variety of electrical components and specifies that all transistors must be purchased from company C, which is not blacklisted by Y. The transistors requested by B do not normally bear the name of the manufacturer; however, they are typically shipped in cartons, and C's name and logo appear on the cartons.

A may comply with B's selection, because the goods selected by B are identifiable as to source or origin in the normal course of business at the time of their entry into Y by virtue of the containers or packaging used.

(vi) A, a U.S. computer manufacturer, receives an order for a computer from B, a university in boycotting country Y. B specifies that certain integrated circuits incorporated in the computer must be supplied by U.S. electronics company C. These circuits are incorporated into the computer and are not visible without disassembling the computer.

A may not comply or agree to comply with B's specific selection of these components, because they are not identifiable as to their source or origin in the normal course of business at the time of their entry into Y.

(vii) A, a U.S. clothing manufacturer, receives an order for shirts from B, a retailer resident in boycotting country Y. B specifies that the shirts are to be manufactured from cotton produced by U.S. farming cooperative C. Such shirts will not identify C or the source of the cotton.

A may not comply or agree to comply with B's designation, because the cotton is not identifiable as to source or origin in the normal course of business at the time of entry into Y.

(viii) A, a U.S. contractor, is retained by B, a construction firm located in and wholly-owned by boycotting country Y, to assist B in procuring construction materials. B directs A to purchase a range of materials, including hardware, tools, and trucks, all of which bear the name of the manufacturer stamped on the item. In addition, B directs A to purchase steel beams manufactured by U.S. company C. The name of manufacturer C normally does not appear on the steel itself or on its export packaging.

A may comply with B's selection of the hardware, tools, and trucks, because they are identifiable as to source or origin in the normal course of business at the time of entry into Y. A may not comply with B's selection of steel beams, because the goods are not identifiable as to source or origin by trade name, trademark, uniqueness or packaging at the time of their entry into Y.

EXAMPLE OF DISCRIMINATION ON BASIS OF RACE, RELIGION, SEX, OR NATIONAL ORIGIN

(i) A, a U.S. paper manufacturer, is asked by boycotting country Y to ship goods to Y on U.S. vessel B. Y states that the reason for its choice of B is that, unlike U.S. vessel C, B is not owned by persons of a particular faith.

A may not comply or agree to comply with Y's request, because A has reason to know that the purpose of the selection is to effect religious discrimination against a United States person.

(e) *Shipment and transshipment of exports pursuant to a boycotting country's requirements.*

COMPLIANCE WITH A BOYCOTTING COUNTRY'S REQUIREMENTS REGARDING SHIPMENT AND TRANSSHIPMENT OF EXPORTS

(1) A United States person may comply or agree to comply with the export requirements of a boycotting country with respect to shipments or transshipments of exports to:

(i) A boycotted country;

(ii) Any business concern of a boycotted country;

(iii) Any business concern organized under the laws of a boycotted country; or

(iv) Any national or resident of a boycotted country.

(2) This exception permits compliance with restrictions which a boycotting country may place on direct exports to a boycotted country; on indirect exports to a boycotted country (i.e., those that pass via third parties); and on exports to residents, nationals, or business concerns of, or organized under the laws of, a boycotted country, including those located in third countries.

(3) This exception also permits compliance with restrictions which a boycotting country may place on the route of export shipments when the restrictions are reasonably related to preventing the export shipments from coming into contact with or under the jurisdiction of the boycotted country. This exception applies whether a boycotting country or the vendor of the shipment:

(i) Explicitly states that the shipment should not pass through the boycotted country enroute to its final destination; or

(ii) Affirmatively describes a route of shipment that does not include the boycotted country.

(4) A United States person may not, under this exception, refuse on an across-the-board basis to do business with a boycotted country or a national or resident of a boycotted country.

EXAMPLES OF COMPLIANCE WITH A BOYCOTTING COUNTRY'S REQUIREMENTS REGARDING SHIPMENT OR TRANSSHIPMENT OF EXPORTS

The following examples are intended to give guidance in determining the circumstances in which compliance with the export requirements of a boycotting country is permissible. They are illustrative, not comprehensive.

(i) A, a U.S. petroleum company, exports petroleum products to 20 countries, including the United States, from boycotting country Y. Country Y's export regulations require that products not be exported from Y to boycotted country X.

A may agree to and comply with Y's regulations with respect to the export of goods from Y to X.

(ii) Same as (i), except that Y's export regulations require that goods not be exported from boycotting country Y to any business concern organized under the laws of boycotted country X.

A may agree to and comply with Y's regulations with respect to the export of goods from Y to a business concern organized under the laws of X, even if such concern is located in a country not involved in Y's boycott of X.

(iii) B, the operator of a storage facility in country M, contracts with A, a U.S. carrier, for the shipment of certain goods manufactured in boycotting country Y. A's contract with B contains a provision stating that the goods to be transported may not be shipped or transshipped to boycotted country X. B informs A that this provision is a requirement of C, the manufacturer of goods who is a resident of boycotting country Y. Country M is not boycotted by Y.

A may agree to and comply with this provision, because such a provision is required by the export regulations of boycotting country Y in order to prevent shipment of Y-origin goods to a country boycotted by Y.

(iv) A, a U.S. petroleum refiner located in the United States, purchases crude oil from boycotting country Y. A has a branch operation in boycotted country X. Y requires, as a condition of sale, that A agree not to ship or transship the crude oil or products refined in Y to A's branch in X.

A may agree to and comply with these requirements, because they are export requirements of Y designed to prevent Y-origin products from being shipped to a boycotted country.

(v) A, a U.S. company, has a petrochemical plant in boycotting country Y. As a condition of securing an export license from Y, A must agree that it will not ship or permit transshipment of any of its output from the plant in Y to any companies which Y lists as being owned by nationals of boycotted country X.

A may agree to this condition, because it is a restriction designed to prevent Y-origin products from being exported to a business concern of boycotted country X or to nationals of boycotted country X.

(vi) Same as (v), except that the condition imposed on A is that Y-origin goods may not be shipped or permitted to be transshipped to any companies which Y lists as being owned by persons whose national origin is X.

A may not agree to this condition, because it is a restriction designed to prevent Y-origin goods from being exported to persons of a particular national origin rather than to residents or nationals of a particular boycotted country.

(vii) A, a U.S. petroleum company, exports petroleum products to 20 countries, including the United States, from boycotting country Y. Y requires, as a condition of sale, that A not ship the products to be exported from Y to or through boycotted country X.

A may agree to and comply with this requirement because it is an export requirement of Y designed to prevent Y-origin products from coming into contact with or under the jurisdiction of a boycotted country.

(viii) Same as (vii), except that boycotting country Y's export regulations require that products to be exported from Y not pass through a port of boycotted country X.

A may agree to and comply with Y's regulations prohibiting Y-origin exports from passing through a port at boycotted country X, because they are export requirements of Y designed to prevent Y-origin products from coming into contact with or under the jurisdiction of a boycotted country.

(ix) Same as (vii), except that Y's export regulations require that A not transship the exported products ''in or at'' boycotted country X.

A may agree to and comply with Y's regulations with respect to the transshipment of goods ''in or at'' X, because they are export requirements of Y designed to prevent Y-origin products from coming into contact with or under the jurisdiction of a boycotted country.

(f) *Immigration, passport, visa, or employment requirements of a boycotting country.*

COMPLIANCE WITH IMMIGRATION, PASSPORT, VISA, OR EMPLOYMENT REQUIREMENTS OF A BOYCOTTING COUNTRY

(1) A United States individual may comply or agree to comply with the immigration, passport, visa, or employment requirements of a boycotting country, and with requests for information from a boycotting country made to ascertain whether such individual meets requirements for employment within the boycotting country, provided that he furnishes information only about himself or a member of his family, and not about any other United States individual, including his employees, employers, or co-workers.

(2) For purposes of this section, a *United States individual* means a person who is a resident or national of the United States. *Family* means immediate family members, including parents, siblings, spouse, children, and other dependents living in the individual's home.

(3) A United States person may not furnish information about its employees or executives, but may allow any individual to respond on his own to any request for information relating to immigration, passport, visa, or employment requirements. A United States person may also perform any ministerial acts to expedite processing of applications by individuals. These include informing employees of boycotting country visa requirements at

an appropriate time; typing, translation, messenger and similar services; and assisting in or arranging for the expeditious processing of applications. All such actions must be undertaken on a non-discriminatory basis.

(4) A United States person may proceed with a project in a boycotting country even if certain of its employees or other prospective participants in a transaction are denied entry for boycott reasons. But no employees or other participants may be selected in advance in a manner designed to comply with a boycott.

EXAMPLES OF COMPLIANCE WITH IMMIGRATION, PASSPORT, VISA, OR EMPLOYMENT REQUIREMENTS OF A BOYCOTTING COUNTRY

The following examples are intended to give guidance in determining the circumstances in which compliance with immigration, passport, visa, or employment requirements is permissible. They are illustrative, not comprehensive.

(i) A, a U.S. individual employed by B, a U.S. manufacturer of sporting goods with a plant in boycotting country Y, wishes to obtain a work visa so that he may be assigned to the plant in Y. Country Y's immigration laws specify that anyone wishing to enter the country or obtain a visa to work in the country must supply information about his religion. This information is required for boycott purposes.

A may furnish such information, because it is required by Y's immigration laws.

(ii) Same as (i), except that A is asked to supply such information about other employees of B.

A may not supply this information, because it is not information about himself or his family.

(iii) A, a U.S. building contractor, has been awarded a construction contract to be performed in boycotting country Y. Y's immigration laws require that individuals applying for visas must indicate race, religion, and place of birth. The information is sought for boycott purposes. To avoid repeated rejections of applications for work visas by A's employees, A desires to furnish to country Y a list of its prospective and current employees and required information about each so that Y can make an initial screening.

A may not furnish such a list, because A would be furnishing information about the race, religion, and national origin of its employees.

(iv) Same as (iii), except that A selects for work on the project those of its current employees whom it believes will be granted work visas from boycotting country Y.

A may not make a selection from among its employees in a manner designed to comply with the boycott-based visa requirements of Y, but must allow all eligible employees to apply for visas. A may later substitute an employee who obtains the necessary visa for one who has had his application rejected.

(v) Same as (iii), except that A selects employees for the project and then allows each employee individually to apply for his own visa. Two employees' applications are rejected, and A then substitutes two other employees who, in turn, submit their own visa applications.

A may take such action, because in so doing A is not acting in contravention of any prohibition of this part.

(vi) Same as (v), except that A arranges for the translation, typing and processing of its employees' applications, and transmits all the applications to the consulate of boycotting country Y.

A may take such ministerial actions, because in so doing A is not itself furnishing information with respect to race, religion, sex, or national origin, but is merely transmitting information furnished by its individual employees.

(vii) A, a U.S. contractor, selects U.S. subcontractor B to perform certain engineering services in connection with A's project in boycotting country Y. The work visa application submitted by the employee whom B has proposed as chief engineer of this project is rejected by Y because his national origin is of boycotted country X. Subcontractor B thereupon withdraws.

A may continue with the project and select another subcontractor, because A is not acting in contravention of any prohibition of this part.

(g) *Compliance with local law.* (1) This exception contains two parts. The first covers compliance with local law with respect to a United States person's activities exclusively within a foreign country; the second covers compliance with local import laws by United States persons resident in a foreign country. Under both parts of this exception, local laws are laws of the host country, whether derived from statutes, regulations, decrees, or other official sources having the effect of law in the host country. This exception is not available for compliance with presumed policies or understandings of policies unless those policies are reflected in official sources having the effect of law.

(2) Both parts of this exception apply only to United States persons resident in a foreign country. For purposes of this exception, a United States person will be considered to be a resident of a

foreign country only if he is a bona fide resident. A United States person may be a bona fide resident of a foreign country even if such person's residency is temporary.

(3)(i) Factors that will be considered in determining whether a United States person is a bona fide resident of a foreign country include:

(A) Physical presence in the country;

(B) Whether residence is needed for legitimate business reasons;

(C) Continuity of the residency;

(D) Intent to maintain the residency;

(E) Prior residence in the country;

(F) Size and nature of presence in the country;

(G) Whether the person is registered to do business or incorporated in the country;

(H) Whether the person has a valid work visa; and

(I) Whether the person has a similar presence in both boycotting and non-boycotting foreign countries in connection with similar business activities.

(ii) No one of the factors in paragraph (g)(3) of this section is dispositive. All the circumstances involved will be closely examined to ascertain whether there is, in fact, bona fide residency. Residency established solely for purposes of avoidance of the application of this part, unrelated to legitimate business needs, does not constitute bona fide residency.

EXAMPLES OF BONA FIDE RESIDENCY

The following examples are intended to give guidance in determining the circumstances in which a United States person may be a bona fide resident of a foreign country. For purposes of illustration, each example discusses only one or two factors, instead of all relevant factors. They are illustrative, not comprehensive.

(i) A, a U.S. radio manufacturer located in the United States, receives a tender to bid on a contract to supply radios for a hotel to be built in boycotting country Y. After examining the proposal, A sends a bid from its New York office to Y.

A is not a resident of Y, because it is not physically present in Y.

(ii) Same as (i), except that after receiving the tender, A sends its sales representative to Y. A does not usually have sales representatives in countries when it bids from the United States, and this particular person's presence in Y is not necessary to enable A to make the bid.

A is not a bona fide resident of Y, because it has no legitimate business reasons for having its sales representative resident in Y.

(iii) A, a U.S. bank, wishes to establish a branch office in boycotting country Y. In pursuit of that objective, A's personnel visit Y to make the necessary arrangements. A intends to establish a permanent branch office in Y after the necessary arrangements are made.

A's personnel in Y are not bona fide residents of Y, because A does not yet have a permanent business operation in Y.

(iv) Same as (iii), except A's personnel are required by Y's laws to furnish certain non-discriminatory boycott information in order to establish a branch in Y.

In these limited circumstances, A's personnel may furnish the non-discriminatory boycott information necessary to establish residency to the same extent a U.S. person who is a bona fide resident in that country could. If this information could not be furnished in such limited circumstances, the exception would be available only to firms resident in a boycotting country before January 18, 1978.

(v) A, a U.S. construction company, receives an invitation to build a power plant in boycotting country Y. After receipt of the invitation, A's personnel visit Y in order to survey the site and make necessary analyses in preparation for submitting a bid. The invitation requires that otherwise prohibited boycott information be furnished with the bid.

A's personnel in Y are not bona fide residents of Y, because A has no permanent business operation in Y. Therefore, A's personnel may not furnish the prohibited information.

(vi) Same as (v), except that A is considering establishing an office in boycotting country Y. A's personnel visit Y in order to register A to do business in that country. A intends to establish ongoing construction operations in Y. A's personnel are required by Y's laws to furnish certain non-discriminatory boycott information in order to register A to do business or incorporate a subsidiary in Y.

In these limited circumstances, A's personnel may furnish non-discriminatory boycott information necessary to establish residency to the same extent a U.S. person who is a bona fide resident in that country could. If this information could not be furnished in such limited circumstances, the exception would be available only to firms resident in a boycotting country before January 18, 1978.

(vii) A, a subsidiary of U.S. oil company B, is located in boycotting country Y. A has been engaged in oil explorations in Y for a number of years.

A is a bona fide resident of Y, because of its pre-existing continuous presence in Y for legitimate business reasons.

(viii) Same as (vii), except that A has just been established in Y and has not yet begun operations.

A is a bona fide resident of Y, because it is present in Y for legitimate business reasons and it intends to reside continuously.

(ix) U.S. company A is a manufacturer of prefabricated homes. A builds a plant in boycotting country Y for purposes of assembling components made by A in the United States and shipped to Y.

A's personnel in Y are bona fide residents of Y, because A's plant in Y is established for legitimate business reasons, and it intends to reside continuously.

(x) U.S. company A has its principal place of business in the United States. A's sales agent visits boycotting country Y from time to time for purposes of soliciting orders.

A's sales agent is not a bona fide resident of Y, because such periodic visits to Y are insufficient to establish a bona fide residency.

(xi) A, a branch office of U.S. construction company B, is located in boycotting country Y. The branch office has been in existence for a number of years and has been performing various management services in connection with B's construction operations in Y.

A is a bona fide resident of Y, because of its longstanding presence in Y and its conduct of ongoing operations in Y.

(xii) U.S. construction company A has never done any business in boycotting country Y. It is awarded a contract to construct a hospital in Y, and preparatory to beginning construction, sends its personnel to Y to set up operations.

A's personnel are bona fide residents of Y, because they are present in Y for the purposes of carrying out A's legitimate business purposes; they intend to reside continuously; and residency is necessary to conduct their business.

(xiii) U.S. company A manufactures furniture. All its sales in foreign countries are conducted from its offices in the United States. From time to time A has considered opening sales offices abroad, but it has concluded that it is more efficient to conduct sales operations from the United States. Shortly after the effective date of this part, A sends a sales representative to boycotting country Y to open an office in and solicit orders from Y. It is more costly to conduct operations from that office than to sell directly from the United States, but A believes that if it establishes a residence in Y, it will be in a better position to avoid conflicts with U.S. law in its sales to Y.

A's sales representative is not a bona fide resident of Y, because the residency was established to avoid the application of this part and not for legitimate business reasons.

(xiv) Same as (xiii), except that it is in fact more efficient to have a sales office in Y. In fact, without a sales office in Y, A would find it difficult to explore business opportunities in Y. A is aware, however, that residency in Y would permit its sales representative to comply with Y's boycott laws.

A's sales representative is a bona fide resident of Y, because A has a legitimate business reason for establishing a sales office in Y.

(xv) U.S. company B is a computer manufacturer. B sells computers and related programming services tailored to the needs of individual clients. Because of the complex nature of the product, B must have sales representatives in any country where sales are made. B has a sales representative, A, in boycotting country Y. A spends two months of the year in Y, and the rest of the year in other countries. B has a permanent sales office from which A operates while in Y, and the sales office is stocked with brochures and other sales materials.

A is a bona fide resident of Y, because his presence in Y is necessary to carry out B's legitimate business purposes; B maintains a permanent office in Y; and B intends to continue doing business in Y in the future.

(xvi) A, a U.S. construction engineering company, is engaged by B, a U.S. general contracting company, to provide services in connection with B's contract to construct a hospital complex in boycotting country Y. In order to perform those services, A's engineers set up a temporary office in a trailer on the construction site in Y. A's work is expected to be completed within six months.

A's personnel in Y are bona fide residents of Y, because A's on-site office is necessary to the performance of its services for B, and because A's personnel are continuously there.

(xvii) A, a U.S. company, sends one of its representatives to boycotting country Y to explore new sales possibilities for its line of transistor radios. After spending several weeks in Y, A's representative rents a post office box in Y, to which all persons interested in A's products are directed to make inquiry.

A is not a bona fide resident of Y, because rental of a post office box is not a sufficient presence in Y to constitute residency.

(xviii) A, a U.S. computer company, has a patent and trademark registered in the United States. In order to obtain registration of its patent and trademark in boycotting country Y, A is required to furnish certain non-discriminatory boycott information.

A may not furnish the information, because A is not a bona fide resident of Y.

(h) *Activities exclusively within a foreign country.* (1) Any United States person who is a bona fide resident of a foreign country, including a boycotting country, may comply or agree to comply with the laws of that country with

respect to his activities exclusively within that country. These activities include:

(i) Entering into contracts which provide that local law applies or governs, or that the parties will comply with such laws;

(ii) Employing residents of the host country;

(iii) Retaining local contractors to perform work within the host country;

(iv) Purchasing or selling goods or services from or to residents of the host country; and

(v) Furnishing information within the host country.

(2) Activities exclusively within the country do not include importing goods or services from outside the host country, and, therefore, this part of the exception does not apply to compliance with import laws in connection with importing goods or services.

EXAMPLES OF PERMISSIBLE COMPLIANCE WITH LOCAL LAW WITH RESPECT TO ACTIVITIES EXCLUSIVELY WITHIN A FOREIGN COUNTRY

The following examples are intended to give guidance in determining the circumstances in which compliance with local law is permissible. They are illustrative, not comprehensive.

ACTIVITIES EXCLUSIVELY WITHIN A FOREIGN COUNTRY

(i) U.S. construction company A, a bona fide resident of boycotting country Y, has a contract to build a school complex in Y. Pursuant to Y's boycott laws, the contract requires A to refuse to purchase supplies from certain local merchants. While Y permits such merchants to operate within Y, their freedom of action in Y is constrained because of their relationship with boycotted country X.

A may enter into the contract, because dealings with local merchants are activities exclusively within Y.

(ii) A, a banking subsidiary of U.S. bank B, is a bona fide resident of boycotting country Y. From time to time, A purchases office supplies from the United States.

A's purchase of office supplies is not an activity exclusively within Y, because it involves the import of goods from abroad.

(iii) A, a branch of U.S. bank B, is a bona fide resident of boycotting country Y. Under Y's boycott laws, A is required to supply information about whether A has any dealings with boycotted country X. A compiles and furnishes the information within Y and does so of its own knowledge.

A may comply with that requirement, because in compiling and furnishing the information within Y, based on its own knowledge, A is engaging in an activity exclusively within Y.

(iv) Same as (iii), except that A is required to supply information about B's dealings with X. From its own knowledge and without making any inquiry of B, A compiles and furnishes the information.

A may comply with that requirement, because in compiling and furnishing the information within Y, based on its own knowledge, A is engaging in an activity exclusively within Y.

(v) Same as (iv), except that in making its responses, A asks B to compile some of the information.

A may not comply, because the gathering of the necessary information takes place partially outside Y.

(vi) U.S. company A has applied for a license to establish a permanent manufacturing facility in boycotting country Y. Under Y's boycott law, A must agree, as a condition of the license, that it will not sell any of its output to blacklisted foreign firms.

A may not comply, because the agreement would govern activities of A which are not exclusively within Y.

DISCRIMINATION AGAINST UNITED STATES PERSONS

(i) A, a subsidiary of U.S. company B, is a bona fide resident of boycotting country Y. A manufactures air conditioners in its plant in Y. Under Y's boycott laws, A must agree not to hire nationals of boycotted country X.

A may agree to the restriction and may abide by it with respect to its recruitment of individuals within Y, because the recruitment of such individuals is an activity exclusively within Y. However, A cannot abide by this restriction with respect to its recruitment of individuals outside Y, because this is not an activity exclusively within Y.

(ii) Same as (i), except that pursuant to Y's boycott laws, A must agree not to hire anyone who is of a designated religion.

A may not agree to this restriction, because the agreement calls for discrimination against U.S. persons on the basis of religion. It makes no difference whether the recruitment of the U.S. persons occurs within or without Y.

(NOTE: The exception for compliance with local law does not apply to boycott-based refusals to employ U.S. persons on the basis of race, religion, sex, or national origin even if the activity is exclusively within the boycotting country.)

(i) *Compliance with local import law.* (1) Any United States person who is a bona fide resident of a foreign country,

including a boycotting country, may, in importing goods, materials or components into that country, comply or agree to comply with the import laws of that country, provided that:

(i) The items are for his own use or for his use in performing contractual services within that country; and

(ii) In the normal course of business, the items are identifiable as to their source or origin at the time of their entry into the foreign country by:

(a) Uniqueness of design or appearance; or

(b) Trademark, trade name, or other identification normally on the items themselves, including their packaging.

(2) The factors that will be considered in determining whether a United States person is a bona fide resident of a foreign country are those set forth in paragraph (g) of this section. Bona fide residence of a United States company's subsidiary, affiliate, or other permanent establishment in a foreign country does not confer such residence on such United States company. Likewise, bona fide residence of a United States company's employee in a foreign country does not confer such residence on the entire company.

(3) A United States person who is a bona fide resident of a foreign country may take action under this exception through an agent outside the country, but the agent must act at the direction of the resident and not exercise his own discretion. Therefore, if a United States person resident in a boycotting country takes action to comply with a boycotting country's import law with respect to the importation of qualified goods, he may direct his agent in the United States on the action to be taken, but the United States agent himself may not exercise any discretion.

(4) For purposes of this exception, the test that governs whether goods or components of goods are specifically identifiable is identical to the test applied in paragraph (d) of this section on ''Compliance With Unilateral and Specific Selection'' to determine whether they are identifiable as to their source or origin in the normal course of business.

(5) The availability of this exception for the import of goods depends on whether the goods are intended for the United States person's own use at the time they are imported. It does not depend upon who has title to the goods at the time of importation into a foreign country.

(6) Goods are for the United States person's own use (including the performance of contractual services within the foreign country) if:

(i) They are to be consumed by the United States person;

(ii) They are to remain in the United States person's possession and to be used by that person;

(iii) They are to be used by the United States person in performing contractual services for another;

(iv) They are to be further manufactured, incorporated into, refined into, or reprocessed into another product to be manufactured for another; or

(v) They are to be incorporated into, or permanently affixed as a functional part of, a project to be constructed for another.

(7) Goods acquired to fill an order for such goods from another are not for the United States person's own use. Goods procured for another are not for one's own use, even if the furnishing of procurement services is the business in which the United States person is customarily engaged. Nor are goods obtained for simple resale acquired for one's own use, even if the United States person is engaged in the retail business. Likewise, goods obtained for inclusion in a turnkey project are not for one's own use if they are not customarily incorporated into, or do not customarily become permanently affixed as a functional part of the project.

(8) This part of the local law exception does not apply to the import of services, even when the United States person importing such services is a bona fide resident of a boycotting country and is importing them for his own use. In addition, this exception is available for a United States person who is a bona fide resident of a foreign country only when the individual or entity actually present within that country takes action through the exercise of his own discretion.

(9) Use of this exception will be monitored and continually reviewed to determine whether its continued availability is consistent with the national interest. Its availability may be limited or withdrawn as appropriate. In reviewing the continued availability of this exception, the effect that the inability to comply with local import laws would have on the economic and other relations of the United States with boycotting countries will be considered.

(10) A United States person who is a bona fide resident of a foreign country may comply or agree to comply with the host country's import laws even if he knows or has reason to know that particular laws are boycott-related. However, no United States person may comply or agree to comply with any host country law which would require him to discriminate against any United States person on the basis of race, religion, sex, or national origin, or to supply information about any United States person's race, religion, sex, or national origin.

EXAMPLES OF PERMISSIBLE COMPLIANCE WITH LOCAL IMPORT LAW

The following examples are intended to give guidance in determining the circumstances in which compliance with local import law is permissible. They are illustrative, not comprehensive.

COMPLIANCE BY A BONA FIDE RESIDENT

(i) A, a subsidiary of U.S. company B, is a bona fide resident of boycotting country Y and is engaged in oil drilling operations in Y. In acquiring certain large, specifically identifiable products for carrying out its operations in Y, A chooses only from non-blacklisted firms because Y's import laws prohibit the importation of goods from blacklisted firms. However, with respect to smaller items, B makes the selection on behalf of A and sends them to A in Y.

A may choose from non-blacklisted firms, because it is a U.S. person who is a bona fide resident in Y. However, because B is not resident in Y, B cannot make boycott-based selections to conform with Y's import laws prohibiting the importation of goods from blacklisted firms.

(ii) Same as (i), except that after making its choices on the larger items, A directs B to carry out its instructions by entering into appropriate contracts and making necessary shipping arrangements.

B may carry out A's instructions provided that A, a bona fide resident of Y, has in fact made the choice and B is exercising no discretion, but is acting only as A's agent.

(NOTE: Such transactions between related companies will be scrutinized carefully. A must in fact exercise the discretion and make the selections. If the discretion is exercised by B, B would be in violation of this part.)

(iii) U.S. construction company A has a contract to build a school in boycotting country Y. A's employees set up operations in Y for purposes of commencing construction. A's employees in Y advise A's headquarters in the United States that Y's import laws prohibit importation of goods manufactured by blacklisted firms. A's headquarters then issues invitations to bid only to non-blacklisted firms for certain specifically identifiable goods.

A's headquarters' choice of non-blacklisted suppliers is not a choice made by a U.S. person who is a bona fide resident of Y, because the discretion in issuing the bids was exercised in the United States, not in Y.

(iv) Same as (iii), except that A's employees in Y actually make the decision regarding to whom the bids should be issued.

The choices made by A's employees are choices made by U.S. persons who are bona fide residents of Y, because the discretion in choosing was exercised solely in Y.

(NOTE: Choices purportedly made by employees of U.S. companies who are resident in boycotting countries will be carefully scrutinized to ensure that the discretion was exercised entirely in the boycotting country.)

SPECIFICALLY IDENTIFIABLE GOODS

The test and examples as to what constitutes specifically identifiable goods are identical to those applicable under paragraph (d) of this section on ''Compliance With Unilateral Selection.''

IMPORTS FOR U.S. PERSON'S OWN USE WITHIN BOYCOTTING COUNTRY

(i) A, a subsidiary of U.S. company B, is a bona fide resident of boycotting country Y. A plans to import computer operated machine tools to be installed in its automobile plant in boycotting country Y. The computers are mounted on a separate bracket on the side of the equipment and are readily identifiable by brand name. A orders the tools from U.S. supplier C and specifies that C must incorporate computers manufactured by D, a non-blacklisted company. A would have chosen computers manufactured by E, except that E is blacklisted, and Y's import laws prohibit the importation of goods manufactured by blacklisted firms.

A may refuse to purchase E's computers, because A is importing the computers for its

own use in its manufacturing operations in Y.

(ii) A, a subsidiary of U.S. company B, is a bona fide resident of boycotting country Y. To meet the needs of its employees in Y, A imports certain specifically identifiable commissary items for sale, such as cosmetics; and canteen items, such as candy. In selecting such items for importation into Y, A chooses items made only by non-blacklisted firms, because Y's import laws prohibit importation of goods from blacklisted firms.

A may import these items only from non-blacklisted firms, because the importation of goods for consumption by A's employees is an importation for A's own use.

(iii) A, a U.S. construction company which is a bona fide resident of boycotting country Y, has a contract to build a hospital complex for the Ministry of Health in Y. Under the contract, A will be general manager of the project with discretion to choose all subcontractors and suppliers. The complex is to be built on a turnkey basis, with A retaining title to the property and bearing all financial risk until the complex is conveyed to Y. In choosing specifically identifiable goods for import, such as central air conditioning units and plate glass, A excludes blacklisted suppliers in order to comply with Y's import laws. These goods are customarily incorporated into, or permanently affixed as a functional part of, the project.

A may refuse to deal with blacklisted suppliers of specifically identifiable goods, because importation of goods by a general contractor to be incorporated into a construction project in Y is an importation of goods for A's own use.

(iv) Same as (iii), except that, in addition, in choosing U.S. architects and engineers to work on the project, A excludes blacklisted firms, because Y's import laws prohibit the use of services rendered by blacklisted persons.

A may not refuse to deal with blacklisted architectural or engineering firms, because this exception does not apply to the import of services. It is irrelevant that, at some stage, the architectural or engineering drawings or plans may be brought to the site in Y. This factor is insufficient to transform such services into ''goods'' for purposes of this exception.

(v) Same as (iii), except that the project is to be completed on a ''cost plus'' basis, with Y making progress payments to A at various stages of completion.

A may refuse to deal with blacklisted suppliers of specifically identifiable goods, because the importation of goods by A to be incorporated in a project A is under contract to complete is an importation of goods for its own use. The terms of payment are irrelevant.

(vi) A, a U.S. construction company which is a bona fide resident of boycotting country Y, has a contract for the construction of an office building in Y on a turnkey basis. In choosing goods to be used or included in the office complex, A orders wallboard, office partitions, and lighting fixtures from non-blacklisted manufacturers. A likewise orders desks, office chairs, typewriters, and office supplies from non-blacklisted manufacturers.

Because they are customarily incorporated into or permanently affixed as a functional part of an office building, the wallboard, office partitions, and lighting fixtures are for A's own use, and A may select non-blacklisted suppliers of these goods in order to comply with Y's import laws. Because they are not customarily incorporated into or permanently affixed to the project, the desks, office chairs, typewriters, and office supplies are not for A's own use, and A may not make boycott-based selections of the suppliers of these goods.

(vii) A, a U.S. company engaged in the business of selling automobiles, is a bona fide resident of boycotting country Y. In ordering automobiles from time to time for purposes of stocking its inventory, A purchases from U.S. manufacturer B, but not U.S. manufacturer C, because C is blacklisted. Retail sales are subsequently made from this inventory.

A's import of automobiles from B is not an import for A's own use, because the importation of items for general inventory in a retail sales operation is not an importation for one's own use.

(viii) A, a U.S. company engaged in the manufacture of pharmaceutical products, is a bona fide resident of boycotting country Y. In importing chemicals for incorporation into the pharmaceutical products, A purchases from U.S. supplier B, but not U.S. supplier C, because C is blacklisted.

A may import chemicals from B rather than C, because the importation of specifically identifiable items for incorporation into another product is an importation for one's own use.

(ix) A, a U.S. management company which is a bona fide resident of boycotting country Y, has a contract with the Ministry of Education in Y to purchase supplies for Y's school system. From time to time, A purchases goods from abroad for delivery to various schools in Y.

A's purchase of goods for Y's school system does not constitute an importation of goods for A's own use, because A is acting as a procurement agent for another. A, therefore, cannot make boycott-based selections of suppliers of such school supplies.

(x) A, a U.S. company which is a bona fide resident of boycotting country Y, has a contract to make purchases for Y in connection

with a construction project in Y. A is not engaged in the construction of, or in any other activity in connection with, the project. A's role is merely to purchase goods for Y and arrange for their delivery to Y.

A is not purchasing goods for its own use, because A is acting as a procurement agent for Y. A, therefore, cannot make boycott selections of suppliers of such goods.

(xi) A, a U.S. company which is a bona fide resident of boycotting country Y, imports specifically identifiable goods into Y for exhibit by A at a trade fair in Y. In selecting goods for exhibit, A excludes items made by blacklisted firms.

A's import of goods for its exhibit at a trade fair constitutes an import for A's own use. However, A may not sell in Y those goods it imported for exhibit.

(xii) A is a bona fide resident of boycotting countries Y and Z. In compliance with Y's boycott laws, A chooses specifically identifiable goods for its oil drilling operations in Y and Z by excluding blacklisted suppliers. The goods are first imported into Y. Those purchased for A's use in Z are then transshipped to Z.

In selecting those goods for importation into Y, A is making an import selection for its own use, even though A may use some of the imported goods in Z. Further, the subsequent shipment from Y to Z of those goods purchased for use in Z is an import into Z for A's own use.

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§ 760.4 Evasion.

(a) No United States person may engage in any transaction or take any other action, either independently or through any other person, with intent to evade the provisions of this part. Nor may any United States person assist another United States person to violate or evade the provisions of this part.

(b) The exceptions set forth in § 760.3(a) through (i) do not permit activities or agreements (express or implied by a course of conduct, including a pattern of responses) which are otherwise prohibited by this part and which are not within the intent of such exceptions. However, activities within the coverage and intent of the exceptions set forth in this part do not constitute evasion regardless of how often such exceptions are utilized.

(c) Use of any artifice, device or scheme which is intended to place a person at a commercial disadvantage or impose on him special burdens because he is blacklisted or otherwise restricted for boycott reasons from having a business relationship with or in a boycotting country will be regarded as evasion for purposes of this part.

(d) Unless permitted under one of the exceptions, use of risk of loss provisions that expressly impose a financial risk on another because of the import laws of a boycotting country may constitute evasion. If they are introduced after January 18, 1978, their use will be presumed to constitute evasion. This presumption may be rebutted by a showing that such a provision is in customary usage without distinction between boycotting and non-boycotting countries and that there is a legitimate non-boycott reason for its use. On the other hand, use of such a provision by a United States person subsequent to January 18, 1978 is presumed not to constitute evasion if the provision had been customarily used by that person prior to January 18, 1978.

(e) Use of dummy corporations or other devices to mask prohibited activity will also be regarded as evasion. Similarly, it is evasion under this part to divert specific boycotting country orders from a United States parent to a foreign subsidiary for purposes of complying with prohibited boycott requirements. However, alteration of a person's structure or method of doing business will not constitute evasion so long as the alteration is based on legitimate business considerations and is not undertaken solely to avoid the application of the prohibitions of this part. The facts and circumstances of an arrangement or transaction will be carefully scrutinized to see whether appearances conform to reality.

EXAMPLES

The following examples are intended to give guidance to persons in determining circumstances in which this section will apply. They are illustrative, not comprehensive.

(i) A, a U.S. insurance company, receives a request from boycotting country Y asking whether it does business in boycotted country X. Because furnishing such information is prohibited, A declines to answer and as a result is placed on Y's blacklist. The following year, A's annual report contains new information about A's worldwide operations, including a list of all countries in which A

does business. A then mails a copy of its annual report, which has never before contained such information, to officials of the government of country Y.

Absent some business justification unrelated to the boycott for changing the annual report in this fashion, A's action constitutes evasion of this part.

(ii) A, a U.S. construction firm resident in boycotting country Y, orders lumber from U.S. company B. A unilaterally selects B in part because U.S. lumber producer C is blacklisted by Y and C's products are therefore not importable. In placing its order with B, A requests that B stamp its name or logo on the lumber so that A ''can be certain that it is, in fact, receiving B's products.'' B does not normally so stamp its lumber, and A's purpose in making the request is to appear to fit within the unilateral selection exception of this part.

Absent additional facts justifying A's action, A's action constitutes evasion of this part.

(iii) A, a U.S. company, has been selling sewing machines to boycotting country Y for a number of years. A receives a request for a negative certificate of origin from a new customer. A is aware that furnishing such certificates are prohibited; therefore, A arranges to have all future shipments run through a foreign corporation in a third country which will affix the necessary negative certificate before forwarding the machines on to Y.

A's action constitutes evasion of this part, because it is a device to mask prohibited activity carried out on A's behalf.

(iv) A, a U.S. company, has been selling calculators to distributor B in country C for a number of years and routinely supplies positive certificates of origin. A receives an order from country Y which requires negative certificates of origin. A arranges to make all future sales to distributor B in country C. A knows B will step in and make the sales to Y which A would otherwise have made directly. B will make the necessary negative certifications. A's warranty, which it will continue to honor, runs to the purchaser in Y.

A's action constitutes evasion, because the diverting of orders to B is a device to mask prohibited activity carried out on A's behalf.

(v) A, a U.S. company, is negotiating a long-term contract with boycotting country Y to meet all Y's medical supply needs. Y informs A that before such a contract can be concluded, A must complete Y's boycott questionnaire. A knows that it is prohibited from answering the questionnaire so it arranges for a local agent in Y to supply the necessary information.

A's action constitutes evasion of this part, because it is a device to mask prohibited activity carried out on A's behalf.

(vi) A, a U.S. contractor which has not previously dealt with boycotting country Y, is awarded a construction contract by Y. Because it is customary in the construction industry for a contractor to establish an onsite facility for the duration of the project, A establishes such an office, which satisfies the requirements for bona fide residency. Thereafter, A's office in Y takes a number of actions permitted under the compliance with local law exception.

A's actions do not constitute evasion, because A's facility in Y was established for legitimate business reasons.

(vii) A, a controlled foreign subsidiary of U.S. company B, is located in non-boycotting country M. A and B both make machine tools for sale in their respective marketing regions. B's marketing region includes boycotting country Y. After assessing the requirements of this part, B decides that it can no longer make machines for sale in Y. Instead, A decides to expand its facilities in M in order to service the Y market.

The actions of A and B do not constitute evasion, because there is a legitimate business reason for their actions. It is irrelevant that the effect may be to place sales which would otherwise have been subject to this part beyond the reach of this part.

(viii) A, a U.S. manufacturer, from time to time receives purchase orders from boycotting country Y which A fills from its plant in the United States. A knows that it is about to receive an order from Y which contains a request for a certification which A is prohibited from furnishing under this part. In order to permit the certification to be made, A diverts the purchase order to its foreign subsidiary.

A's diversion of the purchase order constitutes evasion of this part, because it is a device to mask prohibited activity carried out on A's behalf.

(ix) A, a U.S. company, is engaged in assembling drilling rigs for shipment to boycotting country Y. Because of potential difficulties in securing entry into Y of materials supplied by blacklisted firms, A insists that blacklisted firms take a 15 percent discount on all materials which they supply to A. As a result, no blacklisted firms are willing to transact with A.

A's insistence on the discount for materials supplied by blacklisted firms constitutes evasion of this part, because it is a device or scheme which is intended to place a special burden on blacklisted firms because of Y's boycott.

(x) Same as (ix), except that shortly after January 18, 1978, A, a U.S. company, insists that its suppliers sign contracts which provide that even after title passes from the supplier to A, the supplier will bear the risk of loss and indemnify A if goods which the supplier has furnished are denied entry into Y for boycott reasons.

A's action constitutes evasion of this part, because it is a device or scheme which is intended to place a special burden on blacklisted persons because of Y's boycott.

(xi) Same as (x), except that A customarily insisted on such an arrangement with its supplier prior to January 18, 1978.

A's action is presumed not to constitute evasion, because use of this contractual arrangement was customary for A prior to January 18, 1978.

(xii) A, a U.S. company, has a contract to supply automobile sub-assembly units to boycotting country Y. Shortly after January 18, 1978, A insists that its suppliers sign contracts which provide that even after title passes to A, the supplier will bear the risk of loss and indemnify A if goods which the supplier has furnished are denied entry into boycotting country Y for any reason.

A's insistence on this arrangement is presumed to constitute evasion, because it is a device which is intended to place a special burden on blacklisted firms because of Y's boycott. The presumption may be rebutted by competent evidence showing that use of such an arrangement is customary without regard to the boycotting or non-boycotting character of the country to which it relates and that there is a legitimate non-boycott business reason for its use.

(xiii) Same as (vii), except that A requires that all suppliers make in-country delivery.

A's action does not constitute evasion, because it is an ordinary commercial practice to require in-country delivery of goods.

(xiv) Same as (xii), except that A requires that title remain with the supplier until delivery in Y has been made.

A's action does not constitute evasion, because it is ordinary commercial practice to require that title remain with the supplier until delivery has been made. This example is distinguishable from example (xii), because in example (xii) A had insisted on an extraordinary arrangement designed to require that the risk of loss remain with the supplier even after title had passed to A.

(xv) U.S. bank A is contacted by U.S. company B to finance B's transaction with boycotting country Y. Payment will be effected through a letter of credit in favor of B at its U.S. address. A knows that the letter of credit will contain restrictive boycott conditions which would bar its implementation by A if the beneficiary were a U.S. person. A advises B of the boycott condition and suggests to B that the beneficiary should be changed to C, a shell corporation in non-boycotting country M. The beneficiary is changed accordingly.

The actions of both A and B constitute evasion of this part, because the arrangement is a device to mask prohibited activities.

(xvi) Same as (xv), except that U.S. company B, the beneficiary of the letter of credit, arranges to change the beneficiary to B's foreign subsidiary so that A can implement the letter of credit. A knows that this has been done.

A's implementation of the letter of credit in the face of its knowledge of B's action constitutes evasion of this part, because A's action is part of a device to mask prohibited activity by both parties.

(xvii) U.S. bank A, located in the United States, is contacted by foreign company B to finance B's transaction with boycotting country Y. B is a controlled subsidiary of a U.S. company. The transaction which is to be financed with a letter of credit payable to B at its foreign address, requires B to certify that none of its board members are of a particular religious faith. Since B cannot legally furnish the certificate, it asks A to convey the necessary information to Y through A's bank branch in Y. Such information would be furnished wholly outside the letter of credit transaction.

A's action constitutes evasion of this part, because it is undertaken to assist B's violation of this part.

(xviii) U.S. bank A is asked by foreign corporation B to implement a letter of credit in favor of B so that B might perform under its long-term contract with boycotting country Y. Under the terms of the letter of credit, B is required to certify that none of its suppliers is blacklisted. A knows that it cannot implement a letter of credit with this condition, so it tells B to negotiate the elimination of this requirement from the letter of credit and instead supply the certification to Y directly.

A's suggestion to B that it provide the negative certification to Y directly constitutes evasion of this part, because A is taking an action through another person to mask prohibited activity on A's part.

[61 FR 12862, Mar. 25, 1996, as amended at 65 FR 34947, June 1, 2000]

§ 760.5 Reporting requirements.

(a) *Scope of reporting requirements.* (1) A United States person who receives a request to take any action which has the effect of furthering or supporting a restrictive trade practice or boycott fostered or imposed by a foreign country against a country friendly to the United States or against any United States person must report such request to the Department of Commerce in accordance with the requirements of this section. Such a request may be either written or oral and may include a request to furnish information or enter into or implement an agreement. It may also include a solicitation, directive, legend or instruction that asks

for information or that asks that a United States person take or refrain from taking a particular action. Such a request shall be reported regardless of whether the action requested is prohibited or permissible under this part, except as otherwise provided by this section.

(2) For purposes of this section, a request received by a United States person is reportable if he knows or has reason to know that the purpose of the request is to enforce, implement, or otherwise further, support, or secure compliance with an unsanctioned foreign boycott or restrictive trade practice.

(i) A request received by a United States person located in the United States is reportable if it is received in connection with a transaction or activity in the interstate or foreign commerce of the United States, as determined under § 760.1(d)(1) through (5) and (18) of this part.

(ii) A request received by a United States person located outside the United States (that is, a foreign subsidiary, partnership, affiliate, branch, office, or other permanent foreign establishment which is controlled in fact by any domestic concern, as determined under § 760.1(c) of this part) is reportable if it is received in connection with a transaction or activity in the interstate or foreign commerce of the United States, as determined under § 760.1(d)(6) through (17) and (19) of this part.

(iii) A request such as a boycott questionnaire, unrelated to a particular transaction or activity, received by any United States person is reportable when such person has or anticipates a business relationship with or in a boycotting country involving the sale, purchase or transfer of goods or services (including information) in the interstate or foreign commerce of the United States, as determined under § 760.1(d) of this part.

(3) These reporting requirements apply to all United States persons. They apply whether the United States person receiving the request is an exporter, bank or other financial institution, insurer, freight forwarder, manufacturer, or any other United States person subject to this part.

(4) The acquisition of information about a boycotting country's boycott requirements through the receipt or review of books, pamphlets, legal texts, exporters' guidebooks and other similar publications does not constitute receipt of a reportable request for purposes of this section. In addition, a United States person who receives an unsolicited invitation to bid, or similar proposal, containing a boycott request has not received a reportable request for purposes of this section where he does not respond to the invitation to bid or other proposal.

(5) Because of the use of certain terms for boycott and non-boycott purposes; because of Congressional mandates to provide clear and precise guidelines in areas of inherent uncertainty; and because of the Department's commitment to minimize paperwork and reduce the cost of reporting where it will not impair the Department's ability to continue to monitor foreign boycotts, the following specific requests are not reportable:

(i) A request to refrain from shipping goods on a carrier which flies the flag of a particular country or which is owned, chartered, leased or operated by a particular country or by nationals or residents of a particular country, or a request to certify to that effect.

(ii) A request to ship goods via a prescribed route, or a request to refrain from shipping goods via a proscribed route, or a request to certify to either effect.

(iii) A request to supply an affirmative statement or certification regarding the country of origin of goods.

(iv) A request to supply an affirmative statement or certification regarding the name of the supplier or manufacturer of the goods shipped or the name of the provider of services.

(v) A request to comply with the laws of another country except where the request expressly requires compliance with that country's boycott laws.

(vi) A request to an individual to supply information about himself or a member of his family for immigration, passport, visa, or employment purposes.

(vii) A request to supply an affirmative statement or certification indicating the destination of exports or

confirming or otherwise indicating that such cargo will be unloaded or discharged at a particular destination.

(viii) A request to supply a certificate by the owner, master, charterer, or any employee thereof, that a vessel, aircraft, truck or any other mode of transportation is eligible, otherwise eligible, permitted, or allowed to enter, or not restricted from entering, a particular port, country, or group of countries pursuant to the laws, rules, or regulations of that port, country, or group of countries.

(ix) A request to supply a certificate from an insurance company stating that the insurance company has a duly authorized agent or representative within a boycotting country and/or the name and address of such agent.

(x) A request to comply with a term or condition of a transaction that provides that the vendor bear the risk of loss and indemnify the purchaser if the vendor's goods are denied entry into a country for any reason (''risk of loss clause'') if such clause was in use by the purchaser prior to January 18, 1978.

(6) No United States person may engage in any transaction or take any other action, either independently or through any other person, with intent to evade the provisions of this part.

(7) From time to time the Department will survey domestic concerns for purposes of determining the worldwide scope of boycott requests received by their controlled foreign subsidiaries and affiliates with respect to their activities outside United States commerce. This pertains to requests which would be reportable under this section but for the fact that the activities to which the requests relate are outside United States commerce. The information requested will include the number and nature of non-reportable boycott requests received, the action(s) requested, the actions(s) taken in response and the countries in which the requests originate. The results of such surveys, including the names of those surveyed, will be made public.

(b) *Manner of reporting.* (1) Each reportable request must be reported. However, if more than one document (such as an invitation to bid, purchase order, or letter of credit) containing the same boycott request is received as part of the same transaction, only the first such request need be reported. Individual shipments against the same purchase order or letter of credit are to be treated as part of the same transaction. Each different boycott request associated with a given transaction must be reported, regardless of how or when the request is received.

(2) Each United States person actually receiving a reportable request must report that request. However, such person may designate someone else to report on his behalf. For example, a United States company, if authorized, may report on behalf of its controlled foreign subsidiary or affiliates; a freight forwarder, if authorized, may report on behalf of the exporter; and a bank, if authorized, may report on behalf of the beneficiary of a letter of credit. If a person designated to report a request received by another receives an identical request directed to him in connection with the same transaction, he may file one report on behalf of himself and the other person.

(3) Where a person is designated to report on behalf of another, the person receiving the request remains liable for any failure to report or for any representations made on his behalf. Further, anyone reporting on behalf of another is not relieved of his own responsibility for reporting any boycott request which he receives, even if it is an identical request in connection with the same transaction.

(4) Reports may be submitted by mail or electronically. Mailed paper reports must be submitted in duplicate to: Report Processing Staff, Office of Antiboycott Compliance, U.S. Department of Commerce, Room 6098, Washington, DC 20230. Electronic reports must be submitted in duplicate, by following the prompts on the screen, through the Office of Antiboycott Compliance Web page of the BIS Web site, *http://bis.doc.gov/index.php/enforcement/oac?id=300*. Each submission, whether paper or electronic, must be made in accordance with the following requirements:

(i) Where the person receiving the request is a United States person located in the United States, each report of requests must be postmarked or electronically date-stamped by the last day

of the month following the calendar quarter in which the request was received (*e.g.*, April 30 for the quarter consisting of January, February, and March).

(ii) Where the person receiving the request is a United States person located outside the United States, each report of requests must be postmarked or electronically date-stamped by the last day of the second month following the calendar quarter in which the request was received (*e.g.*, May 31 for the quarter consisting of January, February, and March).

(5) Mailed paper reports may, at the reporting person's option, be submitted on either a single transaction form (Form BIS–621P, Report of Request for Restrictive Trade Practice or Boycott, Single Transaction, (revised 10–89)) or on a multiple transaction form (Form BIS–6051P, Report of Request for Restrictive Trade Practice or Boycott, Multiple Transactions, (revised 10–89)). Electronic reports may be submitted only on the single transaction form, which will electronically reproduce the reporting person's identifying information to facilitate reporting of multiple transactions.

(6) Reports, whether submitted on the paper single transaction form or on the paper multiple transaction form, or submitted electronically, must contain entries for every applicable item on the form, including whether the reporting person intends to take or has taken the action requested. If the reporting person has not decided what action he will take by the time the report is required to be filed, he must later report the action he decides to take within 10 business days after deciding. In addition, anyone filing a report on behalf of another must so indicate and identify that other person.

(7) Each report of a boycott request, whether submitted by mail or electronically, must be accompanied by two copies of the relevant page(s) of any document(s) in which the request appears (*see*, paragraph (c)(2) of this section). For mail submissions, the relevant pages shall be attached in paper format to the report form; for electronic submissions, the relevant pages shall be attached in PDF format to the electronic submission. Reports, whether paper or electronic, may also be accompanied by any additional information relating to the request as the reporting person desires to provide concerning his response to the request. For electronic submissions, such additional information should be provided as a PDF attachment.

(8) Records containing information relating to a reportable boycott request, including a copy of any document(s) in which the request appears, must be maintained by the recipient for a five-year period after receipt of the request. The Department may require that these materials be submitted to it or that it have access to them at any time within that period. (See part 762 of the EAR for additional recordkeeping requirements.)

(c) *Disclosure of information.* (1) Reports of requests received on or after October 7, 1976, as well as any accompanying documents filed with the reports, have been and will continue to be made available for public inspection and copying, except for certain proprietary information. With respect to reports of requests received on or after August 1, 1978, if the person making the report certifies that a United States person to whom the report relates would be placed at a competitive disadvantage because of the disclosure of information regarding the quantity, description, or value of any articles, materials, and supplies, including related technical data and other information, whether contained in a report or in any accompanying document(s), such information will not be publicly disclosed except upon failure by the reporting entity to edit the public inspection copy of the accompanying document(s) as provided by paragraph (c)(2) of this section, unless the Secretary of Commerce determines that the disclosure would not place the United States person involved at a competitive disadvantage or that it would be contrary to the national interest to withhold the information. In the event the Secretary of Commerce considers making such a determination concerning competitive disadvantage, appropriate notice and an opportunity for comment will be given before any

such proprietary information is publicly disclosed. In no event will requests of reporting persons to withhold any information contained in the report other than that specified in this paragraph be honored.

(2) Because a copy of any document(s) accompanying the report will be made available for public inspection and copying, one copy must be submitted intact and another copy must be edited by the reporting entity to delete the same information which it certified in the report would place a United States person at a competitive disadvantage if disclosed. In addition, the reporting entity may delete from this copy information that is considered confidential and that is not required to be contained in the report (e.g., information related to foreign consignee). This copy should be conspicuously marked with the legend ''Public Inspection Copy.'' With respect to documents accompanying reports received by the Department on or after July 1, 1979, the public inspection copy will be made available as submitted whether or not it has been appropriately edited by the reporting entity as provided by this paragraph.

(3) Reports and accompanying documents which are available to the public for inspection and copying are located in the BIS Freedom of Information Records Inspection Facility, Room 4525, Department of Commerce, 14th Street and Constitution Avenue, N.W., Washington, D.C. 20230. Requests to inspect such documents should be addressed to that facility.

(4) The Secretary of Commerce will periodically transmit summaries of the information contained in the reports to the Secretary of State for such action as the Secretary of State, in consultation with the Secretary of Commerce, may deem appropriate for carrying out the policies in section 8(b)(2) of the Export Administration Act of 1979.

EXAMPLES

The following examples are intended to give guidance in determining what is reportable. They are illustrative, not comprehensive.

(i) A, a U.S. manufacturer, is shipping goods to boycotting country Y and is asked by Y to certify that it is not blacklisted by Y's boycott office.

The request to A is reportable, because it is a request to A to comply with Y's boycott requirements.

(ii) A, a U.S. manufacturing company, receives an order for tractors from boycotting country Y. Y's order specifies that the tires on the tractors be made by B, another U.S. company. A believes Y has specified B as the tire supplier because otherwise A would have used tires made by C, a blacklisted company, and Y will not take shipment of tractors containing tires made by blacklisted companies.

A must report Y's request for tires made by B, because A has reason to know that B was chosen for boycott reasons.

(iii) Same as (ii), except A knows that Y's request has nothing to do with the boycott but simply reflects Y's preference for tires made by B.

Y's request is not reportable, because it is unrelated to Y's boycott.

(iv) Same as (ii), except A neither knows nor has reason to know why Y has chosen B.

Y's request is not reportable, because A neither knows nor has reason to know that Y's request is based on Y's boycott.

(v) A, a controlled foreign subsidiary of U.S. company B, is a resident of boycotting country Y. A is a general contractor. After being supplied by A with a list of competent subcontractors, A's customer instructs A to use subcontractor C on the project. A believes that C was chosen because, among other things, the other listed subcontractors are blacklisted.

The instruction to A by its customer that C be used on the project is reportable, because it is a request to comply with Y's boycott requirements.

(vi) A, a controlled foreign subsidiary of U.S. company B, is located in non-boycotting country P. A receives an order for washing machines from boycotting country Y. Y instructs A that a negative certificate of origin must accompany the shipment. The washing machines are made wholly in P, without U.S. components.

Y's instruction to A regarding the negative certificate of origin is not reportable, because the transaction to which it relates is not in U.S. commerce.

(vii) Same as (vi), except that A obtains components from the United States for the purpose of filling the order from Y. Y's instruction to A regarding the negative certificate of origin is reportable, because the transaction to which it relates is in U.S. commerce.

(viii) A, a U.S. construction company, receives in the mail an unsolicited invitation to bid on a construction project in boycotting country Y. The invitation to bid requires those who respond to certify that they do not have any plants or branch offices in boycotted country X. A does not respond.

A's receipt of the unsolicited invitation to bid is not reportable, because the request does not relate to any present or anticipated business of A with or in Y.

(ix) Same as (viii), except that A receives a boycott questionnaire from a central boycott office. A does not do business in any of the boycotting countries involved, and does not anticipate doing any business in those countries. A does not respond.

A's receipt of the boycott questionnaire is not reportable, because it does not relate to any present or anticipated business by A with or in a boycotting country.

(x) A, a U.S. manufacturer, is seeking markets in which to expand its exports. A sends a representative to boycotting country Y to explore Y's potential as a market for A's products. A's representative discusses its products but does not enter into any contracts on that trip. A does, however, hope that sales will materialize in the future. Subsequently, A receives a boycott questionnaire from Y.

A's receipt of the boycott questionnaire is reportable, because the request relates to A's anticipated business with or in a boycotting country. For purposes of determining whether a report is required, it makes no difference whether A responds to the questionnaire, and it makes no difference that actual sales contracts are not in existence or do not materialize.

(xi) Same as (x), except that A's representative enters into a contract to sell A's products to a buyer in boycotting country Y. Subsequently, A receives a boycott questionnaire from Y.

A's receipt of the boycott questionnaire is reportable, because it relates to A's present business with or in a boycotting country. For purposes of determining whether a report is required, it makes no difference whether A responds to the questionnaire.

(xii) A, a U.S. freight forwarder, purchases an exporter's guidebook which includes the import requirements of boycotting country Y. The guidebook contains descriptions of actions which U.S. exporters must take in order to make delivery of goods to Y.

A's acquisition of the guidebook is not reportable, because he has not received a request from anyone.

(xiii) A, a U.S. freight forwarder, is arranging for the shipment of goods to boycotting country Y at the request of B, a U.S. exporter. B asks A to assume responsibility to assure that the documentation accompanying the shipment is in compliance with Y's import requirements. A examines an exporters' guidebook, determines that Y's import regulations require a certification that the insurer of the goods is not blacklisted and asks U.S. insurer C for such a certification.

B's request to A is reportable by A, because it constitutes a request to comply with Y's boycott as of the time A takes action to comply with Y's boycott requirements in response to the request. A's request to C is reportable by C.

(xiv) A, a U.S. freight forwarder, is arranging for the shipment of U.S. goods to boycotting country Y. The manufacturer supplies A with all the necessary documentation to accompany the shipment. Among the documents supplied by the manufacturer is his certificate that he himself is not blacklisted. A transmits the documentation supplied by the manufacturer.

A's action in merely transmitting documents received from the manufacturer is not reportable, because A has received no request to comply with Y's boycott.

(xv) Same as (xiv), except that A is asked by U.S. exporter B to assume the responsibility to assure that the necessary documentation accompanies the shipment whatever that documentation might be. B forwards to A a letter of credit which requires that a negative certificate of origin accompany the bill of lading. A supplies a positive certificate of origin.

Both A and B must report receipt of the letter of credit, because it contains a request to both of them to comply with Y's boycott.

(xvi) Same as (xiv), except that the manufacturer fails to supply a required negative certificate of origin, and A is subsequently asked by a consular official of Y to see to it that the certificate is supplied. A supplies a positive certificate of origin.

The consular official's request to A is reportable by A, because A was asked to comply with Y's boycott requirements by supplying the negative certificate of origin.

(xvii) A, a U.S. manufacturer, is shipping goods to boycotting country Y. Arrangements have been made for freight forwarder B to handle the shipment and secure all necessary shipping certifications. B notes that the letter of credit requires that the manufacturer supply a negative certificate of origin and B asks A to do so. A supplies a positive certificate of origin.

B's request to A is reportable by A, because A is asked to comply with Y's boycott requirements by providing the negative certificate.

(xviii) A, a controlled foreign subsidiary of U.S. company B, is a resident of boycotting country Y. A is engaged in oil exploration and drilling operations in Y. In placing orders for drilling equipment to be shipped from the United States, A, in compliance with Y's laws, selects only those suppliers who are not blacklisted.

A's action in choosing non-blacklisted suppliers is not reportable, because A has not received a request to comply with Y's boycott in making these selections.

(xix) A, a controlled foreign subsidiary of U.S. company B, is seeking permission to do business in boycotting country Y. Before

being granted such permission, A is asked to sign an agreement to comply with Y's boycott laws.

The request to A is reportable, because it is a request that expressly requires compliance with Y's boycott law and is received in connection with A's anticipated business in Y.

(xx) A, a U.S. bank, is asked by a firm in boycotting country Y to confirm a letter of credit in favor of B, a U.S. company. The letter of credit calls for a certificate from B that the goods to be supplied are not produced by a firm blacklisted by Y. A informs B of the letter of credit, including its certification condition, and sends B a copy.

B must report the certification request contained in the letter of credit, and A must report the request to confirm the letter of credit containing the boycott condition, because both are being asked to comply with Y's boycott.

(xxi) Same as (xx), except that the letter of credit calls for a certificate from the beneficiary that the goods will not be shipped on a vessel that will call at a port in boycotted country X before making delivery in Y.

The request is not reportable, because it is a request of a type deemed by this section to be in common use for non-boycott purposes.

(xxii) A, a U.S. company, receives a letter of credit from boycotting country Y stating that on no condition may a bank blacklisted by Y be permitted to negotiate the credit.

A's receipt of the letter of credit is reportable, because it contains a request to A to comply with Y's boycott requirements.

(xxiii) A, a U.S. bank, receives a demand draft from B, a U.S. company, in connection with B's shipment of goods to boycotting country Y. The draft contains a directive that it is valid in all countries except boycotted country X.

A's receipt of the demand draft is reportable, because it contains a request to A to comply with Y's boycott requirements.

(xxiv) A, a U.S. exporter, receives an order from boycotting country Y. On the order is a legend that A's goods, invoices, and packaging must not bear a six-pointed star or other symbol of boycotted country X.

A's receipt of the order is reportable, because it contains a request to comply with Y's boycott requirements.

(xxv) Same as (xxiv), except the order contains a statement that goods exported must not represent part of war reparations to boycotted country X.

A's receipt of the order is reportable, because it contains a request to A to comply with Y's boycott requirements.

(xxvi) A, a U.S. contractor, is negotiating with boycotting country Y to build a school in Y. During the course of the negotiations, Y suggests that one of the terms of the construction contract be that A agree not to import materials produced in boycotted country X. It is A's company policy not to agree to such a contractual clause, and A suggests that instead it agree that all of the necessary materials will be obtained from U.S. suppliers. Y agrees to A's suggestion and a contract is executed.

A has received a reportable request, but, for purposes of reporting, the request is deemed to be received when the contract is executed.

(xxvii) Same as (xxvi), except Y does not accept A's suggested alternative clause and negotiations break off.

A's receipt of Y's request is reportable. For purposes of reporting, it makes no difference that A was not successful in the negotiations. The request is deemed to be received at the time the negotiations break off.

(xxviii) A, a U.S. insurance company, is insuring the shipment of drilling equipment to boycotting country Y. The transaction is being financed by a letter of credit which requires that A certify that it is not blacklisted by Y. Freight forwarder B asks A to supply the certification in order to satisfy the requirements of the letter of credit.

The request to A is reportable by A, because it is a request to comply with Y's boycott requirements.

(xxix) A, a U.S. manufacturer, is engaged from time-to-time in supplying drilling rigs to company B in boycotting country Y. B insists that its suppliers sign contracts which provide that, even after title passes from the supplier to B, the supplier will bear the risk of loss and indemnify B if goods which the supplier has furnished are denied entry into Y for whatever reason. A knows or has reason to know that this contractual provision is required by B because of Y's boycott, and that B has been using the provision since 1977. A receives an order from B which contains such a clause.

B's request is not reportable by A, because the request is deemed to be not reportable by these regulations if the provision was in use by B prior to January 18, 1978.

(xxx) Same as (xxix), except that A does not know when B began using the provision.

Unless A receives information from B that B introduced the term prior to January 18, 1978, A must report receipt of the request.

(xxxi) A, a U.S. citizen, is a shipping clerk for B, a U.S. manufacturing company. In the course of his employment, A receives an order for goods from boycotting country Y. The order specifies that none of the components of the goods is to be furnished by blacklisted firms.

B must report the request received by its employee, A, acting in the scope of his employment. Although A is a U.S. person, such an individual does not have a separate obligation to report requests received by him in his capacity as an employee of B.

(xxxii) U.S. exporter A is negotiating a transaction with boycotting country Y. A

knows that at the conclusion of the negotiations he will be asked by Y to supply certain boycott-related information and that such a request is reportable. In an effort to forestall the request and thereby avoid having to file a report, A supplies the information in advance.

A is deemed to have received a reportable request.

(xxxiii) A, a controlled foreign affiliate of U.S. company B, receives an order for computers from boycotting country Y and obtains components from the United States for the purpose of filling the order. Y instructs A that a negative certificate of origin must accompany the shipment.

Y's instruction to A regarding the negative certificate of origin is reportable by A. Moreover, A may designate B or any other person to report on its behalf. However, A remains liable for any failure to report or for any representations made on its behalf.

(xxxiv) U.S. exporter A, in shipping goods to boycotting country Y, receives a request from the customer in Y to state on the bill of lading that the vessel is allowed to enter Y's ports. The request further states that a certificate from the owner or master of the vessel to that effect is acceptable.

The request A received from his customer in Y is not reportable because it is a request of a type deemed to be not reportable by these regulations. (A may not make such a statement on the bill of lading himself, if he knows or has reason to know it is requested for a boycott purpose.)

(xxxv) U.S. exporter A, in shipping goods to boycotting country Y, receives a request from the customer in Y to furnish a certificate from the owner of the vessel that the vessel is permitted to call at Y's ports.

The request A received from his customer in Y is not reportable because it is a request of a type deemed to be not reportable by these regulations.

(xxxvi) U.S. exporter A, in shipping goods to boycotting country Y, receives a request from the customer in Y to furnish a certificate from the insurance company indicating that the company has a duly authorized representative in country Y and giving the name of that representative.

The request A received from his customer in Y is not reportable if it was received after the effective date of these rules, because it is a request of a type deemed to be not reportable by these regulations.

[61 FR 12862, Mar. 25, 1996, as amended at 65 FR 34948, June 1, 2000; 81 FR 70934, Oct. 14, 2016]

SUPPLEMENT NO. 1 TO PART 760—INTERPRETATIONS

It has come to the Department's attention that some U.S. persons are being or may be asked to comply with new boycotting country requirements with respect to shipping and insurance certifications and certificates of origin. It has also come to the Department's attention that some U.S. persons are being or may be asked to agree to new contractual provisions in connection with certain foreign government or foreign government agency contracts. In order to maximize its guidance with respect to section 8 of the Export Administration Act of 1979, as amended (50 U.S.C. app. 2407) and part 760 of the EAR, the Department hereby sets forth its views on these certifications and contractual clauses.[1]

I. CERTIFICATIONS

§760.2(d) of this part prohibits a U.S. person from furnishing or knowingly agreeing to furnish:

''Information concerning his or any other person's past, present or proposed business relationships:

(i) With or in a boycotted country;

(ii) With any business concern organized under the laws of a boycotted country;

(iii) With any national or resident of a boycotted country; or

(iv) With any other person who is known or believed to be restricted from having any business relationship with or in a boycotting country.''

This prohibition, like all others under part 760, applies only with respect to a U.S. person's activities in the interstate or foreign commerce of the United States and only when such activities are undertaken with intent to comply with, further, or support an unsanctioned foreign boycott. (§760.2(d)(5) of this part.)

This prohibition does not apply to the furnishing of normal business information in a commercial context. (§760.2(d)(3) of this part). Normal business information furnished in a commercial context does not cease to be such simply because the party soliciting the information may be a boycotting country or a national or resident thereof. If the information is of a type which is generally sought for a legitimate business purpose (such as determining financial fitness, technical competence, or professional experience), the information may be furnished even if the information could be used, or without the knowledge of the person supplying the information is intended to be used, for boycott purposes. (§760.2(d)(4) of this part).

[1] The Department originally issued this interpretation pursuant to the Export Administration Amendments Act of 1979 (Public Law 95–52) and the regulations on restrictive trade practices and boycotts (15 CFR part 369) published on January 25, 1978 (43 FR 3508) and contained in the 15 CFR edition revised as of January 1, 1979.

The new certification requirements and the Department's interpretation of the applicability of part 760 thereto are as follows:

A. *Certificate of origin.* A certificate of origin is to be issued by the supplier or exporting company and authenticated by the exporting country, attesting that the goods exported to the boycotting country are of purely indigenous origin, and stating the name of the factory or the manufacturing company. To the extent that the goods as described on the certificate of origin are not solely and exclusively products of their country of origin indicated thereon, a declaration must be appended to the certificate of origin giving the name of the supplier/manufacturer and declaring:

''The undersigned, _____, does hereby declare on behalf of the above-named supplier/manufacturer, that certain parts or components of the goods described in the attached certificate of origin are the products of such country or countries, other than the country named therein as specifically indicated hereunder:

Country of Origin and Percentage of Value of Parts or Components Relative to Total Shipment

1. _____
2. _____
3. _____

Dated: _____

Signature _____

Sworn to before me, this ____ day of _____, 20__. Notary Seal.''

INTERPRETATION

It is the Department's position that furnishing a positive certificate of origin, such as the one set out above, falls within the exception contained in §760.3(c) of this part for compliance with the import and shipping document requirements of a boycotting country. See §760.3(c) of this part and examples (i) and (ii) thereunder.

B. *Shipping certificate.* A certificate must be appended to the bill of lading stating: (1) Name of vessel; (2) Nationality of vessel; and (3) Owner of vessel, and declaring:

''The undersigned does hereby declare on behalf of the owner, master, or agent of the above-named vessel that said vessel is not registered in the boycotted country or owned by nationals or residents of the boycotted country and will not call at or pass through any boycotted country port enroute to its boycotting country destination.

''The undersigned further declares that said vessel is otherwise eligible to enter into the ports of the boycotting country in conformity with its laws and regulations.

Sworn to before me, this ____ day of _____, 20__. Notary Seal.''

INTERPRETATION

It is the Department's position that furnishing a certificate, such as the one set out above, stating: (1) The name of the vessel, (2) The nationality of the vessel, and (3) The owner of the vessel and further declaring that the vessel: (a) Is not registered in a boycotted country, (b) Is not owned by nationals or residents of a boycotted country, and (c) Will not call at or pass through a boycotted country port enroute to its destination in a boycotting country falls within the exception contained in §760.3(c) for compliance with the import and shipping document requirements of a boycotting country. See §760.3(c) and examples (vii), (viii), and (ix) thereunder.

It is also the Department's position that the owner, charterer, or master of a vessel may certify that the vessel is ''eligible'' or ''otherwise eligible'' to enter into the ports of a boycotting country in conformity with its laws and regulations. Furnishing such a statement pertaining to one's own eligibility offends no prohibition under this part 760. See §760.2(f), example (xiv).

On the other hand, where a boycott is in force, a declaration that a vessel is ''eligible'' or ''otherwise eligible'' to enter the ports of the boycotting country necessarily conveys the information that the vessel is not blacklisted or otherwise restricted from having a business relationship with the boycotting country. See §760.3(c) examples (vi), (xi), and (xii). Where a person other than the vessel's owner, charterer, or master furnishes such a statement, that is tantamount to his furnishing a statement that he is not doing business with a blacklisted person or is doing business only with non-blacklisted persons. Therefore, it is the Department's position that furnishing such a certification (which does not reflect customary international commercial practice) by anyone other than the owner, charterer, or master of a vessel would fall within the prohibition set forth in §760.2(d) unless it is clear from all the facts and circumstances that the certification is not required for a boycott reason. See §760.2(d)(3) and (4). See also part A., ''Permissible Furnishing of Information,'' of Supplement No. 5 to this part.

C. *Insurance certificate.* A certificate must be appended to the insurance policy stating: (1) Name of insurance company; (2) Address of its principal office; and (3) Country of its incorporation, and declaring:

''The undersigned, _____, does hereby certify on behalf of the above-named insurance company that the said company has a duly qualified and appointed agent or representative in the boycotting country whose name and address appear below:

Name of agent/representative and address in the boycotting country.

Sworn to before me this ____ day of _____, 20__. Notary Seal.''

INTERPRETATION

It is the Department's position that furnishing the name of the insurance company falls within the exception contained in §760.3(c) for compliance with the import and shipping document requirements of a boycotting country. See §760.3(c)(1)(v) and examples (v) and (x) thereunder. In addition, it is the Department's position that furnishing a certificate, such as the one set out above, stating the address of the insurance company's principal office and its country of incorporation offends no prohibition under this part 760 unless the U.S. person furnishing the certificate knows or has reason to know that the information is sought for the purpose of determining that the insurance company is neither headquartered nor incorporated in a boycotted country. See §760.2(d)(1)(i).

It is also the Department's position that the insurer, himself, may certify that he has a duly qualified and appointed agent or representative in the boycotting country and may furnish the name and address of his agent or representative. Furnishing such a statement pertaining to one's own status offends no prohibition under this part 760. See §760.2(f), example (xiv).

On the other hand, where a boycott is in force, a declaration that an insurer ''has a duly qualified and appointed agent or representative'' in the boycotting country necessarily conveys the information that the insurer is not blacklisted or otherwise restricted from having a business relationship with the boycotting country. See §760.3(c), example (v). Therefore, it is the Department's position that furnishing such a certification by anyone other than the insurer would fall within the prohibition set forth in §760.2(d) unless it is clear from all the facts and circumstances that the certification is not required for a boycott reason. See §760.2(d)(3) and (4).

II. CONTRACTUAL CLAUSES

The new contractual requirements and the Department's interpretation of the applicability of part 760 thereto are as follows:

A. *Contractual clause regarding import laws of boycotting country*. ''In connection with the performance of this contract the Contractor/Supplier acknowledges that the import and customs laws and regulations of the boycotting country shall apply to the furnishing and shipment of any products or components thereof to the boycotting country. The Contractor/Supplier specifically acknowledges that the aforementioned import and customs laws and regulations of the boycotting country prohibit, among other things, the importation into the boycotting country of products or components thereof: (1) Originating in the boycotted country; (2) Manufactured, produced, or furnished by companies organized under the laws of the boycotted country; and (3) Manufactured, produced, or furnished by nationals or residents of the boycotted country.''

INTERPRETATION

It is the Department's position that an agreement, such as the one set out in the first sentence above, that the import and customs requirements of a boycotting country shall apply to the performance of a contract does not, in and of itself, offend any prohibition under this part 760. See §760.2(a)(5) and example (iii) under ''Examples of Agreements To Refuse To Do Business.'' It is also the Department's position that an agreement to comply generally with the import and customs requirements of a boycotting country does not, in and of itself, offend any prohibition under this part 760. See §760.2(a)(5) and examples (iv) and (v) under ''Examples of Agreements To Refuse To Do Business.'' In addition, it is the Department's position that an agreement, such as the one set out in the second sentence above, to comply with the boycotting country's import and customs requirements prohibiting the importation of products or components: (1) Originating in the boycotted country; (2) Manufactured, produced, or furnished by companies organized under the laws of the boycotted country; or (3) Manufactured, produced, or furnished by nationals or residents of the boycotted country falls within the exception contained in §760.3(a) for compliance with the import requirements of a boycotting country. See §760.3(a) and example (ii) thereunder.

The Department notes that a United States person may not furnish a negative certification regarding the origin of goods or their components even though the certification is furnished in response to the import and shipping document requirements of the boycotting country. See §760.3(c) and examples (i) and (ii) thereunder, and §760.3(a) and example (ii) thereunder.

B. *Contractual clause regarding unilateral and specific selection*. ''The Government of the boycotting country (or the First Party), in its exclusive power, reserves its right to make the final unilateral and specific selection of any proposed carriers, insurers, suppliers of services to be performed within the boycotting country, or of specific goods to be furnished in accordance with the terms and conditions of this contract.''

INTERPRETATION

It is the Department's position that an agreement, such as the one set out above, falls within the exception contained in §760.3(d) of this part for compliance with unilateral selections. However, the Department

notes that whether a U.S. person may subsequently comply or agree to comply with any particular selection depends upon whether that selection meets all the requirements contained in §760.3(d) of this part for compliance with unilateral selections. For example, the particular selection must be unilateral and specific, particular goods must be specifically identifiable as to their source or origin at the time of their entry into the boycotting country, and all other requirements contained in §760.3(d) of this part must be observed.

[61 FR 12862, Mar. 25, 1996, as amended at 65 FR 34948, June 1, 2000; 78 FR 13470, Feb. 28, 2013]

SUPPLEMENT NO. 2 TO PART 760—INTERPRETATION

The Department hereby sets forth its views on whether the furnishing of certain shipping and insurance certificates in compliance with boycotting country requirements violates the provisions of section 8 of the Export Administration Act of 1979, as amended (50 U.S.C. app. 2407) and part 760 of the EAR,[1] as follows:

(i) ''The owner, charterer or master of a vessel may certify that the vessel is 'eligible' or 'otherwise eligible' to enter into the ports of a boycotting country in conformity with its laws and regulations;''

(ii) ''The insurer, himself, may certify that he has a duly qualified and appointed agent or representative in the boycotting country and may furnish the name and address of his agent or representative.''

Furnishing such certifications by anyone other than:

(i) The owner, charterer or master of a vessel, or

(ii) The insurer would fall within the prohibition set forth in §760.2(d) of this part, ''unless it is clear from all the facts and circumstances that these certifications are not required for a boycott reason.'' See §760.2(d)(3) and (4) of this part.

The Department has received from the Kingdom of Saudi Arabia a clarification that the shipping and insurance certifications are required by Saudi Arabia in order to:

(i) Demonstrate that there are no applicable restrictions under Saudi laws or regulations pertaining to maritime matters such as the age of the ship, the condition of the ship, and similar matters that would bar entry of the vessel into Saudi ports; and

(ii) Facilitate dealings with insurers by Saudi Arabian importers whose ability to secure expeditious payments in the event of damage to insured goods may be adversely affected by the absence of a qualified agent or representative of the insurer in Saudi Arabia. In the Department's judgment, this clarification constitutes sufficient facts and circumstances to demonstrate that the certifications are not required by Saudi Arabia for boycott reasons.

On the basis of this clarification, it is the Department's position that any United States person may furnish such shipping and insurance certificates required by Saudi Arabia without violating §760.2(d) of this part. Moreover, under these circumstances, receipts of requests for such shipping and insurance certificates from Saudi Arabia are not reportable.

It is still the Department's position that furnishing such a certificate pertaining to one's own eligibility offends no prohibition under part 760. See §760.2(f) of this part, example (xiv). However, absent facts and circumstances clearly indicating that the certifications are required for ordinary commercial reasons as demonstrated by the Saudi clarification, furnishing certifications about the eligibility or blacklist status of any other person would fall within the prohibition set forth in §760.2(d) of this part, and receipts of requests for such certifications are reportable.

It also remains the Department's position that where a United States person asks an insurer or carrier of the exporter's goods to self-certify, such request offends no prohibition under this part. However, where a United States person asks anyone other than an insurer or carrier of the exporter's goods to self-certify, such requests will be considered by the Department as evidence of the requesting person's refusal to do business with those persons who cannot or will not furnish such a self-certification. For example, if an exporter-beneficiary of a letter of credit asks his component suppliers to self-certify, such a request will be considered as evidence of his refusal to do business with those component suppliers who cannot or will not furnish such a self-certification.

The Department wishes to emphasize that notwithstanding the fact that self-certifications are permissible, it will closely scrutinize the activities of all United States persons who provide such self-certifications, including insurers and carriers, to determine that such persons have not taken any prohibited actions or entered into any prohibited agreements in order to be able to furnish such certifications.

[61 FR 12862, Mar. 25, 1996, as amended at 65 FR 34949, June 1, 2000]

[1] The Department originally issued this interpretation on April 21, 1978 (43 FR 16969) pursuant to the Export Administration Amendments Act of 1977 (Public Law 95–52) and the regulations on restrictive trade practices and boycotts (15 CFR part 369) published on January 25, 1978 (43 FR 3508) and contained in the 15 CFR edition revised as of January 1, 1979.

SUPPLEMENT NO. 3 TO PART 760—INTERPRETATION

Pursuant to Article 2, Annex II of the Peace Treaty between Egypt and Israel, Egypt's participation in the Arab economic boycott of Israel was formally terminated on January 25, 1980. On the basis of this action, it is the Department's position that certain requests for information, action or agreement which were considered boycott-related by implication now cannot be presumed boycott-related and thus would not be prohibited or reportable under the Regulations. For example, a request that an exporter certify that the vessel on which it is shipping its goods is eligible to enter Arab Republic of Egypt ports has been considered a boycott-related request that the exporter could not comply with because Egypt has a boycott in force against Israel (see 43 FR 16969, April 21, 1978 or the 15 CFR edition revised as of January 1, 1979). Such a request after January 25, 1980 would not be presumed boycott-related because the underlying boycott requirement/basis for the certification has been eliminated. Similarly, a U.S. company would not be prohibited from complying with a request received from Egyptian government officials to furnish the place of birth of employees the company is seeking to take to Egypt, because there is no underlying boycott law or policy that would give rise to a presumption that the request was boycott-related.

U.S. persons are reminded that requests that are on their face boycott-related or that are for action obviously in furtherance or support of an unsanctioned foreign boycott are subject to the Regulations, irrespective of the country or origin. For example, requests containing references to ''blacklisted companies'', ''Israel boycott list'', ''non-Israeli goods'' or other phrases or words indicating boycott purpose would be subject to the appropriate provisions of the Department's antiboycott regulations.

SUPPLEMENT NO. 4 TO PART 760—INTERPRETATION

The question has arisen how the definition of U.S. commerce in the antiboycott regulations (15 CFR part 760) applies to a shipment of foreign-made goods when U.S.-origin spare parts are included in the shipment. Specifically, if the shipment of foreign goods falls outside the definition of U.S. commerce, will the inclusion of U.S.-origin spare parts bring the entire transaction into U.S. commerce?

Section 760.1(d)(12) provides the general guidelines for determining when U.S.-origin goods shipped from a controlled in fact foreign subsidiary are outside U.S. commerce. The two key tests of that provision are that the goods were ''(i) * * * acquired without reference to a specific order from or transaction with a person outside the United States; and (ii) * * * further manufactured, incorporated into, refined into, or reprocessed into another product.'' Because the application of these two tests to spare parts does not conclusively answer the U.S. commerce question, the Department is presenting this clarification.

In the cases brought to the Department's attention, an order for foreign-origin goods was placed with a controlled in fact foreign subsidiary of a United States company. The foreign goods contained components manufactured in the United States and in other countries, and the order included a request for extras of the U.S. manufactured components (spare parts) to allow the customer to repair the item. Both the foreign manufactured product and the U.S. spare parts were to be shipped from the general inventory of the foreign subsidiary. Since the spare parts, if shipped by themselves, would be in U.S. commerce as that term is defined in the Regulations, the question was whether including them with the foreign manufactured item would bring the entire shipment into U.S. commerce. The Department has decided that it will not and presents the following specific guidance.

As used above, the term ''spare parts'' refers to parts of the quantities and types normally and customarily ordered with a product and kept on hand in the event they are needed to assure prompt repair of the product. Parts, components or accessories that improve or change the basic operations or design characteristics, for example, as to accuracy, capability or productivity, are not spare parts under this definition.

Inclusion of U.S.-origin spare parts in a shipment of products which is otherwise outside U.S. commerce will not bring the transaction into U.S. commerce if the following conditions are met:

(I) The parts included in the shipment are acquired from the United States by the controlled in fact foreign subsidiary without reference to a specific order from or transaction with a person outside the United States;

(II) The parts are identical to the corresponding United States-origin parts which have been manufactured, incorporated into or reprocessed into the completed product;

(III) The parts are of the quantity and type normally and customarily ordered with the completed product and kept on hand by the firm or industry of which the firm is a part to assure prompt repair of the product; and

(IV) The parts are covered by the same order as the completed product and are shipped with or at the same time as the original product.

The Department emphasizes that unless each of the above conditions is met, the inclusion of United States-origin spare parts in

an order for a foreign-manufactured or assembled product will bring the entire transaction into the interstate or foreign commerce of the United States for purposes of part 760.

[61 FR 12862, Mar. 25, 1996, as amended at 65 FR 34949, June 1, 2000]

SUPPLEMENT NO. 5 TO PART 760—INTERPRETATION

A. Permissible Furnishing of Information

The information outlined below may be furnished in response to boycott-related requests from boycotting countries or others. This information is, in the view of the Department, not prohibited by the Regulations. Thus, a person does not have to qualify under any of the exceptions to be able to make the following statements. Such statements can be made, however, only by the person indicated and under the circumstances described. These statements should not be used as a point of departure or analogy for determining the permissibility of other types of statements. The Department's view that these statements are not contrary to the prohibitions contained in antiboycott provisions of the Regulations is limited to the specific statement in the specific context indicated.

1. A U.S. person may always provide its own name, address, place of incorporation (''nationality''), and nature of business.

2. A U.S. person may state that it is not on a blacklist, or restricted from doing business in a boycotting country. A company may not make that statement about its subsidiaries or affiliates—only about itself. A U.S. person may not say that there is no reason for it to be blacklisted. To make that statement would provide directly or by implication information that may not be provided. A U.S. person may inquire about the reasons it is blacklisted if it learns that it is on a blacklist (see §760.2(d) of this part example (xv)).

3. A U.S. person may describe in detail its past dealings with boycotting countries; may state in which boycotting countries its trademarks are registered; and may specify in which boycotting countries it is registered or qualified to do business. In general, a U.S. person is free to furnish any information it wishes about the nature and extent of its commercial dealings with boycotting countries.

4. A U.S. person may state that many U.S. firms or individuals have similar names and that it believes that it may be confused with a similarly named entity. A U.S. person may not state that it does or does not have an affiliation or relationship with such similarly named entity.

5. A U.S. person may state that the information requested is a matter of public record in the United States. However, the person may not direct the inquirer to the location of that information, nor may the U.S. person provide or cause to be provided such information.

B. Availability of the Compliance With Local Law Exception To Establish a Foreign Branch

Section 760.3(g), the Compliance With Local Law exception, permits U.S. persons, who are bona fide residents of a boycotting country, to take certain limited, but otherwise prohibited, actions, if they are required to do so in order to comply with local law.

Among these actions is the furnishing of non-discriminatory information. Examples (iv) through (vi) under ''Examples of Bona Fide Residency'' indicate that a company seeking to become a bona fide resident within a boycotting country may take advantage of the exception for the limited purpose of furnishing information required by local law to obtain resident status. Exactly when and how this exception is available has been the subject of a number of inquiries. It is the Department's view that the following conditions must be met for a non-resident company to be permitted to furnish otherwise prohibited information for the limited purpose of seeking to become a bona fide resident:

1. The company must have a legitimate business reason for seeking to establish a branch or other resident operation in the boycotting country. (Removal from the blacklist does not constitute such a reason.)

2. The local operation it seeks to establish must be similar or comparable in nature and operation to ones the company operates in other parts of the world, unless local law or custom dictates a significantly different form.

3. The person who visits the boycotting country to furnish the information must be the official whose responsibility ordinarily includes the creation and registration of foreign operations (i.e., the chairman of the board cannot be flown in to answer boycott questions unless the chairman of the board is the corporate official who ordinarily goes into a country to handle foreign registrations).

4. The information provided must be that which is ordinarily known to the person establishing the foreign branch. Obviously, at the time of establishment, the foreign branch will have no information of its own knowledge. Rather, the information should be that which the responsible person has of his own knowledge, or that he would have with him as incidental and necessary to the registration and establishment process. As a general rule, such information would not include such things as copies of agreements with boycotted country concerns or detailed information about the person's dealings with blacklisted concerns.

5. It is not necessary that documents prepared in compliance with this exception be drafted or executed within the boycotting country. The restrictions on the type of information which may be provided and on who may provide it apply regardless of where the papers are prepared or signed.

[61 FR 12862, Mar. 25, 1996, as amended at 65 FR 34949, June 1, 2000]

SUPPLEMENT NO. 6 TO PART 760—INTERPRETATION

The antiboycott regulations prohibit knowing agreements to comply with certain prohibited requests and requirements of boycotting countries, regardless of how these terms are stated. Similarly, the reporting rules require that a boycott related ''solicitation, directive, legend or instruction that asks for information or that asks that a United States person take or refrain from taking a particular action'' be reported. Questions have frequently arisen about how particular requirements in the form of directive or instructions are viewed under the antiboycott regulations, and we believe that it will add clarity to the regulations to provide a written interpretation of how three of these terms are treated under the law. The terms in question appear frequently in letters of credit, but may also be found on purchase orders or other shipping or sale documents. They have been brought to the attention of the Department by numerous persons. The terms are, or are similar to, the following: (1) Goods of boycotted country origin are prohibited; (2) No six-pointed stars may be used on the goods, packing or cases; (3) Neither goods nor packing shall bear any symbols prohibited in the boycotting country.

(a) *Goods of boycotted country origin prohibited.* This term is very common in letters of credit from Kuwait and may also appear from time-to-time in invitations to bid, contracts, or other trade documents. It imposes a condition or requirement compliance with which is prohibited, but permitted by an exception under the Regulations (see §760.2(a) and §760.3(a)). It is reportable by those parties to the letter of credit or other transaction that are required to take or refrain from taking some boycott related action by the request. Thus the bank must report the request because it is a term or condition of the letter of credit that it is handling, and the exporter-beneficiary must report the request because the exporter determines the origin of the goods. The freight forwarder does not have to report this request because the forwarder has no role or obligation in selecting the goods. However, the freight forwarder would have to report a request to furnish a certificate that the goods do not originate in or contain components from a boycotted country. See §760.5, examples (xii)–(xvii).

(b) *No six-pointed stars may be used on the goods, packing or cases.* This term appears from time-to-time on documents from a variety of countries. The Department has taken the position that the six-pointed star is a religious symbol. See §760.2(b), example (viii) of this part. Agreeing to this term is prohibited by the Regulations and not excepted because it constitutes an agreement to furnish information about the religion of a U.S. person. See §760.2(c) of this part. If a person proceeds with a transaction in which this is a condition at any stage of the transaction, that person has agreed to the condition in violation of the Regulations. It is not enough to ignore the condition. Exception must affirmatively be taken to this term or it must be stricken from the documents of the transaction. It is reportable by all parties to the transaction that are restricted by it. For example, unlike the situation described in (a) above, the freight forwarder would have to report this request because his role in the transaction would involve preparation of the packing and cases. The bank and exporter would both have to report, of course, if it were a term in a letter of credit. Each party would be obligated affirmatively to seek an amendment or deletion of the term.

(c) *Neither goods nor packaging shall bear any symbols prohibited in the boycotting country.* This term appears from time-to-time in letters of credit and shipping documents from Saudi Arabia. In our view, it is neither prohibited, nor reportable because it is not boycott-related. There is a wide range of symbols that are prohibited in Saudi Arabia for a variety of reasons, many having to do with that nation's cultural and religious beliefs. On this basis, we do not interpret the term to be boycott related. See §760.2(a)(5) and §760.5(a)(5)(v) of this part.

[61 FR 12862, Mar. 25, 1996, as amended at 65 FR 34949, June 1, 2000]

SUPPLEMENT NO. 7 TO PART 760—INTERPRETATION

Prohibited Refusal To Do Business

When a boycotting country rejects for boycott-related reasons a shipment of goods sold by a United States person, the United States person selling the goods may return them to its inventory or may re-ship them to other markets (the United States person may not return them to the original supplier and demand restitution). The U.S. person may then make a non-boycott based selection of another supplier and provide the goods necessary to meet its obligations to the boycotting customer in that particular transaction without violating §760.2(a) of this

part. If the United States person receives another order from the same boycotting country for similar goods, the Department has determined that a boycott-based refusal by a United States person to ship goods from the supplier whose goods were previously rejected would constitute a prohibited refusal to do business under §760.2(a) of this part. The Department will presume that filling such an order with alternative goods is evidence of the person's refusal to deal with the original supplier.

The Department recognizes the limitations this places on future transactions with a boycotting country once a shipment of goods has been rejected. Because of this, the Department wishes to point out that, when faced with a boycotting country's refusal to permit entry of the particular goods, a United States person may state its obligation to abide by the requirements of United States law and indicate its readiness to comply with the unilateral and specific selection of goods by the boycotting country in accordance with §760.3(d). That section provides, in pertinent part, as follows:

''A United States person may comply or agree to comply in the normal course of business with the unilateral and specific selection by a boycotting country * * * of * * * specific goods, * * * provided that * * * with respect to goods, the items, in the normal course of business, are identifiable as to their source or origin at the time of their entry into the boycotting country by (a) uniqueness of design or appearance or (b) trademark, trade name, or other identification normally on the items themselves, including their packaging.''

The United States person may also provide certain services in advance of the unilateral selection by the boycotting country, such as the compilation of lists of qualified suppliers, so long as such services are customary to the type of business the United States person is engaged in, and the services rendered are completely non-exclusionary in character (i.e., the list of qualified suppliers would have to include the supplier whose goods had previously been rejected by the boycotting country, if they were fully qualified). See §760.2(a)(6) of this part for a discussion of the requirements for the provision of these services.

The Department wishes to emphasize that the unilateral selection exception in §760.3(d) of this part will be construed narrowly, and that all its requirements and conditions must be met, including the following:

—Discretion for the selection must be exercised by a boycotting country; or by a national or resident of a boycotting country;
—The selection must be stated in the affirmative specifying a particular supplier of goods;
—While a permissible selection may be boycott based, if the United States person knows or has reason to know that the purpose of the selection is to effect discrimination against any United States person on the basis of race, religion, sex, or national origin, the person may not comply under any circumstances.

The Department cautions United States persons confronted with the problem or concern over the boycott-based rejection of goods shipped to a boycotting country that the adoption of devices such as ''risk of loss'' clauses, or conditions that make the supplier financially liable if his or her goods are rejected by the boycotting country for boycott reasons are presumed by the Department to be evasion of the statute and regulations, and as such are prohibited by §760.4 of this part, unless adopted prior to January 18, 1978. See §760.4(d) of this part.

[61 FR 12862, Mar. 25, 1996, as amended at 65 FR 34949, June 1, 2000]

SUPPLEMENT NO. 8 TO PART 760—INTERPRETATION

Definition of Interstate or Foreign Commerce of the United States

When United States persons (as defined by the antiboycott regulations) located within the United States purchase or sell goods or services located outside the United States, they have engaged in an activity within the foreign commerce of the United States. Although the goods or services may never physically come within the geographic boundaries of the several states or territories of the United States, legal ownership or title is transferred from a foreign nation to the United States person who is located in the United States. In the case of a purchase, subsequent resale would also be within United States commerce.

It is the Department's view that the terms ''sale'' and ''purchase'' as used in the regulations are not limited to those circumstances where the goods or services are physically transferred to the person who acquires title. The EAR define the activities that serve as the transactional basis for U.S. commerce as those involving the ''sale, purchase, or transfer'' of goods or services. In the Department's view, as used in the antiboycott regulations, ''transfer'' contemplates physical movement of the goods or services between the several states or territories and a foreign country, while ''sale'' and ''purchase'' relate to the movement of ownership or title.

This interpretation applies only to those circumstances in which the person located within the United States buys or sells goods or services for its own account. Where the United States person is engaged in the brokerage of foreign goods, i.e., bringing foreign buyers and sellers together and assisting in

the transfer of the goods, the sale or purchase itself would not ordinarily be considered to be within U.S. commerce. The brokerage service, however, would be a service provided from the United States to the parties and thus an activity within U.S. commerce and subject to the antiboycott laws. See §760.1(d)(3).

The Department cautions that United States persons who alter their normal pattern of dealing to eliminate the passage of ownership of the goods or services to or from the several states or territories of the United States in order to avoid the application of the antiboycott regulations would be in violation of §760.4 of this part.

[61 FR 12862, Mar. 25, 1996, as amended at 65 FR 34950, June 1, 2000]

SUPPLEMENT NO. 9 TO PART 760—INTERPRETATION

Activities Exclusively Within a Boycotting Country—Furnishing Information

§760.3(h) of this part provides that a United States person who is a bona fide resident of a boycotting country may comply with the laws of that country with respect to his or her activities exclusively within the boycotting country. Among the types of conduct permitted by this exception is ''furnishing information within the host country'' §760.3(h)(1)(v) of this part. For purposes of the discussion which follows, the Department is assuming that the person in question is a bona fide resident of the boycotting country as defined in §760.3(g), and that the information to be provided is required by the laws or regulations of the boycotting country, as also defined in §760.3(g) of this part. The only issue this interpretation addresses is under what circumstances the provision of information is ''an activity exclusively within the boycotting country.''

The activity of ''furnishing information'' consists of two parts, the acquisition of the information and its subsequent transmittal. Under the terms of this exception, the information may not be acquired outside the country for the purpose of responding to the requirement for information imposed by the boycotting country. Thus, if an American company which is a bona fide resident of a boycotting country is required to provide information about its dealings with other U.S. firms, the company may not ask its parent corporation in the United States for that information, or make any other inquiry outside the boundaries of the boycotting country. The information must be provided to the boycotting country authorities based on information or knowledge available to the company and its personnel located within the boycotting country at the time the inquiry is received. See §760.3, (h) of this part, examples (iii), (iv), and (v). Much of the information in the company's possession (transaction and corporate records) may have actually originated outside the boycotting country, and much of the information known to the employees may have been acquired outside the boycotting country. This will not cause the information to fall outside the coverage of this exception, if the information was sent to the boycotting country or acquired by the individuals in normal commercial context prior to and unrelated to a boycott inquiry or purpose. It should be noted that if prohibited information (about business relations with a boycotted country, for example) has been forwarded to the affiliate in the boycotting country in anticipation of a possible boycott inquiry from the boycotting country government, the Department will not regard this as information within the knowledge of the bona fide resident under the terms of the exception. However, if the bona fide resident possesses the information prior to receipt of a boycott-related inquiry and obtained it in a normal commercial context, the information can be provided pursuant to this exception notwithstanding the fact that, at some point, the information came into the boycotting country from the outside.

The second part of the analysis of ''furnishing information'' deals with the limitation on the transmittal of the information. It can only be provided within the boundaries of the boycotting country. The bona fide resident may only provide the information to the party that the boycotting country law requires (directly or through an agent or representative within the country) so long as that party is located within the boycotting country. This application of the exception is somewhat easier, since it is relatively simple to determine if the information is to be given to somebody within the country.

Note that in discussing what constitutes furnishing information ''exclusively within'' the boycotting country, the Department does not address the nature of the transaction or activity that the information relates to. It is the Department's position that the nature of the transaction, including the inception or completion of the transaction, is not material in analyzing the availability of this exception.

For example, if a shipment of goods imported into a boycotting country is held up at the time of entry, and information from the bona fide resident within that country is legally required to free those goods, the fact that the information may relate to a transaction that began outside the boycotting country is not material. The availability of the exception will be judged based on the activity of the bona fide resident within the

country. If the resident provides that information of his or her own knowledge, and provides it to appropriate parties located exclusively within the country, the exception permits the information to be furnished.

Factual variations may raise questions about the application of this exception and the effect of this interpretation. In an effort to anticipate some of these, the Department has set forth below a number of questions and answers. They are incorporated as a part of this interpretation.

1. Q. Under this exception, can a company which is a U.S. person and a bona fide resident of the boycotting country provide information to the local boycott office?

A. Yes, if local law requires the company to provide this information to the boycott office and all the other requirements are met.

2. Q. If the company knows that the local boycott office will forward the information to the Central Boycott Office, may it still provide the information to the local boycott office?

A. Yes, if it is required by local law to furnish the information to the local boycott office and all the other requirements are met. The company has no control over what happens to the information after it is provided to the proper authorities. (There is obvious potential for evasion here, and the Department will examine such occurrences closely.)

3. Q. Can a U.S. person who is a bona fide resident of Syria furnish information to the Central Boycott Office in Damascus?

A. No, unless the law in Syria specifically requires information to be provided to the Central Boycott Office the exception will not apply. Syria has a local boycott office responsible for enforcing the boycott in that country.

4. Q. If a company which is a U.S. person and a bona fide resident of the boycotting country has an import shipment held up in customs of the boycotting country, and is required to provide information about the shipment to get it out of customs, may the company do so?

A. Yes, assuming all other requirements are met. The act of furnishing the information is the activity taking place exclusively within the boycotting country. The fact that the information is provided corollary to a transaction that originates or terminates outside the boycotting country is not material.

5. Q. If the U.S. person and bona fide resident of the boycotting country is shipping goods out of the boycotting country, and is required to certify to customs officials of the country at the time of export that the goods are not of Israeli origin, may he do so even though the certification relates to an export transaction?

A. Yes, assuming all other requirements are met. See number 4 above.

[61 FR 12862, Mar. 25, 1996, as amended at 65 FR 34950, June 1, 2000]

SUPPLEMENT NO. 10 TO PART 760—INTERPRETATION

(a) The words ''Persian Gulf'' cannot appear on the document.

This term is common in letters of credit from Kuwait and may be found in letters of credit from Bahrain. Although more commonly appearing in letters of credit, the term may also appear in other trade documents.

It is the Department's view that this term reflects a historical dispute between the Arabs and the Iranians over geographic place names which in no way relates to existing economic boycotts. Thus, the term is neither prohibited nor reportable under the Regulations.

(b) Certify that goods are of U.S.A. origin and *contain no foreign parts.*

This term appears periodically on documents from a number of Arab countries. It is the Department's position that the statement is a positive certification of origin and, as such, falls within the exception contained in §760.3(c) of this part for compliance with the import and shipping document requirements of a boycotting country. Even though a negative phrase is contained within the positive clause, the phrase is a non-exclusionary, non-blacklisting statement. In the Department's view, the additional phrase does not affect the permissible status of the positive certificate, nor does it make the request reportable §760.5(a)(5)(iii) of this part.

(c) Legalization of documents by any Arab consulate except Egyptian Consulate permitted.

This term appears from time to time in letters of credit but also may appear in various other trade documents requiring legalization and thus is not prohibited, and a request to comply with the statement is not reportable. Because a number of Arab states do not have formal diplomatic relations with Egypt, they do not recognize Egyptian embassy actions. The absence of diplomatic relations is the reason for the requirement. In the Department's view this does not constitute an unsanctioned foreign boycott or embargo against Egypt under the terms of the Export Administration Act. Thus the term is not prohibited, and a request to comply with the statement is not reportable.

[61 FR 12862, Mar. 25, 1996, as amended at 65 FR 34950, June 1, 2000]

SUPPLEMENT NO. 11 TO PART 760—INTERPRETATION

Definition of Unsolicited Invitation To Bid

§760.5(a)(4) of this part states in part:

''In addition, a United States person who receives an unsolicited invitation to bid, or similar proposal, containing a boycott request has not received a reportable request for purposes of this section where he does not respond to the invitation to bid or other proposal.''

The Regulations do not define ''unsolicited'' in this context. Based on review of numerous situations, the Department has developed certain criteria that it applies in determining if an invitation to bid or other proposal received by a U.S. person is in fact unsolicited.

The invitation is not unsolicited if, during a commercially reasonable period of time preceding the issuance of the invitation, a representative of the U.S. person contacted the company or agency involved for the purpose of promoting business on behalf of the company.

The invitation is not unsolicited if the U.S. person has advertised the product or line of products that are the subject of the invitation in periodicals or publications that ordinarily circulate to the country issuing the invitation during a commercially reasonable period of time preceding the issuance of the invitation.

The invitation is not unsolicited if the U.S. person has sold the same or similar products to the company or agency issuing the invitation within a commercially reasonable period of time before the issuance of the current invitation.

The invitation is not unsolicited if the U.S. person has participated in a trade mission to or trade fair in the country issuing the invitation within a commercially reasonable period of time before the issuance of the invitation.

Under §760.5(a)(4) of this part, the invitation is regarded as not reportable if the U.S. person receiving it does not respond. The Department has determined that a simple acknowledgment of the invitation does not constitute a response for purposes of this rule. However, an acknowledgment that requests inclusion for future invitations will be considered a response, and a report is required.

Where the person in receipt of an invitation containing a boycott term or condition is undecided about a response by the time a report would be required to be filed under the regulations, it is the Department's view that the person must file a report as called for in the Regulations. The person filing the report may indicate at the time of filing that he has not made a decision on the boycott request but must file a supplemental report as called for in the regulations at the time a decision is made (§760.5(b)(6)).

[61 FR 12862, Mar. 25, 1996, as amended at 65 FR 34950, June 1, 2000]

SUPPLEMENT NO. 12 TO PART 760—INTERPRETATION

The Department has taken the position that a U.S. person as defined by §760.1(b) of this part may not make use of an agent to furnish information that the U.S. person is prohibited from furnishing pursuant to §760.2(d) of this part.

Example (v) under §760.4 of this part (Evasion) provides:

''A, a U.S. company, is negotiating a long-term contract with boycotting country Y to meet all of Y's medical supply needs. Y informs A that before such a contract can be concluded, A must complete Y's boycott questionnaire. A knows that it is prohibited from answering the questionnaire so it arranges for a local agent in Y to supply the necessary information.''

''A's action constitutes evasion of this part, because it is a device to mask prohibited activity carried out on A's behalf.''

This interpretation deals with the application of the Regulations to a commercial agent registration requirement imposed by the government of Saudi Arabia. The requirement provides that nationals of Saudi Arabia seeking to register in Saudi Arabia as commercial agents or representatives of foreign concerns must furnish certain boycott-related information about the foreign concern prior to obtaining approval of the registration.

The requirement has been imposed by the Ministry of Commerce of Saudi Arabia, which is the government agency responsible for regulation of commercial agents and foreign commercial registrations. The Ministry requires the agent or representative to state the following:

''Declaration: I, the undersigned, hereby declare, in my capacity as (blank) that (name and address of foreign principal) is not presently on the blacklist of the Office for the Boycott of Israel and that it and all its branches, if any, are bound by the decisions issued by the Boycott Office and do not (1) participate in the capital of, (2) license the manufacture of any products or grant trademarks or tradeware license to, (3) give experience or technical advice to, or (4) have any other relationship with other companies which are prohibited to be dealt with by the Boycott Office. Signed (name of commercial agent/representative/distributor).''

It is the Department's view that under the circumstances specifically outlined in this interpretation relating to the nature of the requirement, a U.S. person will not be held responsible for a violation of this part when

such statements are provided by its commercial agent or representative, even when such statements are made with the full knowledge of the U.S. person.

Nature of the requirement. For a boycott-related commercial registration requirement to fall within the coverage of this interpretation it must have the following characteristics:

1. The requirement for information imposed by the boycotting country applies to a national or other subject of the boycotting country qualified under the local laws of that country to function as a commercial representative within that country;

2. The registration requirement relates to the registration of the commercial agent's or representative's authority to sell or distribute goods within the boycotting country acquired from the foreign concern;

3. The requirement is a routine part of the registration process and is not applied selectively based on boycott-related criteria;

4. The requirement applies only to a commercial agent or representative in the boycotting country and does not apply to the foreign concern itself; and

5. The requirement is imposed by the agency of the boycotting country responsible for regulating commercial agencies.

The U.S. person whose agent is complying with the registration requirement continues to be subject to all the terms of the Regulations, and may not provide any prohibited information to the agent for purposes of the agent's compliance with the requirement.

In addition, the authority granted to the commercial agent or representative by the U.S. person must be consistent with standard commercial practices and not involve any grants of authority beyond those incidental to the commercial sales and distributorship responsibilities of the agent.

Because the requirement does not apply to the U.S. person, no reporting obligation under §760.5 of this part would arise.

This interpretation, like all others issued by the Department discussing applications of the antiboycott provisions of the Export Administration Regulations, should be read narrowly. Circumstances that differ in any material way from those discussed in this notice will be considered under the applicable provisions of the Regulations. Persons are particularly advised not to seek to apply this interpretation to circumstances in which U.S. principals seek to use agents to deal with boycott-related or potential blacklisting situations.

[61 FR 12862, Mar. 25, 1996, as amended at 65 FR 34950, June 1, 2000]

SUPPLEMENT NO. 13 TO PART 760—INTERPRETATION

SUMMARY

This interpretation considers boycott-based contractual language dealing with the selection of suppliers and subcontractors. While this language borrows terms from the ''unilateral and specific selection'' exception contained in §760.3(d), it fails to meet the requirements of that exception. Compliance with the requirements of the language constitutes a violation of the regulatory prohibition of boycott-based refusals to do business.

REGULATORY BACKGROUND

Section 760.2(a) of this part prohibits U.S. persons from refusing or knowingly agreeing to refuse to do business with other persons when such refusal is pursuant to an agreement with, requirement of, or request of a boycotting country. That prohibition does not extend to the performance of management, procurement or other pre-award services, however, notwithstanding knowledge that the ultimate selection may be boycott-based. To be permissible such services: (1) Must be customary for the firm or industry involved and (2) must not exclude others from the transaction or involve other actions based on the boycott. See §760.2(a)(6) of this part, ''Refusals to Do Business'', and example (xiii).

A specific exception is also made in the Regulations for compliance (and agreements to comply) with a unilateral and specific selection of suppliers or subcontractors by a boycotting country buyer. See §760.3(d) of this part. In supplement no. 1 to part 760, the following form of contractual language was said to fall within that exception for compliance with unilateral and specific selection:

''The Government of the boycotting country (or the First Party), in its exclusive power, reserves its right to make the final unilateral and specific selection of any proposed carriers, insurers, suppliers of services to be performed within the boycotting country, or of specific goods to be furnished in accordance with the terms and conditions of this contract.''

The Department noted that the actual steps necessary to comply with any selection made under this agreement would also have to meet the requirements of §760.3(d) to claim the benefit of that exception. In other words, the discretion in selecting would have to be exercised exclusively by the boycotting country customer and the selection would have to be stated in the affirmative, naming a particular supplier. See §760.3(d) (4) and (5) of this part.

ANALYSIS OF ADDITIONAL CONTRACTUAL LANGUAGE

The Office of Antiboycott Compliance has learned of the introduction of a contractual clause into tender documents issued by boycotting country governments. This clause is, in many respects, similar to that dealt with in supplement no. 1 to part 760, but several critical differences exist.

The clause states:

BOYCOTT OF [NAME OF BOYCOTTED COUNTRY]

In connection with the performance of this Agreement, Contractor acknowledges that the import and customs laws and regulations of boycotting country apply to the furnishing and shipment of any products or components thereof to boycotting country. The Contractor specifically acknowledges that the aforementioned import and customs laws and regulations of boycotting country prohibit, among other things, the importation into boycotting country of products or components thereof: (A) Originating in boycotted country; (B) Manufactured, produced and furnish by companies organized under the laws of boycotted country; and (C) Manufactured, produced or furnished by Nationals or Residents of boycotted country.

The Government, in its exclusive power, reserves its right to make the final unilateral and specific selection of any proposed Carriers, Insurers, Suppliers of Services to be performed within boycotting country or of specific goods to be furnished in accordance with the terms and conditions of this Contract.

To assist the Government in exercising its right under the preceding paragraph, Contractor further agrees to provide a complete list of names and addresses of all his Sub-Contractors, Suppliers, Vendors and Consultants and any other suppliers of the service for the project.

The title of this clause makes clear that its provisions are intended to be boycott-related. The first paragraph acknowledges the applicability of certain boycott-related requirements of the boycotting country's laws in language reviewed in part 760, supplement no. 1, Part II.B. and found to constitute a permissible agreement under the exception contained in §760.3(a) of this part for compliance with the import requirements of a boycotting country. The second and third paragraphs together deal with the procedure for selecting subcontractors and suppliers of services and goods and, in the context of the clause as a whole, must be regarded as motivated by boycott considerations and intended to enable the boycotting country government to make boycott-based selections, including the elimination of blacklisted subcontractors and suppliers.

The question is whether the incorporation into these paragraphs of some language from the ''unilateral and specific selection'' clause approved in supplement no. 1 to part 760 suffices to take the language outside §760.2(a) of this part's prohibition on boycott-based agreements to refuse to do business. While the first sentence of this clause is consistent with the language discussed in supplement no. 1 to part 760, the second sentence significantly alters the effect of this clause. The effect is to draw the contractor into the decision-making process, thereby destroying the unilateral character of the selection by the buyer. By agreeing to submit the names of the suppliers it plans to use, the contractor is agreeing to give the boycotting country buyer, who has retained the right of final selection, the ability to reject, for boycott-related reasons, any supplier the contractor has already chosen. Because the requirement appears in the contractual provision dealing with the boycott, the buyer's rejection of any supplier whose name is given to the buyer pursuant to this provision would be presumed to be boycott-based. By signing the contract, and thereby agreeing to comply with all of its provisions, the contractor must either accept the buyer's rejection of any supplier, which is presumed to be boycott-based because of the context of this provision, or breach the contract.

In these circumstances, the contractor's method of choosing its subcontractors and suppliers, in anticipation of the buyer's boycott-based review, cannot be considered a permissible pre-award service because of the presumed intrusion of boycott-based criteria into the selection process. Thus, assuming all other jurisdictional requirements necessary to establish a violation of part 760 are met, the signing of the contract by the contractor constitutes a violation of §760.2(a) of this part because he is agreeing to refuse to do business for boycott reasons.

The apparent attempt to bring this language within the exception for compliance with unilateral and specific selections is ineffective. The language does not place the discretion to choose suppliers in the hands of the boycotting country buyer but divides this discretion between the buyer and his principal contractor. Knowing that the buyer will not accept a boycotted company as supplier or subcontractor, the contractor is asked to use his discretion in selecting a single supplier or subcontractor for each element of the contract. The boycotting country buyer exercises discretion only through accepting or rejecting the selected supplier or contractor as its boycott policies require. In these circumstances it cannot be said that the buyer is exercising right of unilateral and specific selection which meets the criteria of §760.3(d). For this reason, agreement to the contractual language discussed here would constitute an agreement to refuse to do business with any person rejected by the

buyer and would violate §760.2(a) of this part.

[61 FR 12862, Mar. 25, 1996, as amended at 65 FR 34950, June 1, 2000]

SUPPLEMENT NO. 14 TO PART 760—INTERPRETATION

(a) *Contractual clause concerning import, customs and boycott laws of a boycotting country.* The following language has appeared in tender documents issued by a boycotting country:

''Supplier declares his knowledge of the fact that the import, Customs and boycott laws, rules and regulations of [name of boycotting country] apply in importing to [name of boycotting country].''

''Supplier declares his knowledge of the fact that under these laws, rules and regulations, it is prohibited to import into [name of the boycotting country] any products or parts thereof that originated in [name of boycotted country]; were manufactured, produced or imported by companies formed under the laws of [name of boycotted country]; or were manufactured, produced or imported by nationals or residents of [name of boycotted country].''

Agreeing to the above contractual language is a prohibited agreement to refuse to do business, under §760.2(a) of this part. The first paragraph requires broad acknowledgment of the application of the boycotting country's boycott laws, rules and regulations. Unless this language is qualified to apply only to boycott restrictions with which U.S. persons may comply, agreement to it is prohibited. See §760.2(a) of this part, examples (v) and (vi) under ''Agreements to Refuse to Do Business.''

The second paragraph does not limit the scope of the boycott restrictions referenced in the first paragraph. It states that the boycott laws include restrictions on goods originating in the boycotted country; manufactured, produced or supplied by companies organized under the laws of the boycotted country; or manufactured, produced or supplied by nationals or residents of the boycotted country. Each of these restrictions is within the exception for compliance with the import requirements of the boycotting country (§760.3(a) of this part). However, the second paragraph's list of restrictions is not exclusive. Since the boycott laws generally include more than what is listed and permissible under the antiboycott law, U.S. persons may not agree to the quoted clause. For example, a country's boycott laws may prohibit imports of goods manufactured by blacklisted firms. Except as provided by §760.3(g) of this part, agreement to and compliance with this boycott restriction would be prohibited under the antiboycott law.

The above contractual language is distinguished from the contract clause determined to be permissible in supplement 1, Part II, A, by its acknowledgment that the boycott requirements of the boycotting country apply. Although the first sentence of the Supplement 1 clause does not exclude the possible application of boycott laws, it refers only to the import and customs laws of the boycotting country without mentioning the boycott laws as well. As discussed fully in supplement no. 1 to part 760, compliance with or agreement to the clause quoted there is, therefore, permissible.

The contract clause quoted above, as well as the clause dealt with in supplement no. 1 to part 760, part II, A, is reportable under §760.5(a)(1) of this part.

(b) *Letter of credit terms removing blacklist certificate requirement if specified vessels used.* The following terms frequently appear on letters of credit covering shipment to Iraq:

''Shipment to be effected by Iraqi State Enterprise for Maritime Transport Vessels or by United Arab Shipping Company (SAB) vessels, if available.''

''If shipment is effected by any of the above company's [sic] vessels, black list certificate or evidence to that effect is not required.''

These terms are not reportable and compliance with them is permissible.

The first sentence, a directive to use Iraqi State Enterprise for Maritime Transport or United Arab Shipping vessels, is neither reportable nor prohibited because it is not considered by the Department to be boycott-related. The apparent reason for the directive is Iraq's preference to have cargo shipped on its own vessels (or, as in the case of United Arab Shipping, on vessels owned by a company in part established and owned by the Iraqi government). Such ''cargo preference'' requirements, calling for the use of an importing or exporting country's own ships, are common throughout the world and are imposed for non-boycott reasons. (See §760.2(a) of this part, example (vii) AGREEMENTS TO REFUSE TO DO BUSINESS.)

In contrast, if the letter of credit contains a list of vessels or carriers that appears to constitute a boycott-related whitelist, a directive to select a vessel from that list would be both reportable and prohibited. When such a directive appears in conjunction with a term removing the blacklist certificate requirement if these vessels are used, the Department will presume that beneficiaries, banks and any other U.S. person receiving the letter of credit know that there is a boycott-related purpose for the directive.

The second sentence of the letter of credit language quoted above does not, by itself, call for a blacklist certificate and is not therefore, reportable. If a term elsewhere on

the letter of credit imposes a blacklist certificate requirement, then that other term would be reportable.

(c) *Information not related to a particular transaction in U.S. commerce.* Under §760.2 (c), (d) and (e), of this part U.S. persons are prohibited, with respect to their activities in U.S. commerce, from furnishing certain information. It is the Department's position that the required nexus with U.S. commerce is established when the furnishing of information itself occurs in U.S. commerce. Even when the furnishing of information is not itself in U.S. commerce, however, the necessary relationship to U.S. commerce will be established if the furnishing of information relates to particular transactions in U.S. commerce or to anticipated transactions in U.S. commerce. See, e.g. §760.2(d), examples (vii), (ix) and (xii) of this part.

The simplest situation occurs where a U.S. person located in the United States furnishes information to a boycotting country. The transfer of information from the United States to a foreign country is itself an activity in U.S. commerce. See §760.1(d)(1)(iv) of this part. In some circumstances, the furnishing of information by a U.S. person located outside the United States may also be an activity in U.S. commerce. For example, the controlled foreign subsidiary of a domestic concern might furnish to a boycotting country information the subsidiary obtained from the U.S.-located parent for that purpose. The subsidiary's furnishing would, in these circumstances, constitute an activity in U.S. commerce. See §760.1(d)(8) of this part.

Where the furnishing of information is not itself in U.S. commerce, the U.S. commerce requirement may be satisfied by the fact that the furnishing is related to an activity in U.S. foreign or domestic commerce. For example, if a shipment of goods by a controlled-in-fact foreign subsidiary of a U.S. company to a boycotting country gives rise to an inquiry from the boycotting country concerning the subsidiary's relationship with another firm, the Department regards any responsive furnishing of information by the subsidiary as related to the shipment giving rise to the inquiry. If the shipment is in U.S. foreign or domestic commerce, as defined by the regulations, then the Department regards the furnishing to be related to an activity in U.S. commerce and subject to the antiboycott regulations, whether or not the furnishing itself is in U.S. commerce.

In some circumstances, the Department may regard a furnishing of information as related to a broader category of present and prospective transactions. For example, if a controlled-in-fact foreign subsidiary of a U.S. company is requested to furnish information about its commercial dealings and it appears that failure to respond will result in its blacklisting, any responsive furnishing of information will be regarded by the Department as relating to all of the subsidiary's present and anticipated business activities with the inquiring boycotting country. Accordingly, if any of these present or anticipated business activities are in U.S. commerce, the Department will regard the furnishing as related to an activity in U.S. commerce and subject to the antiboycott regulations.

In deciding whether anticipated business activities will be in U.S. commerce, the Department will consider all of the surrounding circumstances. Particular attention will be given to the history of the U.S. person's business activities with the boycotting country and others, the nature of any activities occurring after a furnishing of information occurs and any relevant economic or commercial factors which may affect these activities.

For example, if a U.S. person has no activities with the boycotting country at present but all of its other international activities are in U.S. commerce, as defined by the Regulations, then the Department is likely to regard any furnishing of information by that person for the purpose of securing entry into the boycotting country's market as relating to anticipated activities in U.S. commerce and subject to the antiboycott regulations. Similarly, if subsequent to the furnishing of information to the boycotting country for the purpose of securing entry into its markets, the U.S. person engages in transactions with that country which are in U.S. commerce, the Department is likely to regard the furnishing as related to an activity in U.S. commerce and subject to the antiboycott regulations.

[61 FR 12862, Mar. 25, 1996, as amended at 65 FR 34950, June 1, 2000]

SUPPLEMENT NO. 15 TO PART 760—INTERPRETATION

Section 760.2 (c), (d), and (e) of this part prohibits United States persons from furnishing certain types of information with intent to comply with, further, or support an unsanctioned foreign boycott against a country friendly to the United States. The Department has been asked whether prohibited information may be transmitted—that is, passed to others by a United States person who has not directly or indirectly authored the information—without such transmission constituting a furnishing of information in violation of §760.2 (c), (d), and (e) of this part. Throughout this interpretation, ''transmission'' is defined as the passing on by one person of information initially authored by another. The Department believes that there is no distinction in the EAR between transmitting (as defined above) and furnishing prohibited information under the

EAR and that the transmission of prohibited information with the requisite boycott intent is a furnishing of information violative of the EAR. At the same time, however, the circumstances relating to the transmitting party's involvement will be carefully considered in determining whether that party intended to comply with, further, or support an unsanctioned foreign boycott.

The EAR does not deal specifically with the relationship between transmitting and furnishing. However, the restrictions in the EAR on responses to boycott-related conditions, both by direct and indirect actions and whether by primary parties or intermediaries, indicate that U.S. persons who simply transmit prohibited information are to be treated the same under the EAR as those who both author and furnish prohibited information. This has been the Department's position in enforcement actions it has brought.

The few references in the EAR to the transmission of information by third parties are consistent with this position. Two examples, both relating to the prohibition against the furnishing of information about U.S. persons' race, religion, sex, or national origin (§760.2(c) of this part), deal explicitly with transmitting information. These examples (§760.2(c) of this part, example (v), and §760.3(f) of this part, example (vi)) show that, in certain cases, when furnishing certain information is permissible, either because it is not within a prohibition or is excepted from a prohibition, transmitting it is also permissible. These examples concern information that may be furnished by individuals about themselves or their families. The examples show that employers may transmit to a boycotting country visa applications or forms containing information about an employee's race, religion, sex, or national origin if that employee is the source of the information and authorizes its transmission. In other words, within the limits of ministerial action set forth in these examples, employees' actions in transmitting information are protected by the exception available to the employee. The distinction between permissible and prohibited behavior rests not on the definitional distinction between furnishing and transmitting, but on the excepted nature of the information furnished by the employee. The information originating from the employee does not lose its excepted character because it is transmitted by the employer.

The Department's position regarding the furnishing and transmission of certificates of one's own blacklist status rests on a similar basis and does not support the contention that third parties may transmit prohibited information authored by another. Such self-certifications do not violate any prohibitions in the EAR (see Supplement Nos. 1(I)(B), 2, and 5(A)(2); §760.2(f), example (xiv)). It is the Department's position that it is not prohibited for U.S. persons to transmit such self-certifications completed by others. Once again, because furnishing the self-certification is not prohibited, third parties who transmit the self-certifications offend no prohibition. On the other hand, if a third party authored information about another's blacklist status, the act of transmitting that information would be prohibited.

A third example in the EAR (§760.5, example (xiv) of this part), which also concerns a permissible transmission of boycott-related information, does not support the theory that one may transmit prohibited information authored by another. This example deals with the reporting requirements in §760.5 of this part—not the prohibitions—and merely illustrates that a person who receives and transmits a self-certification has not received a reportable request.

It is also the Department's position that a U.S. person violates the prohibitions against furnishing information by transmitting prohibited information even if that person has received no reportable request in the transaction. For example, where documents accompanying a letter of credit contain prohibited information, a negotiating bank that transmits the documents, with the requisite boycott intent, to an issuing bank has not received a reportable request, but has furnished prohibited information.

While the Department does not regard the suggested distinction between transmitting and furnishing information as meaningful, the facts relating to the third party's involvement may be important in determining whether that party furnished information with the required intent to comply with, further, or support an unsanctioned foreign boycott. For example, if it is a standard business practice for one participant in a transaction to obtain and pass on, without examination, documents prepared by another party, it might be difficult to maintain that the first participant intended to comply with a boycott by passing on information contained in the unexamined documents. Resolution of such intent questions, however, depends upon an analysis of the individual facts and circumstances of the transaction and the Department will continue to engage in such analysis on a case-by-case basis.

This interpretation, like all others issued by the Department discussing applications of the antiboycott provisions of the EAR, should be read narrowly. Circumstances that differ in any material way from those discussed in this interpretation will be considered under the applicable provisions of the Regulations.

SUPPLEMENT NO. 16 TO PART 760—INTERPRETATION

Pursuant to Articles 5, 7, and 26 of the Treaty of Peace between the State of Israel

and the Hashemite Kingdom of Jordan and implementing legislation enacted by Jordan, Jordan's participation in the Arab economic boycott of Israel was formally terminated on August 16, 1995.

On the basis of this action, it is the Department's position that certain requests for information, action or agreement from Jordan which were considered boycott-related by implication now cannot be presumed boycott-related and thus would not be prohibited or reportable under the regulations. For example, a request that an exporter certify that the vessel on which it is shipping its goods is eligible to enter Hashemite Kingdom of Jordan ports has been considered a boycott-related request that the exporter could not comply with because Jordan has had a boycott in force against Israel. Such a request from Jordan after August 16, 1995 would not be presumed boycott-related because the underlying boycott requirement/basis for the certification has been eliminated. Similarly, a U.S. company would not be prohibited from complying with a request received from Jordanian government officials to furnish the place of birth of employees the company is seeking to take to Jordan because there is no underlying boycott law or policy that would give rise to a presumption that the request was boycott-related.

U.S. persons are reminded that requests that are on their face boycott-related or that are for action obviously in furtherance or support of an unsanctioned foreign boycott are subject to the regulations, irrespective of the country of origin. For example, requests containing references to ''blacklisted companies'', ''Israel boycott list'', ''non-Israeli goods'' or other phrases or words indicating boycott purpose would be subject to the appropriate provisions of the Department's antiboycott regulations.

SUPPLEMENT NO. 17 TO PART 760—INTERPRETATION

Pursuant to the agreement between the United Arab Emirates (UAE) and Israel establishing diplomatic and commercial relations (the ''Abraham Accords''), on August 16, 2020, the UAE issued Federal Decree-Law No. 4 of 2020, abolishing Federal Law No. 15 of 1972 Concerning the Arab League Boycott of Israel, thereby formally terminating participation by the UAE in the Arab League Boycott of Israel as of that date.

On the basis of this action, it is the Department's position that certain requests for information, action or agreement from the UAE, which were presumed to be boycott-related under this part of the EAR if issued prior to August 16, 2020, would not be presumed to be boycott-related if issued after August 16, 2020, and thus would not be prohibited or reportable under this part of the EAR.

For example, a request from the UAE that an exporter certify that the vessel on which it is shipping its goods is eligible to enter UAE ports was formerly presumed to be a boycott-related request under this part of the EAR with which the exporter could not comply because the UAE had a boycott law in force against Israel. Such a request from the UAE made after August 16, 2020, would no longer be presumed to be boycott-related because the underlying boycott requirement/basis for the certification was eliminated as of August 16, 2020. Similarly, a U.S. company would not be prohibited from complying with a request made by UAE government officials after August 16, 2020, to furnish the place of birth of employees the company is seeking to take to the UAE because there is no underlying UAE government boycott law or policy that would give rise to a presumption that the request was boycott-related.

U.S. persons are reminded that requests that are on their face boycott-related or that are for action obviously in furtherance or support of an unsanctioned foreign boycott are subject to this part of the EAR, irrespective of the country of origination. For example, requests containing references to ''blacklisted companies,'' ''Israel boycott list,'' ''non-Israeli goods,'' or other phrases or words indicating a boycott purpose would be subject to the appropriate provisions of the Department's antiboycott regulations in this part.

[86 FR 30536, June 9, 2021]

PART 762—RECORDKEEPING

Sec.

762.1 Scope.
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762.3 Records exempt from recordkeeping requirements.
762.4 Original records required.
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762.6 Period of retention.
762.7 Producing and inspecting records.

AUTHORITY: 50 U.S.C. 4801–4852; 50 U.S.C. 4601 *et seq.;* 50 U.S.C. 1701 *et seq.;* E.O. 13222, 66 FR 44025, 3 CFR, 2001 Comp., p. 783.

SOURCE: 61 FR 12900, Mar. 25, 1996, unless otherwise noted.

§ 762.1 Scope.

In this part, references to the EAR are references to 15 CFR chapter VII, subchapter C.

(a) *Transactions subject to this part.* The recordkeeping provisions of this part apply to the following transactions:

(1) Transactions involving restrictive trade practices or boycotts described in part 760 of the EAR;

(2) Exports of commodities, software, or technology from the United States and any known reexports, transfers (in-country), transshipment, or diversions of items exported from the United States;

(3) Exports to Canada, if, at any stage in the transaction, it appears that a person in a country other than the United States or Canada has an interest therein, or that the item involved is to be reexported, transshipped, or diverted from Canada to another foreign country; or

(4) Any other transactions subject to the EAR, including, but not limited to, the prohibitions against servicing, forwarding and other actions for or on behalf of end-users of proliferation concern contained in §§736.2(b)(7) and 744.6 of the EAR. This part also applies to all negotiations connected with those transactions, except that for export control matters a mere preliminary inquiry or offer to do business and negative response thereto shall not constitute negotiations, unless the inquiry or offer to do business proposes a transaction that a reasonably prudent exporter would believe likely to lead to a violation of the EAA, the EAR or any order, license or authorization issued thereunder.

(b) *Persons subject to this part.* Any person subject to the jurisdiction of the United States who, as principal or agent (including a forwarding agent), participates in any transaction described in paragraph (a) of this section, and any person in the United States or abroad who is required to make and maintain records under any provision of the EAR, shall keep and maintain all records described in §762.2 of this part that are made or obtained by that person and shall produce them in a manner provided by §762.7 of this part.

[61 FR 12900, Mar. 25, 1996, as amended at 70 FR 22249, Apr. 29, 2005; 78 FR 13471, Feb. 28, 2013; 87 FR 57106, Sept. 16, 2022]

§762.2 Records to be retained.

(a) *Records required to be retained.* The records required to be retained under this part 762 include the following:

(1) Export control documents as defined in part 772 of the EAR, except parties submitting documents electronically to BIS via the SNAP–R system are not required to retain copies of documents so submitted;

(2) Memoranda;

(3) Notes;

(4) Correspondence;

(5) Contracts;

(6) Invitations to bid;

(7) Books of account;

(8) Financial records;

(9) Restrictive trade practice or boycott documents and reports;

(10) Notification from BIS of an application being returned without action; notification by BIS of an application being denied; notification by BIS of the results of a commodity classification or encryption review request conducted by BIS;

(11) The serial number, make, model, and caliber for any firearm controlled in ECCNs 0A501.a, 0A506, or 0A507 and for shotguns with barrel length less than 18 inches controlled in 0A502 and 0A508 that have been exported. The ''exporter'' or any other party to the transaction (see §758.3 of the EAR), that creates or receives such records is a person responsible for retaining this record; and

(12) Other records pertaining to the types of transactions described in §762.1(a) of this part, which are made or obtained by a person described in §762.1(b) of this part.

(b) *Records retention references.* Paragraph (a) of this section describes records that are required to be retained. Other parts, sections, or supplements of the EAR which require the retention of records or contain record-keeping provisions, include, but are not limited to the following:

(1) §732.6, Steps for other requirements;

(2) §734.4(g), *de minimis* calculation (method);

(3) Section 734.9(h), Foreign Direct Product (FDP) supply chain certification;

(4) Part 736, General Prohibitions;

(5) §740.1, Introduction (to License Exceptions);

(6) §740.9(a)(3)(i)(B), Tools of trade: Temporary exports, reexports, and

transfers (in country) of technology by U.S. persons (TMP);

(7) §740.10(c), Servicing and replacement of parts and equipment (RPL);

(8) §740.11(b)(2)(iii) and (iv), Exports, reexports and transfers (in-country) made for or on behalf of a department or agency of the U.S. Government and Items exported at the direction of the U.S. Department of Defense (GOV);

(9) §740.12, Humanitarian donations (GFT);

(10) §740.13(h), Technology and software—unrestricted (TSU);

(11) §740.20(g), Responses to License Exception STA eligibility requests for ''600 series'' end items (STA);

(12) §743.1, Wassenaar reports;

(13) §743.2, High Performance Computers;

(14) §743.4(c)(1) and (c)(2), Conventional arms reporting;

(15) §745.1, Annual reports;

(16) §745.2, End-use certificates;

(17) §746.3 Iraq;

(18) [Reserved]

(19) §748.1(d)(2), Procedure for requesting authorization to file paper applications, notifications, or requests;

(20) §748.4(b), Disclosure of parties on license applications and the power of attorney;

(21) §748.6, General instructions for license applications;

(22) §748.9, Support documents for license applications;

(23) §748.10, PRC End-User Statement;

(24) §748.11, Statement by Ultimate Consignee and Purchaser;

(25) §748.12, Firearms Convention (FC) Import Certificate;

(26) [Reserved]

(27) Supplement No. 2 to Part 748 paragraph (c)(2), Security Safeguard Plan requirement;

(28) §750.7, Issuance of license and acknowledgment of conditions;

(29) §750.8, Revocation or suspension of license;

(30) §750.9, Duplicate licenses;

(31) §750.10, Transfer of licenses for export;

(32)–(39) [Reserved]

(40) §754.4, Unprocessed western red cedar;

(41) §758.1 and §758.2, Automated Export System record;

(42) §758.1(h), Record and proof of agent's authority;

(43) §758.3(b), Routed Export Transactions;

(44) §758.6, Destination control statements;

(45) §760.5, Reporting requirements;

(46) §762.2, Records to be retained;

(47) §764.2, Violations;

(48) §764.5, Voluntary self-disclosure;

(49) §766.10, Subpoenas;

(50) §772.2, ''Specially designed'' definition, note to paragraphs (b)(4), (b)(5), and (b)(6);

(51) §740.20, note to paragraph (c)(1), License Exception STA prior approval on a BIS or DDTC license (STA);

(52) §744.15(b), UVL statement as well as any logs or records created for multiple exports, reexports, and transfers (in-country);

(53) §750.7(c)(2), Notification of name change by advisory opinion request;

(54) §748.13, Certain Hong Kong import and export licenses; *and*

(55) §740.23, License Exception MED.

(56) §740.25, License Exception HBM.

(57) §740.26, License Exception RFF.

(58) §740.27, License Exception AIA.

(59) §740.28, License Exception ACM.

(60) §740.29, License Exception LPP.

(61) §748.16(b), all records relating to requests for addition or modifications to or deletion from supplement no. 6 or supplement no. 7 to part 740.

(62) Supplement No. 2 to Part 743 Authorized Integrated Circuit Designer Vetting Form.

(c) *Special recordkeeping requirement*—(1) *Libya.* Persons in receipt of a specific license granted by the Department of the Treasury's Office of Foreign Assets Control (OFAC) for the export to Libya of any item subject to the EAR must maintain a record of those items transferred to Libya pursuant to such specific license and record when the items are consumed or destroyed in the normal course of their use in Libya, reexported to a third country not requiring further authorization from BIS, or returned to the United States. This requirement applies only to items subject to a license requirement under the EAR for export to Libya as of April 29, 2004. These records must include the following information:

(i) Date of export or reexport and related details (including means of transport);

(ii) Description of items (including ECCN) and value of items in U.S. Dollars;

(iii) Description of proposed end-use and locations in Libya where items are intended to be used;

(iv) Parties other than specific OFAC licensee who may be given temporary access to the items; and

(v) Date of consumption or destruction, if the items are consumed or destroyed in the normal course of their use in Libya, or the date of reexport to a third country not requiring further authorization from BIS, or return to the United States.

(2) [Reserved]

[61 FR 12900, Mar. 25, 1996]

EDITORIAL NOTE: For FEDERAL REGISTER citations affecting §762.2, see the List of CFR Sections Affected, which appears in the Finding Aids section of the printed volume and at *www.govinfo.gov*.

§ 762.3 Records exempt from recordkeeping requirements.

(a) The following types of records have been determined to be exempt from the recordkeeping requirement procedures:

(1) Export information page;

(2) Special export file list;

(3) Vessel log from freight forwarder;

(4) Inspection certificate;

(5) Warranty certificate, except for a warranty certificate issued for an address located outside the United States for any firearm controlled in ECCNs 0A501.a or .b, 0A506 or 0A507 and for shotguns with barrel length less than 18 inches controlled in 0A502 or 0A508;

(6) Guarantee certificate;

(7) Packing material certificate;

(8) Goods quality certificate;

(9) Notification to customer of advance meeting;

(10) Letter of indemnity;

(11) Financial release form;

(12) Financial hold form;

(13) Export parts shipping problem form;

(14) Draft number log;

(15) Expense invoice mailing log;

(16) Financial status report;

(17) Bank release of guarantees;

(18) Cash sheet;

(19) Commission payment back-up;

(20) Commissions payable worksheet;

(21) Commissions payable control;

(22) Check request forms;

(23) Accounts receivable correction form;

(24) Check request register;

(25) Commission payment printout;

(26) Engineering fees invoice;

(27) Foreign tax receipt;

(28) Individual customer credit status;

(29) Request for export customers code forms;

(30) Acknowledgement for receipt of funds;

(31) Escalation development form;

(32) Summary quote;

(33) Purchase order review form;

(34) Proposal extensions;

(35) Financial proposal to export customers;

and

(36) Sales summaries.

(b) [Reserved]

[61 FR 12900, Mar. 25, 1996, as amended at 62 FR 25469, May 9, 1997; 85 FR 4180, Jan. 23, 2020; 89 FR 34710, Apr. 30, 2024]

§ 762.4 Original records required.

The regulated person must maintain the original records in the form in which that person receives or creates them unless that person meets all of the conditions of §762.5 of this part relating to reproduction of records. If the original record does not meet the standards of legibility and readability described in §762.5 of this part and the regulated person intends to rely on that record to meet the recordkeeping requirements of the EAR, that person must retain the original record. With respect to documents that BIS issues to a party in SNAP–R, either an electronically stored copy in a format that makes the document readable with software possessed by that party or a paper print out of the complete document is deemed to be an original record for purposes of this section.

[61 FR 12900, Mar. 25, 1996, as amended at 75 FR 17055, Apr. 5, 2010]

§ 762.5 Reproduction of original records.

(a) The regulated person may maintain reproductions instead of the original records provided all of the requirements of paragraph (b) of this section are met.

(b) In order to maintain the records required by § 762.2 of this part, the regulated persons defined in § 762.1 of this part may use any photographic, photostatic, miniature photographic, micrographic, automated archival storage, or other process that completely, accurately, legibly and durably reproduces the original records (whether on paper, microfilm, or through electronic digital storage techniques). The process must meet all of the following requirements, which are applicable to all systems:

(1) The system must be capable of reproducing all records on paper.

(2) The system must record and be able to reproduce all marks, information, and other characteristics of the original record, including both obverse and reverse sides of paper documents in legible form.

(3) When displayed on a viewer, monitor, or reproduced on paper, the records must exhibit a high degree of legibility and readability. (For purposes of this section, legible and legibility mean the quality of a letter or numeral that enable the observer to identify it positively and quickly to the exclusion of all other letters or numerals. Readable and readability mean the quality of a group of letters or numerals being recognized as complete words or numbers.)

(4) The system must preserve the initial image (including both obverse and reverse sides of paper documents) and record all changes, who made them and when they were made. This information must be stored in such a manner that none of it may be altered once it is initially recorded.

(5) The regulated person must establish written procedures to identify the individuals who are responsible for the operation, use and maintenance of the system.

(6) The regulated person must establish written procedures for inspection and quality assurance of records in the system and document the implementation of those procedures.

(7) The system must be complete and contain all records required to be kept by this part or the regulated person must provide a method for correlating, identifying and locating records relating to the same transaction(s) that are kept in other record keeping systems.

(8) The regulated person must keep a record of where, when, by whom, and on what equipment the records and other information were entered into the system.

(9) Upon request by the Office of Export Enforcement, the Office of Antiboycott Compliance, or any other agency of competent jurisdiction, the regulated person must furnish, at the examination site, the records, the equipment and, if necessary, knowledgeable personnel for locating, reading, and reproducing any record in the system.

(c) *Requirements applicable to systems based on the storage of digital images.* For systems based on the storage of digital images, the system must provide accessibility to any digital image in the system. With respect to records of transactions, including those involving restrictive trade practices or boycott requirements or requests. The system must be able to locate and reproduce all records relating to a particular transaction based on any one of the following criteria:

(1) The name(s) of the parties to the transaction;

(2) Any country(ies) connected with the transaction; or

(3) A document reference number that was on any original document.

(d) *Requirements applicable to a system based on photographic processes.* For systems based on photographic, photostatic, or miniature photographic processes, the regulated person must maintain a detailed index of all records in the system that is arranged in such a manner as to allow immediate location of any particular record in the system.

§ 762.6 Period of retention.

(a) *Five year retention period.* All records required to be kept by the EAR must be retained for five years from the latest of the following times:

(1) The export from the United States of the item involved in the transaction to which the records pertain or the provision of financing, transporting or other service for or on behalf of end-users of proliferation concern as described in §§736.2(b)(7) and 744.6 of the EAR;

(2) Any known reexport, transfer (in-country), transshipment, or diversion of such item;

(3) Any other termination of the transaction, whether formally in writing or by any other means; or

(4) In the case of records of pertaining to transactions involving restrictive trade practices or boycotts described in part 760 of the EAR, the date the regulated person receives the boycott-related request or requirement.

(b) *Destruction or disposal of records.* If the Bureau of Industry and Security or any other government agency makes a formal or informal request for a certain record or records, such record or records may not be destroyed or disposed of without the written authorization of the agency concerned. This prohibition applies to records pertaining to voluntary disclosures made to BIS in accordance with §764.5(c)(4)(ii) and other records even if such records have been retained for a period of time exceeding that required by paragraph (a) of this section.

[61 FR 12900, Mar. 25, 1996, as amended at 72 FR 3946, Jan. 29, 2007; 87 FR 57106, Sept. 16, 2022]

§ 762.7 Producing and inspecting records.

(a) *Persons located in the United States.* Persons located in the United States may be asked to produce books, records, and other information that are required to be kept by any provision of the EAR, or any license, order, or authorization issued thereunder and to make them available for inspection and copying by any authorized official of the BIS, or any other official of the United States designated by BIS, without any charge or expense to such official. OEE and the Office of Antiboycott Compliance encourage voluntary cooperation with such requests. When voluntary cooperation is not forthcoming, OEE and the Office of Antiboycott Compliance are authorized to issue subpoenas requiring persons to appear and testify, or to produce books, records, and other writings. In instances where a person does not comply with a subpoena, the Department of Commerce may petition a district court to have the subpoena enforced.

(b) *Persons located outside of the United States.* Persons located outside of the United States that are required to keep books, records, and other information by any provision of the EAR or by any license, order, or authorization issued thereunder shall produce all books, records, and other information required to be kept, or reproductions thereof, and make them available for inspection and copying upon request by an authorized official of BIS without any charge or expense to such official. BIS may designate any other official of the United States to exercise the authority of BIS under this subsection.

[85 FR 73416, Nov. 18, 2020]

PART 764—ENFORCEMENT AND PROTECTIVE MEASURES

Sec.

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SUPPLEMENT NO. 1 TO PART 764—STANDARD TERMS OF ORDERS DENYING EXPORT PRIVILEGES

AUTHORITY: 50 U.S.C. 4801–4852; 50 U.S.C. 4611–4613; 50 U.S.C. 1701 *et seq.;* E.O. 13222, 66 FR 44025, 3 CFR, 2001 Comp., p. 783.

SOURCE: 61 FR 12902, Mar. 25, 1996, unless otherwise noted.

§ 764.1 Introduction.

In this part, references to the EAR are references to 15 CFR chapter VII, subchapter C. This part specifies conduct that constitutes a violation of the ECRA and/or the EAR and the sanctions that may be imposed for such violations. Antiboycott violations are described in part 760 of the EAR, and the

violations and sanctions specified in part 764 also apply to conduct relating to part 760, unless otherwise stated. This part describes administrative sanctions that may be imposed by BIS. This part also describes criminal sanctions that may be imposed by a United States court and other sanctions that are neither administrative nor criminal pursuant to sections 11A, B, and C of the Export Administration Act EAA and other statutes. Information is provided on how to report and disclose violations. Finally, this part identifies protective administrative measures that BIS may take in the exercise of its regulatory authority.

[85 FR 73416, Nov. 18, 2020]

§ 764.2 Violations.

(a) *Engaging in prohibited conduct.* No person may engage in any transaction or take any other action prohibited by or contrary to, or refrain from engaging in any transaction or take any other action required by ECRA, the EAR, or any order, license or authorization issued thereunder.

(b) *Causing, aiding, or abetting a violation.* No person may cause or aid, abet, counsel, command, induce, procure, permit, or approve the doing of any act prohibited, or the omission of any act required, by ECRA, the EAR, or any order, license or authorization issued thereunder.

(c) *Solicitation and attempt.* No person may solicit or attempt a violation of ECRA, the EAR, or any order, license, or authorization issued thereunder.

(d) *Conspiracy.* No person may conspire or act in concert with one or more persons in any manner or for any purpose to bring about or to do any act that constitutes a violation of ECRA, the EAR, or any order, license, or authorization issued thereunder.

(e) *Acting with knowledge of a violation.* No person may order, buy, remove, conceal, store, use, sell, loan, dispose of, transfer, transport, finance, forward, or otherwise service, in whole or in part, or conduct negotiations to facilitate such activities with respect to, any item that has been, is being, or is about to be exported, reexported, or transferred (in-country), or that is otherwise subject to the EAR, with knowledge that a violation of ECRA, the EAR, or any order, license, or authorization issued thereunder, has occurred, is about to occur, or is intended to occur in connection with the item.

(f) [Reserved]

(g) *Misrepresentation and concealment of facts.* (1) No person may make any false or misleading representation, statement, or certification, or falsify or conceal any material fact, either directly to BIS or an official of any other United States agency, or indirectly through any other person:

(i) In the course of an investigation or other action subject to the EAR; or

(ii) In connection with the preparation, submission, issuance, use, or maintenance of any ''export control document'' or any report filed or required to be filed pursuant to the EAR; or

(iii) For the purpose of or in connection with effecting an export, reexport, transfer (in-country) or other activity subject to the EAR.

(2) All representations, statements, and certifications made by any person are deemed to be continuing in effect. Every person who has made any representation, statement, or certification must notify BIS, and any other relevant agency, in writing, of any change of any material fact or intention from that previously represented, stated, or certified, immediately upon receipt of any information that would lead a reasonably prudent person to know that a change of material fact or intention has occurred or may occur in the future.

(h) *Evasion.* No person may engage in any transaction or take any other action with intent to evade the provisions of ECRA, the EAR, or any order, license or authorization issued thereunder.

(i) *Failure to comply with reporting, recordkeeping requirements.* No person may fail or refuse to comply with any reporting or recordkeeping requirement of ECRA, the EAR, or of any order, license, or authorization issued thereunder.

(j) *License alteration.* Except as specifically authorized in the EAR or in writing by BIS, no person may alter any license, authorization, export control document, or order issued under ECRA or the EAR.

(k) *Acting contrary to the terms of a denial order.* No person may take any action that is prohibited by a denial order or a temporary denial order issued by BIS to prevent imminent violations of ECRA, the EAR, or any order, license or authorization issued thereunder.

[85 FR 73416, Nov. 18, 2020]

§ 764.3 Sanctions.

(a) *Administrative.* Violations of ECRA, the EAR, or any order, license or authorization issued thereunder are subject to the administrative sanctions described in this section and to any other liability, sanction, or penalty available under law. The protective administrative measures that are described in § 764.6 of this part are distinct from administrative sanctions.

(1) *Civil monetary penalty.* (i) A civil monetary penalty not to exceed the amount set forth in ECRA may be imposed for each violation, and in the event that any provision of the EAR is continued or revised by IEEPA or any other authority, the maximum monetary civil penalty for each violation shall be that provided by such other authority.

(ii) The payment of any civil penalty may be made a condition, for a period not exceeding two years after the imposition of such penalty, to the granting, restoration, or continuing validity of any export license, license exception, permission, or privilege granted or to be granted to the person upon whom such penalty is imposed.

(iii) The payment of any civil penalty may be deferred or suspended in whole or in part during any probation period that may be imposed. Such deferral or suspension shall not bar the collection of the penalty if the conditions of the deferral, suspension, or probation are not fulfilled.

(2) *Denial of export privileges.* An order may be issued that restricts the ability of the named persons to engage in exports, reexports, and transfers (in-country) involving items subject to the EAR, or that restricts access by named persons to items subject to the EAR. An order denying export privileges may be imposed either as a sanction for a violation of ECRA, the EAR, or any other statute set forth at 50 U.S.C. 4819(e)(1)(B); or as a protective administrative measure described in § 764.6(c) or (d) of this part. An order denying export privileges may suspend or revoke any or all outstanding licenses issued under the EAR to a person named in the denial order or in which such person has an interest; may deny or restrict exports, reexports, and transfers (in-country) by or to such person of any item subject to the EAR; and may restrict dealings in which that person may benefit from any export, reexport, or transfer (in-country) of such items. The standard terms of a denial order are set forth in supplement no. 1 to this part. A non-standard denial order, narrower in scope, may be issued. Authorization to engage in actions otherwise prohibited by a denial order may be given by the Office of Exporter Services, in consultation with the Office of Export Enforcement, upon a written request by a person named in the denial order or by a person seeking permission to deal with a named person. Submit such requests to: Bureau of Industry and Security, Office of Exporter Services, Room 2099b, U.S. Department of Commerce, 14th Street and Pennsylvania Ave. NW, Washington, DC 20230.

(3) *Exclusion from practice.* Any person acting as an attorney, accountant, consultant, freight forwarder, or in any other representative capacity for any license application or other matter before BIS may be excluded by order from any or all such activities before BIS.

(b) *Criminal.* Whoever willfully commits, willfully attempts to commit, or willfully conspires to commit, or aids and abets in the commission of, an unlawful act described in 50 U.S.C. 4819(a) shall be fined not more than $1,000,000; and in the case of the individual, shall be imprisoned for not more than 20 years, or both.

(c) *Other sanctions.* Conduct that violates ECRA, the EAR, or any order, license, or authorization issued thereunder, and other conduct specified in sections 11A, B, and C of the EAA may be subject to sanctions or other measures in addition to criminal and administrative sanctions under ECRA or the EAR. These include, but are not limited to, the following:

(1) *Statutory sanctions.* Statutorily-mandated sanctions may be imposed on

account of specified conduct related to weapons proliferation. Such statutory sanctions are not civil or criminal penalties, but restrict imports and procurement (See section 11A of the EAA, Multilateral Export Control Violations, and section 11C of the EAA, Chemical and Biological Weapons Proliferation), or restrict export licenses (See section 11B of the EAA, Missile Proliferation Violations, and the Iran-Iraq Arms Non-Proliferation Act of 1992).

(2) *Other sanctions and measures*—(i) *Seizure and forfeiture.* Any property seized pursuant to export laws and regulations administered or enforced by the Secretary is subject to forfeiture. (50 U.S.C. 4819(d) and 4820(j); 22 U.S.C. 401; and 13 U.S.C. 305).

(ii) *Actions by other agencies.* (A) The Department of State may not issue licenses or approvals for the export or reexport of defense articles and defense services controlled under the Arms Export Control Act to persons convicted of criminal offenses specified at 22 U.S.C. 2778(g)(1)(A), or to persons denied export privileges by BIS or another agency; and may deny such licenses or approvals where the applicant is indicted for, or any party to the export is convicted of, those specified criminal offenses. (22 CFR 126.7(a) and 127.11(a)).

(B) The Department of Defense, among other agencies, may suspend the right of any person to contract with the United States Government based on export control violations. (Federal Acquisition Regulations at 48 CFR 9.407–2).

[85 FR 73417, Nov. 18, 2020]

§ 764.4 Reporting of violations.

(a) *Where to report.* If a person learns that an export control violation of the EAR has occurred or may occur, that person may notify:

Office of Export Enforcement, Bureau of Industry and Security,U.S. Department of Commerce, 14th Street and Constitution Avenue, N.W., Room H–4520, Washington, D.C. 20230, Tel: (202) 482–1208, Facsimile: (202) 482–0964

or, for violations of part 760 of the EAR:

Office of Antiboycott Compliance, Bureau of Industry and Security, U.S. Department of Commerce, 14th Street and Constitution Avenue, N.W., Room H–6099C, Washington, D.C. 20230, Tel: (202) 482–2381, Facsimile: (202) 482–0913.

(b) *Failure to report violations.* Failure to report potential violations may result in the unwarranted issuance of licenses or exports without the required licenses to the detriment of the interests of the United States.

(c) *Reporting requirement distinguished.* The reporting provisions in paragraph (a) of this section are not ''reporting requirements'' within the meaning of § 764.2(i) of this part.

(d) *Formerly embargoed destinations.* Reporting requirements for activities within the scope of § 764.2(e) that involve items subject to the EAR which may have been illegally exported or reexported to Libya prior to the lifting of the comprehensive embargo on Libya are found in § 764.7 of the EAR.

[61 FR 12902, Mar. 25, 1996, as amended at 70 FR 14391, Mar. 22, 2005]

§ 764.5 Voluntary self-disclosure.

(a) *General policy.* BIS strongly encourages disclosure to the Office of Export Enforcement (OEE) if you believe that you may have violated the EAR, or any order, license or authorization issued thereunder. As described in supplement no. 1 to part 766, voluntary self-disclosure is a mitigating factor, and a firm's deliberate decision not to disclose significant apparent violations is an aggravating factor in determining what administrative sanctions, if any, will be sought by OEE. A deliberate decision not to disclose occurs when a firm uncovers a significant apparent violation that it has committed but then chooses not to file a VSD.

(b) *Limitations.* (1) The provisions of this section do not apply to disclosures of violations relating to part 760 of the EAR.

(2) The provisions of this section apply only when information is provided to OEE for its review in determining whether to take administrative action under part 766 of the EAR for violations of the export control provisions of the EAR.

(3) The provisions of this section apply only when information is received by OEE for review prior to the time that OEE, or any other agency of the United States Government, has learned the same or substantially similar information from another source and has commenced an investigation or inquiry in connection with that information.

(4) While voluntary self-disclosure is a mitigating factor in determining what administrative sanctions, if any, will be sought by OEE, it is a factor that is considered together with all other factors in a case. The weight given to voluntary self-disclosure is solely within the discretion of OEE, and the mitigating effect of voluntary self-disclosure may be outweighed by aggravating factors. Voluntary self-disclosure does not prevent transactions from being referred to the Department of Justice for criminal prosecution. In such a case, OEE would notify the Department of Justice of the voluntary self-disclosure, but the consideration of that factor is within the discretion of the Department of Justice.

(5) A firm will not be deemed to have made a disclosure under this section unless the individual making the disclosure did so with the full knowledge and authorization of the firm's senior management.

(6) The provisions of this section do not, nor should they be relied on to, create, confer, or grant any rights, benefits, privileges, or protection enforceable at law or in equity by any person, business, or entity in any civil, criminal, administrative, or other matter.

(c) *Voluntary self-disclosures involving minor or technical violations*—(1) *General.* Any person wanting to voluntarily disclose a minor or technical violation should submit an abbreviated narrative report, as described in paragraph (c)(2) of this section. A minor or technical violation is one that does not contain any aggravating factors present as defined in section III(A) of supplement no. 1 to part 766. Examples of minor or technical violations include, but are not limited to, immaterial Electronic Export Information (EEI) filing errors, inadvertent record keeping violations resulting from failed file retrieval or retention mechanisms (*e.g.*, physical damage caused by flood or fire and/or electronic corruption due to malware, virus, or outage), incorrect use of one license exception where other license exceptions were available, etc.

(2) *Abbreviated narrative report.* The abbreviated narrative report should be submitted by email to *bis_vsd_intake@bis.doc.gov* or in writing to the address in paragraph (d)(7) of this section. The email subject line should include the word ''abbreviated'' if it is an abbreviated VSD.:

(i) The notification should include:

(A) The name of the person making the disclosure and should designate a contact person regarding the abbreviated narrative report and provide that contact person's current business street address, email address, and telephone number; and

(B) A description of the general nature and extent of the violations (including, but not limited to, the destination and parties involved in any transaction, and the number, classification, and value of any items involved). Parties may itemize the various minor or technical violations in list or spreadsheet form.

(ii) The Director of OEE at their discretion may request a full narrative report pursuant to paragraph (d)(3) of this section if OEE suspects the presence of aggravating factors which will be due in 180 days from the date of the OEE Director's request.

(3) *Bundling of minor/technical violations.* Parties may bundle multiple minor or technical violations into one overarching submission, if the violations occurred within the preceding quarter. Parties may submit such minor or technical violations into a single VSD submission on a quarterly basis using the abbreviated narrative account process identified in paragraph (c)(2) of this section.

(d) *Voluntary self-disclosures involving significant violations*—(1) *General.* Any person wanting to voluntarily disclose a significant violation should, in the manner outlined in paragraph (c)(2) of this section, initially notify OEE as soon as possible after violations are discovered, and then conduct a thorough review of all export-related transactions where violations are suspected.

A significant violation is one that involves one or more aggravating factors as defined in section III(A) of supplement no. 1 to part 766. Those unsure of whether their possible disclosure relates to a minor or technical violation, or a significant violation, should follow the procedure in paragraph (d)(2) of this section for a significant violation.

(2) *Initial notification*—(i) *Manner and content of initial notification.* The initial notification should be submitted by email to *bis_vsd_intake@bis.doc.gov* or in writing to the address in paragraph (d)(7) of this section. The notification should include the name of the person making the disclosure and a brief description of the suspected violations and should designate a contact person regarding the initial notification and provide that contact person's current business street address, email address, and telephone number. The notification should describe the general nature and extent of the violations. OEE recognizes that there may be situations where it will not be practical to make an initial notification in writing. For example, written notification may not be practical if a shipment leaves the United States without the required license, yet there is still an opportunity to prevent acquisition of the items by unauthorized persons. In such situations, OEE should be contacted promptly at the office listed in paragraph (d)(7) of this section.

(ii) *Initial notification date.* For purposes of calculating when a complete narrative account must be submitted under paragraph (d)(2)(iii) of this section, the initial notification date is the date the notification is received by OEE. OEE will notify the disclosing party in writing of the date that it receives the initial notification. At OEE's discretion, such writing from OEE may be on paper, or in an email message or facsimile transmission from OEE, or by any other method for the transmission of written communications. Where it is not practical to make an initial notification in writing, the person making the notification should confirm the oral notification in writing as soon as possible.

(iii) *Timely completion of narrative accounts.* The full narrative account required by paragraph (d)(3) of this section must be received by OEE within 180 days of the initial notification date for purposes of paragraph (b)(3) of this section, absent an extension from the Director of OEE. If the person making the initial notification subsequently completes and submits to OEE the narrative account required by paragraph (d)(3) of this section such that OEE receives it within 180 days of the initial notification date, or within the additional time, if any, granted by the Director of OEE pursuant to paragraph (d)(2)(iv) of this section, the disclosure, including violations disclosed in the narrative account that were not expressly mentioned in the initial notification, will be deemed to have been made on the initial notification date for purposes of paragraph (b)(3) of this section if the initial notification was made in compliance with paragraphs (d)(1) and (2) of this section. Failure to meet the deadline (either the initial 180-day deadline or an extended deadline granted by the Director of OEE) would not be an additional violation of the EAR, but such failure may reduce or eliminate the mitigating impact of the voluntary disclosure under supplement no. 1 to this part. For purposes of determining whether the deadline has been met under this paragraph, a complete narrative account must contain all of the pertinent information called for in paragraphs (d)(3) through (5) of this section, and the voluntary self-disclosure must otherwise meet the requirements of this section.

(iv) *Deadline extensions.* The Director of OEE may extend the 180-day deadline upon a determination in his or her discretion that U.S. Government interests would be served by an extension or that the person making the initial notification has shown that more than 180 days is reasonably needed to complete the narrative account.

(A) *Conditions for extension.* The Director of OEE in his or her discretion may place conditions on the approval of an extension. For example, the Director of OEE may require that the disclosing person agree to toll the statute of limitations with respect to violations disclosed in the initial notification or discovered during the review for or preparation of the narrative account, and/or require the disclosing

person to undertake specified interim remedial compliance measures.

(B) *Contents of request.* (*1*) In most instances 180 days should be adequate to complete the narrative account. Requests to extend the 180-day deadline set forth in paragraph (d)(2)(iii) of this section will be determined by the Director of OEE pursuant to his or her authority under this paragraph (d)(2)(iv) based upon his consideration and evaluation of U.S. Government interests and the facts and circumstances surrounding the request and any related investigations. Such requests should show specifically that the person making the request:

(*i*) Began its review promptly after discovery of the violations;

(*ii*) Has been conducting its review and preparation of the narrative account as expeditiously as can be expected, consistent with the need for completeness and accuracy;

(*iii*) Reasonably needs the requested extension despite having begun its review promptly after discovery of the violations and having conducted its review and preparation of the narrative account as expeditiously as can be expected consistent with the need for completeness and accuracy; and

(*iv*) Has considered whether interim compliance or other corrective measures may be needed and has undertaken such measures as appropriate to prevent recurring or additional violations.

(*2*) Such requests also should set out a proposed timeline for completion and submission of the narrative account that is reasonable under the applicable facts and circumstances and should also designate a contact person regarding the request and provide that contact person's current business street address, email address, and telephone number. Requests may also include additional information that the person making the request reasonably believes is pertinent to the request under the applicable facts and circumstances.

(C) *Timing of requests.* Requests for an extension should be made before the 180-day deadline and as soon as possible once a disclosing person determines that it will be unable to meet the deadline or the extended deadline where an extension previously has been granted, and possesses the information needed to prepare an extension request in accordance with paragraph (d)(2)(iv)(B) of this section. Requests for extension that are not received before the deadline for completing the narrative account has passed will not be considered. Parties who request an extension shortly before the deadline incur the risk that the Director of OEE will be unable to consider the request, determine whether or not to grant the extension, and communicate his or her decision before the deadline, and that any subsequently submitted narrative account will be considered untimely under paragraph (d)(2)(iii) of this section.

(3) *Full narrative.* After the initial notification, a thorough review should be conducted of export-related transactions where violations with potentially aggravating factors are suspected (as defined in section III(A) of supplement no. 1 to part 766). OEE recommends that the review cover a period of five years prior to the date of the initial notification. If your review goes back less than five years, you risk failing to discover violations that may later become the subject of an investigation. Any violations not voluntarily disclosed do not receive consideration under this section. However, the failure to make such disclosures will not be treated as a separate violation unless some other section of the EAR or other provision of law requires disclosure. Upon completion of the review, OEE should be furnished with a narrative account that sufficiently describes the suspected violations so that their nature and gravity can be assessed. The narrative account should also describe the nature of the review conducted and measures that may have been taken to minimize the likelihood that violations will occur in the future. The narrative account should include:

(i) The kind of violation involved, for example, a shipment without the required license or dealing with a party denied export privileges;

(ii) An explanation of when and how the violations occurred;

(iii) The complete identities and addresses of all individuals and organizations, whether foreign or domestic, involved in the activities giving rise to the violations;

(iv) License numbers;

(v) The description, quantity, value in U.S. dollars and ECCN or other classification of the items involved; and

(vi) A description of any mitigating circumstances.

(4) *Supporting documentation.* (i) The narrative account should be accompanied by copies of documents that explain and support it, including:

(A) Licensing documents such as licenses, license applications, import certificates and end-user statements;

(B) Shipping documents such as Shipper's Export Declarations, air waybills, bills of lading and packing lists; and

(C) Other documents such as letters, facsimiles, telexes and other evidence of written or oral communications, internal memoranda, purchase orders, invoices, letters of credit and brochures.

(ii) Any relevant documents not attached to the narrative account must be retained by the person making the disclosure until OEE requests them, or until a final decision on the disclosed information has been made. After a final decision, the documents should be maintained in accordance with the recordkeeping rules in part 762 of the EAR (15 CFR part 762).

(5) *Certification.* A certification must be submitted stating that all of the representations made in connection with the voluntary self-disclosure are true and correct to the best of that person's knowledge and belief. Certifications made by a corporation or other organization should be signed by an official of the corporation or other organization with the authority to do so. § 764.2(g), relating to false or misleading representations, applies in connection with the disclosure of information under this section.

(6) *Oral presentations.* OEE believes that oral presentations are generally not necessary to augment the written narrative account and supporting documentation. If the person making the disclosure believes otherwise, a request for a meeting should be included with the disclosure.

(7) *Where to make voluntary self-disclosures.* The information constituting a voluntary self-disclosure or any other correspondence pertaining to a voluntary self-disclosure may be submitted by email to *bis_vsd_intake@bis.doc.gov* or mailed to: Director, Office of Export Enforcement, 1401 Constitution Ave., Room H4514, Washington, DC 20230, Tel: (202) 482–5036.

(e) *Dual-track processing of Voluntary Self-Disclosures by the Office of Export Enforcement.* (1) For VSDs that involve minor or technical infractions, including abbreviated VSDs, OEE will generally resolve the VSD within 60 days of a final VSD submission with one of the actions in paragraphs (e)(1)(i) and (ii) of this section.

(i) Inform the person making the disclosure that, based on the facts disclosed, it plans to take no action; or

(ii) Issue a warning letter.

(2) For VSDs that indicate significant violations, OEE will conduct an investigation, and as quickly as the facts and circumstances of a given case permit, OEE may take any of the following actions:

(i) Inform the person making the disclosure that, based on the facts disclosed, it plans to take no action;

(ii) Issue a warning letter;

(iii) Issue a proposed charging letter pursuant to § 766.18 of the EAR and attempt to settle the matter;

(iv) Issue a charging letter pursuant to § 766.3 of the EAR if a settlement is not reached; and/or

(v) Refer the matter to the Department of Justice for criminal prosecution.

(f) *Criteria.* Supplement no. 1 to part 766 describes how BIS typically exercises its discretion regarding whether to pursue an administrative enforcement case under part 766 and what administrative sanctions to seek in settling such a case.

(g) *Treatment of unlawfully exported items.* (1) Any person taking certain actions with knowledge that a violation of ECRA or the EAR has occurred has violated § 764.2(e).

(i) Any person who has made a voluntary self-disclosure knows that a violation may have occurred. Therefore, at the time that a voluntary self-

disclosure is made, the person making the disclosure may request permission from BIS to engage in the activities described in §764.2(e) that would otherwise be prohibited.

(ii) Any person may also notify the Director of OEE that a violation has occurred and request permission from BIS to engage in the activities described in §764.2(e) that would otherwise be prohibited.

(iii) Actions to return to the United States an item that has been unlawfully exported and disclosed under this section only require notification to the Director of OEE. Items subject to a violation that have been returned to the United States do not require further authorization under this paragraph (g) for future activities, provided that those future activities comply with any applicable EAR requirements.

(2) How to submit a request under paragraphs (g)(1)(i) through (iii) of this section: A request should be submitted on letterhead, signed, and sent to the Director of the Office of Exporter Services at *emcd@bis.doc.gov* with a copy sent to *bis_vsd_intake@bis.doc.gov*. The request should be specific and detail the following information: nature of the violation including when and how the violations occurred; description, quantity, value in U.S. dollars and ECCN or other classification of the items involved; license numbers, if applicable; identities and addresses of all individuals and organizations subject to the request, the scope of the request specifying the §764.2(e) activities, including end-use, and point of contact. A copy of the initial or final VSD or notification made to the Director of OEE should be attached to the request.

(3) If a request submitted pursuant to paragraph (g)(1)(i) or (ii) of this section is granted by the Office of Exporter Services in consultation with OEE, future activities with respect to those items that would otherwise violate §764.2(e) will not constitute violations.

NOTE 1 TO PARAGRAPH (g)(3): Even if permission is granted, the person making a voluntary self-disclosure pursuant to paragraph (g)(1)(i) of this section is not absolved from liability for any violations disclosed nor relieved of the obligation to obtain any required reexport authorizations.

(4) *Reexports and transfers (in-country).* To reexport or transfer (in-country) items that are the subject of a voluntary self-disclosure or notification, and that have been exported contrary to the provisions of ECRA or the EAR, authorization may be requested from BIS in accordance with the provisions of part 748 of the EAR (15 CFR part 748). If the applicant who submitted the reexport or transfer authorization knows that the items are the subject of a voluntary self-disclosure or notification, the request should state that a voluntary self-disclosure or notification was made in connection with the export of the items for which authorization is sought and a copy of the voluntary self-disclosure or notification should be included with the license application.

NOTE 2 TO PARAGRAPH (g)(4): If the items are otherwise eligible for reexport or transfer under a license exception or the No License Required (NLR) designation, a request under this paragraph (g) may be submitted to obtain permission for the use of the license exception or NLR designation for such reexport or transfer, provided the transaction otherwise meets the terms and conditions of the license exception or NLR designation.

(5) *Automated Export System (AES) filing errors.* Disclosures and notifications of AES filing errors reported to OEE under paragraphs (g)(1)(i) and (ii) of this section, where no other violation of the EAR only require notification to OEE and do not require authorization under this paragraph (g) to engage in activities subject to the EAR. The AES filing must be corrected with the Census Bureau before proceeding with such activities provided the activities meet any applicable EAR requirements. If another violation, such as failure to obtain a required license, has occurred in addition to the AES filing error, authorization under this paragraph (g) is required.

[61 FR 12902, Mar. 25, 1996, as amended at 62 FR 25469, May 9, 1997; 69 FR 7870, Feb. 20, 2004; 70 FR 22250, Apr. 29, 2005; 78 FR 48605, Aug. 9, 2013; 89 FR 75482, Sept. 16, 2024]

§ 764.6 Protective administrative measures.

(a) *License Exception limitation.* As provided in § 740.2(b) of the EAR, all License Exceptions are subject to revision, suspension, or revocation.

(b) *Revocation or suspension of licenses.* As provided in § 750.8 of the EAR, all licenses are subject to revision, suspension, or revocation.

(c) *Temporary denial orders.* BIS may, in accordance with § 766.24 of the EAR, issue an order temporarily denying export privileges when such an order is necessary in the public interest to prevent the occurrence of an imminent violation.

(d) *Denial based on criminal conviction.* BIS may, in accordance with § 766.25 of the EAR, issue an order denying the export privileges of any person who has been convicted of an offense specified in § 11(h) of the EAA.

§ 764.7 Activities involving items that may have been illegally exported or reexported to Libya.

(a) *Introduction.* As set forth in § 764.2(e) of this part, and restated in General Prohibition Ten at § 736.2(b)(10) of the EAR, no person (including a non-U.S. Third Party) may order, buy, remove, conceal, store, use, sell, loan, dispose of, transfer, finance, forward, or otherwise service, in whole or in part, any item subject to the EAR with knowledge that a violation has occurred, or will occur, in connection with the item. This section addresses the application of § 764.2(e) of this part to activities involving items subject to the EAR that may have been illegally exported or reexported to Libya before the comprehensive embargo on Libya ended (April 29, 2004) (''installed base'' items).

(b) *Libya*—(1) *Activities involving installed base items in Libya for which no license is required.* Subject to the reporting requirement set forth in paragraph (b)(1)(ii) of this section, activities within the scope of § 764.2(e) of this part involving installed base items described in paragraph (b)(1)(i) of this section that are located in Libya and that were exported or reexported before April 29, 2004 do not require a license from BIS.

(i) *Scope.* An installed base item is within the scope of paragraph (b)(1) of this section if:

(A) It is not on the Commerce Control List in supplement no. 1 to part 774 of the EAR;

(B) It is on the Commerce Control List, but is authorized for export or reexport pursuant to a License Exception to Libya; or

(C) It is on the Commerce Control List and controlled only for AT reasons or for NS and AT reasons only, and is not listed on the Wassenaar Arrangement's Sensitive List (Annex 1) or Very Sensitive List (Annex 2) posted on the Wassenaar Arrangement's Web site (*www.wassenaar.org*) at the Control Lists web page.

NOTE 1 TO PARAGRAPH (b)(1)(i): An item being exported or reexported to Libya may require a license based on the classification of the item to be exported or reexported regardless of whether the item will be used in connection with an installed base item. See paragraph (b)(4) of this section.

NOTE 2 TO PARAGRAPH (b)(1)(i): Not all items listed on the Wassenaar Arrangement's Annex 1, Sensitive List, and Annex 2, Very Sensitive List, fall under the export licensing jurisdiction of the Department of Commerce. Please refer to the Commerce Control List for additional jurisdictional information related to those items. Also, if you do not have access to the internet to review the Wassenaar Arrangement's Sensitive List and Very Sensitive List, please contact the Office of Exporter Services, Division of Exporter Counseling for assistance at telephone number (202) 482–4811.

(ii) *Reporting requirement.* Any person engaging in activity described in paragraph (b)(1) of this section must submit to BIS's Office of Export Enforcement (OEE) a report including all known material facts with respect to how the installed base item arrived in Libya. The report must be submitted to OEE at the address identified in § 764.4(a) of the EAR within ninety (90) days of the first activity relating to the installed base item in Libya. A report may address more than one activity and/or more than one installed base item. An additional report must be submitted if any new material information regarding the export or reexport to Libya of the installed base item is discovered.

(2) *Licensing procedure for activities involving installed base items in Libya*—(i) *License requirement.* Any person seeking

to undertake activities within the scope of §764.2(e) of the EAR with respect to any installed base item located in Libya and not described in paragraph (b)(1)(i) of this section must obtain a license from BIS prior to engaging in any such activities. License applications should be submitted in accordance with §§748.1, 748.4 and 748.6 of the EAR, and should fully describe the relevant activity within the scope of §764.2(e) of this part which is the basis of the application. License applications should include all known material facts as to how the installed base item originally was exported or reexported to Libya. This section also applies if you know that an item to be exported or reexported to a third party will be used on an installed base item not described in paragraph (b)(1)(i) of this section.

(ii) *Licensing policy*. BIS will review license applications submitted pursuant to paragraph (b)(2)(i) of this section on a case-by-case basis. Favorable consideration will be given for those applications related to civil end-uses in Libya. Applications related to military, police, intelligence, or other sensitive end-uses in Libya will be subject to a general policy of denial.

(3) *Exclusion*. The provisions of this section are not applicable to any activities within the scope of §764.2(e) of the EAR undertaken with respect to an installed base item in Libya by a person who was party to the original illegal export or reexport of the related installed base item to Libya. Such persons should voluntarily self-disclose violations pursuant to the procedures set forth in §764.5 of this part, which in some cases may allow activities related to unlawfully exported or reexported items to be undertaken based on permission from BIS.

(4) *Relationship to other Libya license requirements*. Notwithstanding this section, a license may be required pursuant to another provision of the EAR to engage in activity involving Libya. If a license is required pursuant to another section of the EAR, and the transaction also involves activity within the scope of §764.2(e) of this part related to an installed base item in Libya, this information should be specified on the license application. Such applications must also include all known information as to how the installed base item originally arrived in Libya. If granted, the license for the proposed transaction will also authorize the related activity within the scope of §764.2(e) of this part.

[70 FR 14391, Mar. 22, 2005, as amended at 71 FR 51719, Aug. 31, 2006; 73 FR 49331, Aug. 21, 2008]

§764.8 Voluntary self-disclosures for boycott violations.

This section sets forth procedures for disclosing violations of part 760 of the EAR—Restrictive Trade Practices or Boycotts and violations of part 762—Recordkeeping—with respect to records related to part 760. In this section, these provisions are referred to collectively as the ''antiboycott provisions.'' This section also describes BIS's policy regarding such disclosures.

(a) *General policy*. BIS strongly encourages disclosure to the Office of Antiboycott Compliance (OAC) if you believe that you may have violated the antiboycott provisions. Voluntary self-disclosures are a mitigating factor with respect to any enforcement action that OAC might take.

(b) *Limitations*. (1) This section does not apply to disclosures of violations relating to provisions of the EAR other than the antiboycott provisions. Section 764.5 of this part describes how to prepare disclosures of violations of the EAR other than the antiboycott provisions.

(2) The provisions of this section apply only when information is provided to OAC for its review in determining whether to take administrative action under parts 764 and 766 of the EAR for violations of the antiboycott provisions.

(3) *Timing*. The provisions of this section apply only if OAC receives the voluntary self-disclosure as described in paragraph (c)(2) of this section before it commences an investigation or inquiry in connection with the same or substantially similar information it received from another source.

(i) *Mandatory reports*. For purposes of this section, OAC's receipt of a report required to be filed under §760.5 of the EAR that discloses that a person took an action prohibited by part 760 of the

EAR constitutes the receipt of information from another source.

(ii) *Requests for advice.* For purposes of this section, a violation that is revealed to OAC by a person who is seeking advice, either by telephone or e-mail, about the antiboycott provisions does not constitute the receipt of information from another source. Such revelation also does not constitute a voluntary self-disclosure or initial notification of a voluntary self-disclosure for purposes of this section.

(4) Although a voluntary self-disclosure is a mitigating factor in determining what administrative sanctions, if any, will be sought by BIS, it is a factor that is considered together with all other factors in a case. The weight given to voluntary self-disclosure is solely within the discretion of BIS, and the mitigating effect of voluntary self-disclosure may be outweighed by aggravating factors. Voluntary self-disclosure does not prevent transactions from being referred to the Department of Justice for criminal prosecution. In such a case, BIS would notify the Department of Justice of the voluntary self-disclosure, but the decision as to how to consider that factor is within the discretion of the Department of Justice.

(5) A firm will not be deemed to have made a disclosure under this section unless the individual making the disclosure did so with the full knowledge and authorization of the firm's senior management or of a person with authority to make such disclosures on behalf of the firm.

(6) The provisions of this section do not, nor should they be relied on to, create, confer, or grant any rights, benefits, privileges, or protection enforceable at law or in equity by any person, business, or entity in any civil, criminal, administrative, or other matter.

(c) *Information to be provided*—(1) *General.* Any person wanting to disclose information that constitutes a voluntary self-disclosure should, in the manner outlined below, initially notify OAC as soon as possible after violations are discovered, and then conduct a thorough review of all transactions where violations of the antiboycott provisions are suspected.

(2) *Initial notification.* The initial notification must be in writing and be sent to the address in §764.8(c)(7) of this part. The notification should include the name of the person making the disclosure and a brief description of the suspected violations. The notification should describe the general nature and extent of the violations. If the person making the disclosure subsequently completes the narrative account required by §764.8(c)(3) of this part, the disclosure will be deemed to have been made on the date of the initial notification for purposes of §764.8(b)(3) of this part.

(3) *Narrative account.* After the initial notification, a thorough review should be conducted of all business transactions where possible antiboycott provision violations are suspected. OAC recommends that the review cover a period of five years prior to the date of the initial notification. If your review goes back less than five years, you risk failing to discover violations that may later become the subject of an investigation. Any violations not voluntarily disclosed do not receive the same mitigation as the violations voluntarily self-disclosed under this section. However, the failure to make such disclosures will not be treated as a separate violation unless some other section of the EAR or other provision of law enforced by BIS requires disclosure. Upon completion of the review, OAC should be furnished with a narrative account that sufficiently describes the suspected violations so that their nature and gravity can be assessed. The narrative account should also describe the nature of the review conducted and measures that may have been taken to minimize the likelihood that violations will occur in the future. The narrative account should include:

(i) The kind of violation involved, for example, the furnishing of a certificate indicating that the goods supplied did not originate in a boycotted country;

(ii) An explanation of when and how the violations occurred, including a description of activities surrounding the violations (e.g., contract negotiations, sale of goods, implementation of letter of credit, bid solicitation);

(iii) The complete identities and addresses of all individuals and organizations, whether foreign or domestic, involved in the activities giving rise to the violations; and

(iv) A description of any mitigating factors.

(4) Supporting documentation.

(i) The narrative account should be accompanied by copies of documents that explain and support it, including:

(A) Copies of boycott certifications and declarations relating to the violation, or copies of documents containing prohibited language or prohibited requests for information;

(B) Other documents relating to the violation, such as letters, facsimiles, telexes and other evidence of written or oral communications, negotiations, internal memoranda, purchase orders, invoices, bid requests, letters of credit and brochures;

(ii) Any relevant documents not attached to the narrative account must be retained by the person making the disclosure until the latest of the following: the documents are supplied to OAC; BIS informs the disclosing party that it will take no action; BIS issues a warning letter for the violation; BIS issues an order that constitutes the final agency action in the matter and all avenues for appeal are exhausted; or the documents are no longer required to be kept under part 762 of the EAR.

(5) *Certification.* A certification must be submitted stating that all of the representations made in connection with the voluntary self-disclosure are true and correct to the best of that person's knowledge and belief. Certifications made by a corporation or other organization should be signed by an official of the corporation or other organization with the authority to do so. Section 764.2(g) of this part relating to false or misleading representations applies in connection with the disclosure of information under this section.

(6) *Oral presentations.* OAC believes that oral presentations are generally not necessary to augment the written narrative account and supporting documentation. If the person making the disclosure believes otherwise, a request for a meeting should be included with the disclosure.

(7) *Where to make voluntary self-disclosures.* The information constituting a voluntary self-disclosure or any other correspondence pertaining to a voluntary self-disclosure should be submitted to: Office of Antiboycott Compliance, 14th and Pennsylvania Ave., NW., Room 6098, Washington, DC 20230, tel: (202) 482–2381, facsimile: (202) 482–0913.

(d) *Action by the Office of Antiboycott Compliance.* After OAC has been provided with the required narrative and supporting documentation, it will acknowledge the disclosure by letter, provide the person making the disclosure with a point of contact, and take whatever additional action, including further investigation, it deems appropriate. As quickly as the facts and circumstances of a given case permit, BIS may take any of the following actions:

(1) Inform the person making the disclosure that, based on the facts disclosed, it plans to take no action;

(2) Issue a warning letter;

(3) Issue a proposed charging letter and attempt to settle the matter pursuant to §766.18 of the EAR;

(4) Issue a charging letter pursuant to §766.3 of the EAR if a settlement is not reached or BIS otherwise deems appropriate; and/or

(5) Refer the matter to the Department of Justice for criminal prosecution.

(e) *Criteria.* Supplement no. 2 to part 766 of the EAR describes how BIS typically exercises its discretion regarding whether to pursue an antiboycott administrative enforcement case under part 766 and what administrative sanctions to seek in settling such a case.

[72 FR 39004, July 17, 2007]

SUPPLEMENT NO. 1 TO PART 764—STANDARD TERMS OF ORDERS DENYING EXPORT PRIVILEGES

(a) *General.* (1) Orders denying export privileges may be ''standard'' or ''non-standard.'' This Supplement specifies terms of the standard order denying export privilege with respect to denial orders issued after March 25, 1996. Denial orders issued prior to March 25, 1996 are to be construed, insofar as possible, as having the same scope and effect as the standard denial order. All denial orders are published in the FEDERAL REGISTER. The

failure by any person to comply with any denial order is a violation of the Export Administration Regulations (EAR) (see §764.2(k) of this part). BIS provides a list of persons currently subject to denial orders on its Web site at *http://www.bis.doc.gov*.

(2) Each denial order shall include:

(i) The name and address of any denied persons and any related persons subject to the denial order;

(ii) The basis for the denial order, such as final decision following charges of violation, settlement agreement, section 11(h) of the EAA, or temporary denial order request;

(iii) The period of denial, the effective date of the order, whether and for how long any portion of the denial of export privileges is suspended, and any conditions of probation; and

(iv) Whether any or all outstanding licenses issued under the EAR to the person(s) named in the denial order or in which such person(s) has an interest, are suspended or revoked.

Denial orders issued prior to March 25, 1996, are to be construed, insofar as possible, as having the same scope and effect as the standard denial order.

The introduction to each denial order shall be specific to that order, and shall include: (1) The name and address of any denied persons and any related persons subject to the denial order; (2) the basis for the denial order, such as final decision following charges of violation, settlement agreement, §11(h) of the EAA, or temporary denial order request; (3) the period of denial, the effective date of the order, whether and for how long any portion of the denial of export privileges is suspended, and any conditions of probation; and (4) whether any or all outstanding licenses issued under the EAR to the person(s) named in the denial order or in which such person(s) has an interest, are suspended or revoked.

(b) *Standard denial order terms.* The following are the standard terms for imposing periods of export denial. Some orders also contain other terms, such as those that impose civil penalties, or that suspend all or part of the penalties or period of denial.

''It is therefore ordered:

First, that [the denied person(s)] may not, directly or indirectly, participate in any way in any transaction involving any commodity, software or technology (hereinafter collectively referred to as ''item'') exported or to be exported from the United States that is subject to the Export Administration Regulations (EAR), or in any other activity subject to the EAR, including, but not limited to:

A. Applying for, obtaining, or using any license, license exception, or export control document;

B. Carrying on negotiations concerning, or ordering, buying, receiving, using, selling, delivering, storing, disposing of, forwarding, transporting, financing, or otherwise servicing in any way, any transaction involving any item exported or to be exported from the United States that is subject to the EAR, or in any other activity subject to the EAR; or

C. Benefiting in any way from any transaction involving any item exported or to be exported from the United States that is subject to the EAR, or in any other activity subject to the EAR.

Second, that no person may, directly or indirectly, do any of the following:

A. Export, reexport, or transfer (in-country) to or on behalf of the denied person any item subject to the EAR;

B. Take any action that facilitates the acquisition or attempted acquisition by a denied person of the ownership, possession, or control of any item subject to the EAR that has been or will be exported from the United States, including financing or other support activities related to a transaction whereby a denied person acquires or attempts to acquire such ownership, possession or control;

C. Take any action to acquire from or to facilitate the acquisition or attempted acquisition from the denied person of any item subject to the EAR that has been exported from the United States;

D. Obtain from the denied person in the United States any item subject to the EAR with knowledge or reason to know that the item will be, or is intended to be, exported from the United States; or

E. Engage in any transaction to service any item subject to the EAR that has been or will be exported from the United States and which is owned, possessed or controlled by a denied person, or service any item, of whatever origin, that is owned, possessed or controlled by a denied person if such service involves the use of any item subject to the EAR that has been or will be exported from the United States. For purposes of this paragraph, servicing means installation, maintenance, repair, modification or testing.

Third, that, after notice and opportunity for comment as provided in §766.23 of the EAR, any person, firm, corporation, or business organization related to the denied person by affiliation, ownership, control, or position of responsibility in the conduct of trade or related services may also be made subject to the provisions of this order.

This order, which constitutes the final agency action in this matter, is effective [DATE OF ISSUANCE].''

[61 FR 12902, Mar. 25, 1996, as amended at 67 FR 54953, Aug. 27, 2002; 70 FR 8720, Feb. 23, 2005; 78 FR 22727, Apr. 16, 2013; 85 FR 73417, Nov. 18, 2020]

PART 766—ADMINISTRATIVE ENFORCEMENT PROCEEDINGS

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SUPPLEMENT NO. 1 TO PART 766—GUIDANCE ON CHARGING AND PENALTY DETERMINATIONS IN SETTLEMENT OF ADMINISTRATIVE ENFORCEMENT CASES

SUPPLEMENT NO. 2 TO PART 766—GUIDANCE ON CHARGING AND PENALTY DETERMINATIONS IN SETTLEMENT OF ADMINISTRATIVE ENFORCEMENT CASES INVOLVING ANTIBOYCOTT MATTERS

AUTHORITY: 50 U.S.C. 4801–4852; 50 U.S.C. 4601 *et seq.;* 50 U.S.C. 1701 *et seq.;* E.O. 13222, 66 FR 44025, 3 CFR, 2001 Comp., p. 783.

SOURCE: 61 FR 12907, Mar. 25, 1996, unless otherwise noted.

§ 766.1 Scope.

In this part, references to the EAR are references to 15 CFR chapter VII, subchapter C. This part describes the procedures for imposing administrative sanctions for violations of the Export Administration Act of 1979, as amended (the EAA), the Export Administration Regulations (EAR), or any order, license or authorization issued thereunder. Parts 760 and 764 of the EAR specify those actions that constitute violations, and part 764 describes the sanctions that apply. In addition to describing the procedures for imposing sanctions, this part describes the procedures for imposing temporary denial orders to prevent imminent violations of the EAA, the EAR, or any order, license or authorization issued thereunder. This part also describes the procedures for taking the discretionary protective administrative action of denying the export privileges of persons who have been convicted of violating any of the statutes, including the EAA, listed in section 11(h) of the EAA. Nothing in this part shall be construed as applying to or limiting other administrative or enforcement action relating to the EAA or the EAR, including the exercise of any investigative authorities conferred by the EAA. This part does not confer any procedural rights or impose any requirements based on the Administrative Procedure Act for proceedings charging violations under the EAA, except as expressly provided for in this part.

§ 766.2 Definitions.

As used in this part, the following definitions apply:

Administrative law judge. The person authorized to conduct hearings in administrative enforcement proceedings brought under the EAA or to hear appeals from the imposition of temporary denial orders. The term ''judge'' may be used for brevity when it is clear that the reference is to the administrative law judge.

Assistant Secretary. The Assistant Secretary for Export Enforcement, Bureau of Industry and Security.

Bureau of Industry and Security (BIS). Bureau of Industry and Security, U.S. Department of Commerce (formerly the Bureau of Export Administration) and all of its component units, including, in particular for purposes of this part, the Office of Antiboycott Compliance, the Office of Export Enforcement, and the Office of Exporter Services.

Final decision. A decision or order assessing a civil penalty, denial of export privileges or other sanction, or otherwise disposing of or dismissing a case, which is not subject to further review under this part, but which is subject to

collection proceedings or judicial review in an appropriate Federal district court as authorized by law.

Initial decision. A decision of the administrative law judge in proceedings involving violations relating to part 760 of the EAR, which is subject to appellate review by the Under Secretary of Commerce for Industry and Security, but which becomes the final decision in the absence of such an appeal.

Party. BIS and any person named as a respondent under this part.

Recommended decision. A decision of the administrative law judge in proceedings involving violations other than those relating to part 760 of the EAR, which is subject to review by the Under Secretary of Commerce for Industry and Security, who issues a written order affirming, modifying or vacating the recommended decision.

Respondent. Any person named as the subject of a charging letter, proposed charging letter, temporary denial order, or other order proposed or issued under this part.

Under Secretary. The Under Secretary for Industry and Security, United States Department of Commerce.

[61 FR 12907, Mar. 25, 1996, as amended at 67 FR 20631, Apr. 26, 2002; 70 FR 8250, Feb. 18, 2005]

§ 766.3 Institution of administrative enforcement proceedings.

(a) *Charging letters*. The Director of the Office of Export Enforcement (OEE) or the Director of the Office of Antiboycott Compliance (OAC), as appropriate, or such other Department of Commerce official as may be designated by the Assistant Secretary of Commerce for Export Enforcement, may begin administrative enforcement proceedings under this part by issuing a charging letter in the name of BIS. Supplements nos. 1 and 2 to this part describe how BIS typically exercises its discretion regarding the issuance of charging letters. The charging letter shall constitute the formal complaint and will state that there is reason to believe that a violation of the EAA, the EAR, or any order, license or authorization issued thereunder, has occurred. It will set forth the essential facts about the alleged violation, refer to the specific regulatory or other provisions involved, and give notice of the sanctions available under part 764 of the EAR. The charging letter will inform the respondent that failure to answer the charges as provided in § 766.6 of this part will be treated as a default under § 766.7 of this part, that the respondent is entitled to a hearing if a written demand for one is requested with the answer, and that the respondent may be represented by counsel, or by other authorized representative who has a power of attorney to represent the respondent. A copy of the charging letter shall be filed with the administrative law judge, which filing shall toll the running of the applicable statute of limitations. Charging letters may be amended or supplemented at any time before an answer is filed, or, with permission of the administrative law judge, afterwards. BIS may unilaterally withdraw charging letters at any time, by notifying the respondent and the administrative law judge.

(b) *Notice of issuance of charging letter instituting administrative enforcement proceeding*. A respondent shall be notified of the issuance of a charging letter, or any amendment or supplement thereto:

(1) By sending a copy by registered or certified mail or by express mail or commercial courier or delivery service addressed to the respondent at the respondent's last known address;

(2) By leaving a copy with the respondent or with an officer, a managing or general agent, or any other agent authorized by appointment or by law to receive service of process for the respondent; or

(3) By leaving a copy with a person of suitable age and discretion who resides at the respondent's last known dwelling.

(4) Delivery of a copy of the charging letter, if made in the manner described in paragraph (b)(2) or (3) of this section, shall be evidenced by a certificate of service signed by the person making such service, stating the method of service and the identity of the person with whom the charging letter was left. The certificate of service shall be filed with the administrative law judge.

(c) The date of service of notice of the issuance of a charging letter instituting an administrative enforcement proceeding, or service of notice of the issuance of a supplement or amendment to a charging letter, is the date of its delivery, or of its attempted delivery, by any means described in paragraph (b)(1) of this section.

[61 FR 12907, Mar. 25, 1996, as amended at 69 FR 7870, Feb. 20, 2004; 72 FR 39005, July 17, 2007; 78 FR 48606, Aug. 9, 2013]

§ 766.4 Representation.

A respondent individual may appear and participate in person, a corporation by a duly authorized officer or employee, and a partnership by a partner. If a respondent is represented by counsel, counsel shall be a member in good standing of the bar of any State, Commonwealth or Territory of the United States, or of the District of Columbia, or be licensed to practice law in the country in which counsel resides if not the United States. A respondent personally, or through counsel or other representative, shall file a notice of appearance with the administrative law judge. BIS will be represented by the Office of Chief Counsel for Industry and Security, U.S. Department of Commerce.

[61 FR 12907, Mar. 25, 1996, as amended at 67 FR 45633, July 10, 2002]

§ 766.5 Filing and service of papers other than charging letter.

(a) *Filing.* All papers to be filed shall be addressed to EAR Administrative Enforcement Proceedings, U.S. Coast Guard, ALJ Docketing Center, 40 S. Gay Street, Baltimore, Maryland, 21202–4022, or such other place as the administrative law judge may designate. Filing by United States mail, first class postage prepaid, by express or equivalent parcel delivery service, or by hand delivery, is acceptable. Filing by mail from a foreign country shall be by airmail. In addition, the administrative law judge may authorize filing of papers by facsimile or other electronic means, provided that a hard copy of any such paper is subsequently filed. A copy of each paper filed shall be simultaneously served on each party.

(b) *Service.* Service shall be made by personal delivery or by mailing one copy of each paper to each party in the proceeding. Service by delivery service or facsimile, in the manner set forth in paragraph (a) of this section, is acceptable. Service on BIS shall be addressed to the Chief Counsel for Industry and Security, Room H–3839, U.S. Department of Commerce, 14th Street and Constitution Avenue, N.W., Washington, D.C. 20230. Service on a respondent shall be to the address to which the charging letter was sent or to such other address as respondent may provide. When a party has appeared by counsel or other representative, service on counsel or other representative shall constitute service on that party.

(c) *Date.* The date of filing or service is the day when the papers are deposited in the mail or are delivered in person, by delivery service, or by facsimile.

(d) *Certificate of service.* A certificate of service signed by the party making service, stating the date and manner of service, shall accompany every paper, other than the charging letter, filed and served on parties.

(e) *Computing period of time.* In computing any period of time prescribed or allowed by this part or by order of the administrative law judge or the Under Secretary, the day of the act, event, or default from which the designated period of time begins to run is not to be included. The last day of the period so computed is to be included unless it is a Saturday, a Sunday, or a legal holiday (as defined in Rule 6(a) of the Federal Rules of Civil Procedure), in which case the period runs until the end of the next day which is neither a Saturday, a Sunday, nor a legal holiday. Intermediate Saturdays, Sundays, and legal holidays are excluded from the computation when the period of time prescribed or allowed is seven days or less.

[61 FR 12907, Mar. 25, 1996, as amended at 67 FR 45633, July 10, 2002; 70 FR 8250, Feb. 18, 2005]

§ 766.6 Answer and demand for hearing.

(a) *When to answer.* The respondent must answer the charging letter within

30 days after being served with notice of the issuance of a charging letter instituting an administrative enforcement proceeding, or within 30 days of notice of any supplement or amendment to a charging letter, unless time is extended under § 766.16 of this part.

(b) *Contents of answer.* The answer must be responsive to the charging letter and must fully set forth the nature of the respondent's defense or defenses. The answer must admit or deny specifically each separate allegation of the charging letter; if the respondent is without knowledge, the answer must so state and will operate as a denial. Failure to deny or controvert a particular allegation will be deemed an admission of that allegation. The answer must also set forth any additional or new matter the respondent believes supports a defense or claim of mitigation. Any defense or partial defense not specifically set forth in the answer shall be deemed waived, and evidence thereon may be refused, except for good cause shown.

(c) *Demand for hearing.* If the respondent desires a hearing, a written demand for one must be submitted with the answer. Any demand by BIS for a hearing must be filed with the administrative law judge within 30 days after service of the answer. Failure to make a timely written demand for a hearing shall be deemed a waiver of the party's right to a hearing, except for good cause shown. If no party demands a hearing, the matter will go forward in accordance with the procedures set forth in § 766.15 of this part.

(d) *English language required.* The answer, all other papers, and all documentary evidence must be submitted in English, or translations into English must be filed and served at the same time.

§ 766.7 Default.

(a) *General.* Failure of the respondent to file an answer within the time provided constitutes a waiver of the respondent's right to appear and contest the allegations in the charging letter. In such event, the administrative law judge, on BIS's motion and without further notice to the respondent, shall find the facts to be as alleged in the charging letter and render an initial or recommended decision containing findings of fact and appropriate conclusions of law and issue or recommend an order imposing appropriate sanctions. The decision and order shall be subject to review by the Under Secretary in accordance with the applicable procedures set forth in § 766.21 or § 766.22 of this part.

(b) *Petition to set aside default*—(1) *Procedure.* Upon petition filed by a respondent against whom a default order has been issued, which petition is accompanied by an answer meeting the requirements of § 766.6(b) of this part, the Under Secretary may, after giving all parties an opportunity to comment, and for good cause shown, set aside the default and vacate the order entered thereon and remand the matter to the administrative law judge for further proceedings.

(2) *Time limits.* A petition under this section must be made within one year of the date of entry of the order which the petition seeks to have vacated.

§ 766.8 Summary decision.

At any time after a proceeding has been initiated, a party may move for a summary decision disposing of some or all of the issues. The administrative law judge may render an initial or recommended decision and issue or recommend an order if the entire record shows, as to the issue(s) under consideration:

(a) That there is no genuine issue as to any material fact; and

(b) That the moving party is entitled to a summary decision as a matter of law.

§ 766.9 Discovery.

(a) *General.* The parties are encouraged to engage in voluntary discovery regarding any matter, not privileged, which is relevant to the subject matter of the pending proceeding. The provisions of the Federal Rules of Civil Procedure relating to discovery apply to the extent consistent with this part and except as otherwise provided by the administrative law judge or by waiver or agreement of the parties. The administrative law judge may make any order which justice requires to protect a party or person from annoyance, embarrassment, oppression, or undue

burden or expense. These orders may include limitations on the scope, method, time and place of discovery, and provisions for protecting the confidentiality of classified or otherwise sensitive information.

(b) *Interrogatories and requests for admission or production of documents.* A party may serve on any party interrogatories, requests for admission, or requests for production of documents for inspection and copying, and a party concerned may apply to the administrative law judge for such enforcement or protective order as that party deems warranted with respect to such discovery. The service of a discovery request shall be made at least 20 days before the scheduled date of the hearing unless the administrative law judge specifies a shorter time period. Copies of interrogatories, requests for admission and requests for production of documents and responses thereto shall be served on all parties, and a copy of the certificate of service shall be filed with the administrative law judge. Matters of fact or law of which admission is requested shall be deemed admitted unless, within a period designated in the request (at least 10 days after service, or within such additional time as the administrative law judge may allow), the party to whom the request is directed serves upon the requesting party a sworn statement either denying specifically the matters of which admission is requested or setting forth in detail the reasons why the party to whom the request is directed cannot truthfully either admit or deny such matters.

(c) *Depositions.* Upon application of a party and for good cause shown, the administrative law judge may order the taking of the testimony of any person by deposition and the production of specified documents or materials by the person at the deposition. The application shall state the purpose of the deposition and set forth the facts sought to be established through the deposition.

(d) *Enforcement.* The administrative law judge may order a party to answer designated questions, to produce specified documents or things or to take any other action in response to a proper discovery request. If a party does not comply with such an order, the administrative law judge may make a determination or enter any order in the proceeding as the judge deems reasonable and appropriate. The judge may strike related charges or defenses in whole or in part or may take particular facts relating to the discovery request to which the party failed or refused to respond as being established for purposes of the proceeding in accordance with the contentions of the party seeking discovery. In addition, enforcement by a district court of the United States may be sought under section 12(a) of the EAA.

§ 766.10 Subpoenas.

(a) *Issuance.* Upon the application of any party, supported by a satisfactory showing that there is substantial reason to believe that the evidence would not otherwise be available, the administrative law judge will issue subpoenas requiring the attendance and testimony of witnesses and the production of such books, records or other documentary or physical evidence for the purpose of the hearing, as the judge deems relevant and material to the proceedings, and reasonable in scope.

(b) *Service.* Subpoenas issued by the administrative law judge may be served in any of the methods set forth in § 766.5(b) of this part.

(c) *Timing.* Applications for subpoenas must be submitted at least 10 days before the scheduled hearing or deposition, unless the administrative law judge determines, for good cause shown, that extraordinary circumstances warrant a shorter time.

§ 766.11 Matter protected against disclosure.

(a) *Protective measures.* It is often necessary for BIS to receive and consider information and documents that are sensitive from the standpoint of national security, foreign policy, business confidentiality, or investigative concern, and that are to be protected against disclosure. Accordingly, and without limiting the discretion of the administrative law judge to give effect to any other applicable privilege, it is proper for the administrative law judge to limit discovery or introduction of evidence or to issue such protective or

other orders as in the judge's judgment may be consistent with the objective of preventing undue disclosure of the sensitive documents or information. Where the administrative law judge determines that documents containing the sensitive matter need to be made available to a respondent to avoid prejudice, the judge may direct BIS to prepare an unclassified and nonsensitive summary or extract of the documents. The administrative law judge may compare the extract or summary with the original to ensure that it is supported by the source document and that it omits only so much as must remain classified or undisclosed. The summary or extract may be admitted as evidence in the record.

(b) *Arrangements for access.* If the administrative law judge determines that this procedure is unsatisfactory and that classified or otherwise sensitive matter must form part of the record in order to avoid prejudice to a party, the judge may provide the parties opportunity to make arrangements that permit a party or a representative to have access to such matter without compromising sensitive information. Such arrangements may include obtaining security clearances, obtaining a national interest determination under section 12(c) of the EAA, or giving counsel for a party access to sensitive information and documents subject to assurances against further disclosure, including a protective order, if necessary.

§ 766.12 Prehearing conference.

(a) The administrative law judge, on the judge's own motion or on request of a party, may direct the parties to participate in a prehearing conference, either in person or by telephone, to consider:

(1) Simplification of issues;

(2) The necessity or desirability of amendments to pleadings;

(3) Obtaining stipulations of fact and of documents to avoid unnecessary proof; or

(4) Such other matters as may expedite the disposition of the proceedings.

(b) The administrative law judge may order the conference proceedings to be recorded electronically or taken by a reporter, transcribed and filed with the judge.

(c) If a prehearing conference is impracticable, the administrative law judge may direct the parties to correspond with the judge to achieve the purposes of such a conference.

(d) The administrative law judge will prepare a summary of any actions agreed on or taken pursuant to this section. The summary will include any written stipulations or agreements made by the parties.

§ 766.13 Hearings.

(a) *Scheduling.* The administrative law judge, by agreement with the parties or upon notice to all parties of not less than 30 days, will schedule a hearing. All hearings will be held in Washington, D.C., unless the administrative law judge determines, for good cause shown, that another location would better serve the interests of justice.

(b) *Hearing procedure.* Hearings will be conducted in a fair and impartial manner by the administrative law judge, who may limit attendance at any hearing or portion thereof to the parties, their representatives and witnesses if the judge deems this necessary or advisable in order to protect sensitive matter (see § 766.11 of this part) from improper disclosure. The rules of evidence prevailing in courts of law do not apply, and all evidentiary material deemed by the administrative law judge to be relevant and material to the proceeding and not unduly repetitious will be received and given appropriate weight.

(c) *Testimony and record.* Witnesses will testify under oath or affirmation. A verbatim record of the hearing and of any other oral proceedings will be taken by reporter or by electronic recording, transcribed and filed with the administrative law judge. A respondent may examine the transcript and may obtain a copy by paying any applicable costs. Upon such terms as the administrative law judge deems just, the judge may direct that the testimony of any person be taken by deposition and may admit an affidavit or declaration as evidence, provided that any affidavits or declarations have been filed and served on the parties sufficiently in advance of the hearing to permit a party to file and serve an objection thereto on the grounds that it is necessary that

the affiant or declarant testify at the hearing and be subject to cross-examination.

(d) *Failure to appear.* If a party fails to appear in person or by counsel at a scheduled hearing, the hearing may nevertheless proceed, and that party's failure to appear will not affect the validity of the hearing or any proceedings or action taken thereafter.

§ 766.14 Interlocutory review of rulings.

(a) At the request of a party, or on the judge's own initiative, the administrative law judge may certify to the Under Secretary for review a ruling that does not finally dispose of a proceeding, if the administrative law judge determines that immediate review may hasten or facilitate the final disposition of the matter.

(b) Upon certification to the Under Secretary of the interlocutory ruling for review, the parties will have 10 days to file and serve briefs stating their positions, and five days to file and serve replies, following which the Under Secretary will decide the matter promptly.

§ 766.15 Proceeding without a hearing.

If the parties have waived a hearing, the case will be decided on the record by the administrative law judge. Proceeding without a hearing does not relieve the parties from the necessity of proving the facts supporting their charges or defenses. Affidavits or declarations, depositions, admissions, answers to interrogatories and stipulations may supplement other documentary evidence in the record. The administrative law judge will give each party reasonable opportunity to file rebuttal evidence.

§ 766.16 Procedural stipulations; extension of time.

(a) *Procedural stipulations.* Unless otherwise ordered, a written stipulation agreed to by all parties and filed with the administrative law judge will modify any procedures established by this part.

(b) *Extension of time.* (1) The parties may extend any applicable time limitation, by stipulation filed with the administrative law judge before the time limitation expires.

(2) The administrative law judge may, on the judge's own initiative or upon application by any party, either before or after the expiration of any applicable time limitation, extend the time within which to file and serve an answer to a charging letter or do any other act required by this part.

§ 766.17 Decision of the administrative law judge.

(a) *Predecisional matters.* Except for default proceedings under § 766.7 of this part, the administrative law judge will give the parties reasonable opportunity to submit the following, which will be made a part of the record:

(1) Exceptions to any ruling by the judge or to the admissibility of evidence proffered at the hearing;

(2) Proposed findings of fact and conclusions of law;

(3) Supporting legal arguments for the exceptions and proposed findings and conclusions submitted; and

(4) A proposed order.

(b) *Decision and order.* After considering the entire record in the proceeding, the administrative law judge will issue a written decision.

(1) *Initial decision.* For proceedings charging violations relating to part 760 of the EAR, the decision rendered shall be an initial decision. The decision will include findings of fact, conclusions of law, and findings as to whether there has been a violation of the EAA, the EAR, or any order, license or authorization issued thereunder. If the administrative law judge finds that the evidence of record is insufficient to sustain a finding that a violation has occurred with respect to one or more charges, the judge shall order dismissal of the charges in whole or in part, as appropriate. If the administrative law judge finds that one or more violations have been committed, the judge may issue an order imposing administrative sanctions, as provided in part 764 of the EAR. The decision and order shall be served on each party, and shall become effective as the final decision of the Department 30 days after service, unless an appeal is filed in accordance with § 766.21 of this part.

(2) *Recommended decision.* For proceedings not involving violations relating to part 760 of the EAR, the decision

rendered shall be a recommended decision. The decision will include recommended findings of fact, conclusions of law, and findings as to whether there has been a violation of the EAA, the EAR or any order, license or authorization issued thereunder. If the administrative law judge finds that the evidence of record is insufficient to sustain a recommended finding that a violation has occurred with respect to one or more charges, the judge shall recommend dismissal of any such charge. If the administrative law judge finds that one or more violations have been committed, the judge shall recommend an order imposing administrative sanctions, as provided in part 764 of the EAR, or such other action as the judge deems appropriate. The administrative law judge shall immediately certify the record, including the original copy of the recommended decision and order, to the Under Secretary for review in accordance with §766.22 of this part. The administrative law judge shall also immediately serve the recommended decision on all parties. Because of the time limits established in the EAA for review by the Under Secretary, service upon parties shall be by personal delivery, express mail or other overnight carrier.

(c) *Suspension of sanctions.* Any order imposing administrative sanctions may provide for the suspension of the sanction imposed, in whole or in part and on such terms of probation or other conditions as the administrative law judge or the Under Secretary may specify. Any suspension order may be modified or revoked by the signing official upon application of BIS showing a violation of the probationary terms or other conditions, after service on the respondent of notice of the application in accordance with the service provisions of §766.3 of this part, and with such opportunity for response as the responsible signing official in his/her discretion may allow. A copy of any order modifying or revoking the suspension shall also be served on the respondent in accordance with the provisions of §766.3 of this part.

(d) *Time for decision.* Administrative enforcement proceedings not involving violations relating to part 760 of the EAR shall be concluded, including review by the Under Secretary under §766.22 of this part, within one year of the submission of a charging letter, unless the administrative law judge, for good cause shown, extends such period. The charging letter will be deemed to have been submitted to the administrative law judge on the date the respondent files an answer or on the date BIS files a motion for a default order pursuant to §766.7(a) of this part, whichever occurs first.

§ 766.18 Settlement.

(a) *Cases may be settled before service of a charging letter.* In cases in which settlement is reached before service of a charging letter, a proposed charging letter will be prepared, and a settlement proposal consisting of a settlement agreement and order will be submitted to the Assistant Secretary for approval and signature. If the Assistant Secretary does not approve the proposal, he/she will notify the parties and the case will proceed as though no settlement proposal had been made. If the Assistant Secretary approves the proposal, he/she will issue an appropriate order, and no action will be required by the administrative law judge.

(b) *Cases may also be settled after service of a charging letter.* (1) If the case is pending before the administrative law judge, the judge shall stay the proceedings for a reasonable period of time, usually not to exceed 30 days, upon notification by the parties that they have entered into good faith settlement negotiations. The administrative law judge may, in his/her discretion, grant additional stays. If settlement is reached, a proposal will be submitted to the Assistant Secretary for approval and signature. If the Assistant Secretary approves the proposal, he/she will issue an appropriate order, and notify the administrative law judge that the case is withdrawn from adjudication. If the Assistant Secretary does not approve the proposal, he/she will notify the parties and the case will proceed to adjudication by the administrative law judge as though no settlement proposal had been made.

(2) If the case is pending before the Under Secretary under §766.21 or §766.22 of this part, the parties may submit a settlement proposal to the

Under Secretary for approval and signature. If the Under Secretary approves the proposal, he/she will issue an appropriate order. If the Under Secretary does not approve the proposal, the case will proceed to final decision in accordance with § 766.21 or § 766.22 of this part, as appropriate.

(c) Any order disposing of a case by settlement may suspend the administrative sanction imposed, in whole or in part, on such terms of probation or other conditions as the signing official may specify. Any such suspension may be modified or revoked by the signing official, in accordance with the procedures set forth in § 766.17(c) of this part.

(d) Any respondent who agrees to an order imposing any administrative sanction does so solely for the purpose of resolving the claims in the administrative enforcement proceeding brought under this part. This reflects the fact that BIS has neither the authority nor the responsibility for instituting, conducting, settling, or otherwise disposing of criminal proceedings. That authority and responsibility are vested in the Attorney General and the Department of Justice.

(e) Cases that are settled may not be reopened or appealed.

(f) Supplements nos. 1 and 2 to this part describe how BIS typically exercises its discretion regarding the terms under which it is willing to settle particular cases.

[61 FR 12907, Mar. 25, 1996, as amended at 69 FR 7870, Feb. 20, 2004; 72 FR 39006, July 17, 2007]

§ 766.19 Reopening.

The respondent may petition the administrative law judge within one year of the date of the final decision, except where the decision arises from a default judgment or from a settlement, to reopen an administrative enforcement proceeding to receive any relevant and material evidence which was unknown or unobtainable at the time the proceeding was held. The petition must include a summary of such evidence, the reasons why it is deemed relevant and material, and the reasons why it could not have been presented at the time the proceedings were held. The administrative law judge will grant or deny the petition after providing other parties reasonable opportunity to comment. If the proceeding is reopened, the administrative law judge may make such arrangements as the judge deems appropriate for receiving the new evidence and completing the record. The administrative law judge will then issue a new initial or recommended decision and order, and the case will proceed to final decision and order in accordance with § 766.21 or § 766.22 of this part, as appropriate.

§ 766.20 Record for decision and availability of documents.

(a) *General.* The transcript of hearings, exhibits, rulings, orders, all papers and requests filed in the proceedings and, for purposes of any appeal under § 766.21 of this part or review under § 766.22 of this part, the decision of the administrative law judge and such submissions as are provided for by §§ 766.21 and 766.22 of this part, will constitute the record and the exclusive basis for decision. When a case is settled after the service of a charging letter, the record will consist of any and all of the foregoing, as well as the settlement agreement and the order. When a case is settled before service of a charging letter, the record will consist of the proposed charging letter, the settlement agreement and the order.

(b) *Restricted access.* On the judge's own motion, or on the motion of any party, the administrative law judge may direct that there be a restricted access portion of the record for any material in the record to which public access is restricted by law or by the terms of a protective order entered in the proceedings. A party seeking to restrict access to any portion of the record is responsible for submitting, at the time specified in § 766.20(c)(2) of this part, a version of the document proposed for public availability that reflects the requested deletion. The restricted access portion of the record will be placed in a separate file and the file will be clearly marked to avoid improper disclosure and to identify it as a portion of the official record in the proceedings. The administrative law judge may act at any time to permit material that becomes declassified or unrestricted through passage of time

to be transferred to the unrestricted access portion of the record.

(c) *Availability of documents*—(1) *Scope.* (i) For proceedings started on or after October 12, 1979, all charging letters, answers, initial and recommended decisions, and orders disposing of a case will be made available for public inspection in the BIS Freedom of Information Records Inspection Facility, U.S. Department of Commerce, Room H–6624, 14th Street and Pennsylvania Avenue, N.W., Washington, D.C. 20230. The complete record for decision, as defined in paragraphs (a) and (b) of this section will be made available on request. In addition, all decisions of the Under Secretary on appeal pursuant to § 766.22 of this part and those final orders providing for denial, suspension or revocation of export privileges shall be published in the FEDERAL REGISTER.

(ii) For proceedings started before October 12, 1979, the public availability of the record for decision will be governed by the applicable regulations in effect when the proceedings were begun.

(2) *Timing*—(i) *Antiboycott cases.* For matters relating to part 760 of the EAR, documents are available immediately upon filing, except for any portion of the record for which a request for segregation is made. Parties that seek to restrict access to any portion of the record under paragraph (b) of this section must make such a request, together with the reasons supporting the claim of confidentiality, simultaneously with the submission of material for the record.

(ii) *Other cases.* In all other cases, documents other than charging letters filed on or after June 2, 2022, will be available only after the final administrative disposition of the case. In these cases, parties desiring to restrict access to any portion of the record under paragraph (b) of this section must assert their claim of confidentiality, together with the reasons for supporting the claim, before the close of the proceeding.

[61 FR 12907, Mar. 25, 1996, as amended at 87 FR 34153, June 6, 2022]

§ 766.21 Appeals.

(a) *Grounds.* For proceedings charging violations relating to part 760 of the EAR, a party may appeal to the Under Secretary from an order disposing of a proceeding or an order denying a petition to set aside a default or a petition for reopening, on the grounds:

(1) That a necessary finding of fact is omitted, erroneous or unsupported by substantial evidence of record;

(2) That a necessary legal conclusion or finding is contrary to law;

(3) That prejudicial procedural error occurred, or

(4) That the decision or the extent of sanctions is arbitrary, capricious or an abuse of discretion. The appeal must specify the grounds on which the appeal is based and the provisions of the order from which the appeal is taken.

(b) *Filing of appeal.* An appeal from an order must be filed with the Office of the Under Secretary for Export Administration, Bureau of Industry and Security, U.S. Department of Commerce, Room H–3898, 14th Street and Constitution Avenue, NW., Washington, DC 20230, within 30 days after service of the order appealed from. If the Under Secretary cannot act on an appeal for any reason, the Under Secretary will designate another Department of Commerce official to receive and act on the appeal.

(c) *Effect of appeal.* The filing of an appeal shall not stay the operation of any order, unless the order by its express terms so provides or unless the Under Secretary, upon application by a party and with opportunity for response, grants a stay.

(d) *Appeal procedure.* The Under Secretary normally will not hold hearings or entertain oral argument on appeals. A full written statement in support of the appeal must be filed with the appeal and be simultaneously served on all parties, who shall have 30 days from service to file a reply. At his/her discretion, the Under Secretary may accept new submissions, but will not ordinarily accept those submissions filed more than 30 days after the filing of the reply to the appellant's first submission.

(e) *Decisions.* The decision will be in writing and will be accompanied by an order signed by the Under Secretary giving effect to the decision. The order may either dispose of the case by affirming, modifying or reversing the

order of the administrative law judge or may refer the case back to the administrative law judge for further proceedings.

§ 766.22 Review by Under Secretary.

(a) *Recommended decision.* For proceedings not involving violations relating to part 760 of the EAR, the administrative law judge shall immediately refer the recommended decision and order to the Under Secretary. Because of the time limits provided under the EAA for review by the Under Secretary, service of the recommended decision and order on the parties, all papers filed by the parties in response, and the final decision of the Under Secretary must be by personal delivery, facsimile, express mail or other overnight carrier. If the Under Secretary cannot act on a recommended decision and order for any reason, the Under Secretary will designate another Department of Commerce official to receive and act on the recommendation.

(b) *Submissions by parties.* Parties shall have 12 days from the date of issuance of the recommended decision and order in which to submit simultaneous responses. Parties thereafter shall have eight days from receipt of any response(s) in which to submit replies. Any response or reply must be received within the time specified by the Under Secretary.

(c) *Final decision.* Within 30 days after receipt of the recommended decision and order, the Under Secretary shall issue a written order affirming, modifying or vacating the recommended decision and order of the administrative law judge. If he/she vacates the recommended decision and order, the Under Secretary may refer the case back to the administrative law judge for further proceedings. Because of the time limits, the Under Secretary's review will ordinarily be limited to the written record for decision, including the transcript of any hearing, and any submissions by the parties concerning the recommended decision.

(d) *Delivery.* The final decision and implementing order shall be served on the parties and will be publicly available in accordance with § 766.20 of this part.

[61 FR 12907, Mar. 25, 1996, as amended at 75 FR 33683, June 15, 2010]

§ 766.23 Related persons.

(a) *General.* In order to prevent evasion, certain types of orders under this part may be made applicable not only to the respondent, but also to other persons then or thereafter related to the respondent by ownership, control, position of responsibility, affiliation, or other connection in the conduct of trade or business. Orders that may be made applicable to related persons include those that deny or affect export privileges, including temporary denial orders, and those that exclude a respondent from practice before BIS.

(b) *Procedures.* If BIS has reason to believe that a person is related to the respondent and that an order that is being sought or that has been issued should be made applicable to that person in order to prevent evasion of the order, BIS shall, except in an *ex parte* proceeding under § 766.24(a) of this part, give that person notice in accordance with § 766.5(b) of this part and an opportunity to oppose such action. If the official authorized to issue the order against the respondent finds that the order should be made applicable to that person in order to prevent evasion of the order that official shall issue or amend the order accordingly.

(c) *Appeals.* Any person named by BIS in an order as related to the respondent may appeal that action. The sole issues to be raised and ruled on in any such appeal are whether the person so named is related to the respondent and whether the order is justified in order to prevent evasion.

(1) A person named as related to the respondent in an order issued pursuant to § 766.25 may file an appeal with the Under Secretary for Industry and Security pursuant to part 756 of the EAR.

(2) A person named as related to the respondent in an order issued pursuant to other provisions of this part may file an appeal with the administrative law judge.

(i) If the order made applicable to the related person is for a violation related

to part 760 of the EAR, the related person may file an appeal with the administrative law judge. The related person may appeal the initial decision and order of the administrative law judge to the Under Secretary in accordance with the procedures set forth in § 766.21.

(ii) If the order made applicable to the related person is issued pursuant to § 766.24 of this part to prevent an imminent violation, the recommended decision and order of the administrative law judge shall be reviewed by the Under Secretary in accordance with the procedures set forth in § 766.24(e) of this part.

(iii) If the order made applicable to the related person is for a violation of the EAR not related to part 760 of the EAR and not issued pursuant to § 766.24 of this part, the recommended decision and order of the administrative law judge shall be reviewed by the Under Secretary in accordance with the procedures set forth in § 766.22 of this part.

[61 FR 12907, Mar. 25, 1996, as amended at 71 FR 27605, May 12, 2006]

§ 766.24 Temporary denials.

(a) *General.* The procedures in this section apply to temporary denial orders issued on or after July 12, 1985. For temporary denial orders issued on or before July 11, 1985, the proceedings will be governed by the applicable regulations in effect at the time the temporary denial orders were issued. Without limiting any other action BIS may take under the EAR with respect to any application, order, license or authorization issued under ECRA, BIS may ask the Assistant Secretary to issue a temporary denial order on an *ex parte* basis to prevent an imminent violation, as defined in this section, of the ECRA, the EAR, or any order, license or authorization issued thereunder. The temporary denial order will deny export privileges to any person named in the order as provided for in § 764.3(a)(2) of the EAR.

(b) *Issuance.* (1) The Assistant Secretary may issue an order temporarily denying to a person any or all of the export privileges described in part 764 of the EAR upon a showing by BIS that the order is necessary in the public interest to prevent an imminent violation of ECRA, the EAR, or any order, license or authorization issued thereunder.

(2) The temporary denial order shall define the imminent violation and state why it was issued without a hearing. Because all denial orders are public, the description of the imminent violation and the reasons for proceeding on an *ex parte* basis set forth therein shall be stated in a manner that is consistent with national security, foreign policy, business confidentiality, and investigative concerns.

(3) A violation may be ''imminent'' either in time or in degree of likelihood. To establish grounds for the temporary denial order, BIS may show either that a violation is about to occur, or that the general circumstances of the matter under investigation or case under criminal or administrative charges demonstrate a likelihood of future violations. To indicate the likelihood of future violations, BIS may show that the violation under investigation or charges is significant, deliberate, covert and/or likely to occur again, rather than technical or negligent, and that it is appropriate to give notice to companies in the United States and abroad to cease dealing with the person in U.S.-origin items in order to reduce the likelihood that a person under investigation or charges continues to export or acquire abroad such items, risking subsequent disposition contrary to export control requirements. Lack of information establishing the precise time a violation may occur does not preclude a finding that a violation is imminent, so long as there is sufficient reason to believe the likelihood of a violation.

(4) The temporary denial order will be issued for a period not exceeding 180 days.

(5) Notice of the issuance of a temporary denial order on an *ex parte* basis shall be given in accordance with § 766.5(b) of this part upon issuance.

(c) *Related persons.* A temporary denial order may be made applicable to related persons in accordance with § 766.23 of this part.

(d) *Renewal.* (1) If, no later than 20 days before the expiration date of a temporary denial order, BIS believes that renewal of the denial order is necessary in the public interest to prevent

an imminent violation, BIS may file a written request setting forth the basis for its belief, including any additional or changed circumstances, asking that the Assistant Secretary renew the temporary denial order, with modifications, if any are appropriate, for an additional period not exceeding 180 days. In cases demonstrating a pattern of repeated, ongoing and/or continuous apparent violations, BIS may request the renewal of a temporary denial order for an additional period not exceeding one year. BIS's request shall be delivered to the respondent, or any agent designated for this purpose, in accordance with §766.5(b) of this part unless exceptional circumstances exist, which will constitute notice of the renewal application.

(2) *Non-resident respondents.* To facilitate timely notice of renewal requests, a respondent not a resident of the United States may designate a local agent for this purpose and provide written notification of such designation to BIS in the manner set forth in §766.5(b) of this part.

(3) *Hearing.* (i) A respondent may oppose renewal of a temporary denial order by filing with the Assistant Secretary a written submission, supported by appropriate evidence, to be received not later than seven days before the expiration date of such order. For good cause shown, the Assistant Secretary may consider submissions received not later than five days before the expiration date. The Assistant Secretary ordinarily will not allow discovery; however, for good cause shown in respondent's submission, he/she may allow the parties to take limited discovery, consisting of a request for production of documents. If requested by the respondent in the written submission, the Assistant Secretary shall hold a hearing on the renewal application. The hearing shall be on the record and ordinarily will consist only of oral argument. The only issue to be considered on BIS's request for renewal is whether the temporary denial order should be continued to prevent an imminent violation as defined herein.

(ii) Any person designated as a related person may not oppose the issuance or renewal of the temporary denial order, but may file an appeal in accordance with §766.23(c) of this part.

(iii) If no written opposition to BIS's renewal request is received within the specified time, the Assistant Secretary may issue the order renewing the temporary denial order without a hearing.

(4) A temporary denial order may be renewed more than once.

(e) *Appeals*—(1) *Filing.* (i) A respondent may, at any time, file an appeal of the initial or renewed temporary denial order with the administrative law judge.

(ii) The filing of an appeal shall stay neither the effectiveness of the temporary denial order nor any application for renewal, nor will it operate to bar the Assistant Secretary's consideration of any renewal application.

(2) *Grounds.* A respondent may appeal on the grounds that the finding that the order is necessary in the public interest to prevent an imminent violation is unsupported.

(3) *Appeal procedure.* A full written statement in support of the appeal must be filed with the appeal together with appropriate evidence, and be simultaneously served on BIS, which shall have seven days from receipt to file a reply. Service on the administrative law judge shall be addressed to U.S. Coast Guard, ALJ Docketing Center, 40 S. Gay Street, Baltimore, Maryland, 21202–4022. Service on BIS shall be as set forth in §766.5(b) of this part. The administrative law judge normally will not hold hearings or entertain oral argument on appeals.

(4) *Recommended decision.* Within 10 working days after an appeal is filed, the administrative law judge shall submit a recommended decision to the Under Secretary, and serve copies on the parties, recommending whether the issuance or the renewal of the temporary denial order should be affirmed, modified or vacated.

(5) *Final decision.* Within five working days after receipt of the recommended decision, the Under Secretary shall issue a written order accepting, rejecting or modifying the recommended decision. Because of the time constraints, the Under Secretary's review will ordinarily be limited to the written record for decision, including the transcript of any hearing. The issuance or renewal

of the temporary denial order shall be affirmed only if there is reason to believe that the temporary denial order is required in the public interest to prevent an imminent violation of ECRA, the EAR, or any order, license or other authorization issued under ECRA.

(f) *Delivery.* A copy of any temporary denial order issued or renewed and any final decision on appeal shall be published in the FEDERAL REGISTER and shall be delivered to BIS and to the respondent, or any agent designated for this purpose, and to any related person in the same manner as provided in § 766.5 of this part for filing for papers other than a charging letter.

[61 FR 12907, Mar. 25, 1996, as amended at 71 FR 14099, Mar. 21, 2006; 71 FR 27606, May 12, 2006; 75 FR 33683, June 15, 2010; 88 FR 59793, Aug. 30, 2023]

§ 766.25 Administrative action denying export privileges.

(a) *General.* The Director of the Office of Export Enforcement (OEE), in consultation with the Director of the Office of Exporter Services, may deny the export privileges of any person who has been convicted of a violation of any of the statutes set forth at 50 U.S.C. 4819(e)(1)(B), including any regulation, license, or order issued pursuant to such statutes.

(b) *Procedure.* Upon notification that a person has been convicted of a violation of one or more of the provisions specified in paragraph (a) of this section, the Director of OEE, in consultation with the Director of the Office of Exporter Services, will determine whether to deny such person export privileges, including but not limited to applying for, obtaining, or using any license, License Exception, or export control document; or participating in or benefitting in any way from any export or export-related transaction subject to the EAR. Before taking action to deny a person export privileges under this section, the Director of OEE will provide the person written notice of the proposed action and an opportunity to comment through a written submission, unless exceptional circumstances exist. In reviewing the response, the Director of OEE will consider any relevant or mitigating evidence why these privileges should not be denied. Upon final determination, the Director of OEE will notify by letter each person denied export privileges under this section.

(c) *Criteria.* In determining whether and for how long to deny U.S. export privileges to a person previously convicted of one or more of the statutes set forth in paragraph (a) of this section, the Director of OEE may take into consideration any relevant information, including, but not limited to, the seriousness of the offense involved in the criminal prosecution, the nature and duration of the criminal sanctions imposed, and whether the person has undertaken any corrective measures.

(d) *Duration.* Any denial of export privileges under this section shall not exceed 10 years from the date of the conviction of the person who is subject to the denial.

(e) *Effect.* Any person denied export privileges under this section will be considered a ''person denied export privileges'' for purposes of § 736.2(b)(4) (General Prohibition 4—Engage in actions prohibited by a denial order) and § 764.2(k) of the EAR.

(f) *Publication.* The orders denying export privileges under this section are published in the FEDERAL REGISTER when issued, and, for the convenience of the public, information about those orders may be included in compilations maintained by BIS on a Web site and as a supplement to the unofficial edition of the EAR available by subscription from the Government Printing Office.

(g) *Appeal.* An appeal of an action under this section will be pursuant to part 756 of the EAR.

(h) *Applicability to related person.* The Director of OEE, in consultation with the Director of the Office of Exporter Services, may take action in accordance with § 766.23 of this part to make applicable to related persons an order that is being sought or that has been issued under this section.

[61 FR 12907, Mar. 25, 1996, as amended at 65 FR 14863, Mar. 20, 2000; 67 FR 54953, Aug. 27, 2002; 85 FR 73418, Nov. 18, 2020]

SUPPLEMENT NO. 1 TO PART 766—GUIDANCE ON CHARGING AND PENALTY DETERMINATIONS IN SETTLEMENT OF ADMINISTRATIVE ENFORCEMENT CASES

INTRODUCTION

This supplement describes how the Office of Export Enforcement (OEE) at the Bureau of Industry and Security (BIS) responds to apparent violations of the Export Administration Regulations (EAR) and, specifically, how OEE makes penalty determinations in the settlement of civil administrative enforcement cases under part 764 of the EAR. This guidance does not apply to enforcement cases for violations under part 760 of the EAR—Restrictive Trade Practices or Boycotts. Supplement no. 2 to part 766 continues to apply to civil administrative enforcement cases involving part 760 violations.

Because many administrative enforcement cases are resolved through settlement, the process of settling such cases is integral to the enforcement program. OEE carefully considers each settlement offer in light of the facts and circumstances of the case, relevant precedent, and OEE's objective to achieve in each case an appropriate penalty and deterrent effect. In settlement negotiations, OEE encourages parties to provide, and will give serious consideration to, information and evidence that parties believe are relevant to the application of this guidance to their cases, to whether a violation has in fact occurred, or to whether they have an affirmative defense to potential charges.

This guidance does not confer any right or impose any obligation regarding what penalties OEE may seek in litigating a case or what posture OEE may take toward settling a case. Parties do not have a right to a settlement offer or particular settlement terms from OEE, regardless of settlement positions OEE has taken in other cases.

I. DEFINITIONS

NOTE: See also: Definitions contained in §766.2 of the EAR.

Apparent Violation means conduct that constitutes an actual or possible violation of the Export Control Reform Act of 2018, the EAR, other statutes administered or enforced by BIS, as well as executive orders, regulations, orders, directives, or licenses issued pursuant thereto.

Transaction value means the U.S. dollar value of a subject transaction, as demonstrated by commercial invoices, bills of lading, signed Customs declarations, AES filings or similar documents. Where the transaction value is not otherwise ascertainable, OEE may consider the market value of the items that were the subject of the transaction and/or the economic benefit derived by the Respondent from the transaction, in determining transaction value. In situations involving a lease of U.S.-origin items, the transaction value will generally be the value of the lease. For purposes of these guidelines, ''transaction value'' will not necessarily have the same meaning, nor be applied in the same manner, as that term is used for import valuation purposes at 19 CFR 152.103.

Voluntary self-disclosure means the self-initiated notification to OEE of an apparent violation as described in and satisfying the requirements of §764.5 of the EAR.

II. TYPES OF RESPONSES TO APPARENT VIOLATIONS

OEE, among other responsibilities, investigates apparent violations of the EAR, or any order, license or authorization issued thereunder. When it appears that such a violation may have occurred, OEE investigations may lead to no action, a warning letter or an administrative enforcement proceeding. A violation may also be referred to the Department of Justice for criminal prosecution. The type of enforcement action initiated by OEE will depend primarily on the nature of the violation. Depending on the facts and circumstances of a particular case, an OEE investigation may lead to one or more of the following actions:

A. No Action. If OEE determines that there is insufficient evidence to conclude that a violation has occurred, determines that a violation did not occur and/or, based on an analysis of the Factors outlined in section III of these guidelines, concludes that the conduct does not rise to a level warranting an administrative response, then no action will be taken. In such circumstances, if the investigation was initiated by a voluntary self-disclosure (VSD), OEE will issue a letter (a no-action letter) indicating that the investigation is being closed with no administrative action being taken. OEE may issue a no-action letter in non-voluntarily disclosed cases at its discretion. A no-action determination by OEE represents OEE's disposition of the apparent violation, unless OEE later learns of additional information regarding the same or similar transactions or other relevant facts. A no-action letter is not a final agency action with respect to whether a violation occurred.

B. Warning Letter. If OEE determines that a violation may have occurred but a civil penalty is not warranted under the circumstances, and believes that the underlying conduct could lead to a violation in other circumstances and/or that a Respondent does not appear to be exercising due diligence in assuring compliance with the statutes, executive orders, and regulations that OEE enforces, OEE may issue a warning letter. A warning letter may convey OEE's concerns about the underlying conduct and/or the Respondent's compliance policies, practices,

and/or procedures. It may also address an apparent violation of a minor or technical nature, where good faith efforts to comply with the law and cooperate with the investigation are present, or where the investigation commenced as a result of a voluntary self-disclosure satisfying the requirements of §764.5 of the EAR, provided that no aggravating factors exist. In the exercise of its discretion, OEE may determine in certain instances that issuing a warning letter, instead of bringing an administrative enforcement proceeding, will achieve the appropriate enforcement result. A warning letter will describe the apparent violation and urge compliance. A warning letter represents OEE's enforcement response to and disposition of the apparent violation, unless OEE later learns of additional information concerning the same or similar apparent violations. A warning letter does not constitute a final agency action with respect to whether a violation has occurred.

C. Administrative enforcement case. If OEE determines that a violation has occurred and, based on an analysis of the Factors outlined in section III of these guidelines, concludes that the Respondent's conduct warrants a civil monetary penalty or other administrative sanctions, OEE may initiate an administrative enforcement case. The issuance of a charging letter under §766.3 of the EAR initiates an administrative enforcement proceeding. Charging letters may be issued when there is reason to believe that a violation has occurred. Cases may be settled before or after the issuance of a charging letter. *See* §766.18 of the EAR. OEE may prepare a proposed charging letter which could result in a case being settled before issuance of an actual charging letter. *See* §766.18(a) of the EAR. If a case does not settle before issuance of a charging letter and the case proceeds to adjudication, the resulting charging letter may include more violations than alleged in the proposed charging letter, and the civil monetary penalty amounts assessed may be greater that those provided for in section IV of these guidelines. Civil monetary penalty amounts for cases settled before the issuance of a charging letter will be determined as discussed in section IV of these guidelines. A civil monetary penalty may be assessed for each violation. The maximum amount of such a penalty per violation is stated in §764.3(a)(1), subject to adjustments under Federal Civil Penalties Inflation Adjustment Act Improvements Act of 2015 (Pub. L. 114–74, sec. 701), which are codified at 15 CFR 6.4. OEE will afford the Respondent an opportunity to respond to a proposed charging letter. Responses to charging letters following the institution of an enforcement proceeding under part 766 of the EAR are governed by §766.3 of the EAR.

D. Non-Monetary Penalty. OEE may seek a non-monetary penalty if OEE determines the violations are not egregious and have not resulted in serious national security harm, but rise above the level of cases warranting a warning letter or no-action letter. Instead of requiring monetary penalties, such agreements will require remediation through the imposition of a suspended denial order with certain conditions, such as training and compliance requirements, as appropriate, to mitigate harm from past violations and prevent future ones.

E. Civil Monetary Penalty. OEE may seek a civil monetary penalty if OEE determines that a violation has occurred and, based on the Factors outlined in section III of these guidelines, concludes that the Respondent's conduct warrants a monetary penalty. Section IV of these guidelines will guide the agency's exercise of its discretion in determining civil monetary penalty amounts.

F. Criminal Referral. In appropriate circumstances, OEE may refer the matter to the Department of Justice for criminal prosecution. Apparent violations referred for criminal prosecution also may be subject to a civil monetary penalty and/or other administrative sanctions or action by BIS.

G. Other Administrative Sanctions or Actions. In addition to or in lieu of other administrative actions, OEE may seek sanctions listed in §764.3 of the EAR. BIS may also take the following administrative actions, among other actions, in response to an apparent violation:

License Revision, Suspension or Revocation. BIS authorizations to engage in a transaction pursuant to a license or license exception may be revised, suspended or revoked in response to an apparent violation as provided in §§740.2(b) and 750.8 of the EAR.

Denial of Export Privileges. An order denying a Respondent's export privileges may be issued, as described in §764.3(a)(2) of the EAR. Such a denial may extend to all export privileges, as set out in the standard terms for denial orders in supplement no. 1 to part 764 of the EAR, or may be narrower in scope (*e.g.,* limited to exports of specified items or to specified destinations or customers). A denial order may also be suspended in whole or in part in accordance with §766.18(c).

Exclusion from practice. Under §764.3(a)(3) of the EAR, any person acting as an attorney, accountant, consultant, freight forwarder or other person who acts in a representative capacity in any matter before BIS may be excluded from practicing before BIS.

Training and Audit Requirements. In appropriate cases, OEE may require as part of a settlement agreement that the Respondent provide training to employees as part of its compliance program, adopt other compliance measures, and/or be subject to internal or independent audits by a qualified outside person.

H. Suspension or Deferral. In appropriate cases, payment of a civil monetary penalty

may be suspended or deferred during a probationary period under a settlement agreement and order. If the terms of the settlement agreement or order are not adhered to by the Respondent, then suspension or deferral may be revoked and the full amount of the penalty imposed. *See* §764.3(a)(1)(iii) of the EAR. In determining whether suspension or deferral is appropriate, OEE may consider, for example, whether the Respondent has demonstrated a limited ability to pay a penalty that would be appropriate for such violations, so that suspended or deferred payment can be expected to have sufficient deterrent value, and whether, in light of all of the circumstances, such suspension or deferral is necessary to make the financial impact of the penalty consistent with the impact of penalties on other parties who committed similar violations.

III. Factors Affecting Administrative Sanctions

Many apparent violations are isolated occurrences, the result of a good-faith misinterpretation, or involve no more than simple negligence or carelessness. In such instances, absent the presence of aggravating factors, the matter frequently may be addressed with a no action determination letter or, if deemed necessary, a warning letter. In other cases, where the imposition of an administrative penalty is deemed appropriate, OEE will consider some or all of the following Factors in determining the appropriate sanctions in administrative cases, including the appropriate amount of a civil monetary penalty where such a penalty is sought and is imposed as part of a settlement agreement and order. These factors describe circumstances that, in OEE's experience, are commonly relevant to penalty determinations in settled cases. Factors that are considered exclusively aggravating, such as willfulness, or exclusively mitigating, such as situations where remedial measures were taken, are set forth paragraphs II(A) through (D) and (G) through (I). This guidance also identifies General Factors—which can be either mitigating or aggravating—such as the presence or absence of an internal compliance program at the time the apparent violations occurred. Other relevant Factors may also be considered at OEE's discretion.

While some violations of the EAR have a degree of knowledge or intent as an element of the offense, OEE may regard a violation of any provision of the EAR as knowing or willful if the facts and circumstances of the case support that conclusion. For example, evidence that a corporate entity had knowledge at a senior management level may mean that a higher penalty may be appropriate. OEE will also consider, in accordance with supplement no. 3 to part 732 of the EAR (15 CFR part 732), the presence of any red flags that should have alerted the Respondent that a violation was likely to occur. The aggravating factors identified in the Guidelines do not alter or amend §764.2(e) or the definition of ''knowledge'' in §772.1, or other provisions of parts 764 and 772 of the EAR (15 CFR parts 764 and 772). If the violations are of such a nature and extent that a monetary fine alone represents an insufficient penalty, a denial or exclusion order may also be imposed to prevent future violations of the EAR.

Aggravating Factors

A. Willful or Reckless Violation of Law. OEE will consider a Respondent's apparent willfulness or recklessness in violating, attempting to violate, conspiring to violate, or causing a violation of the law. Generally, to the extent the conduct at issue appears to be the result of willful conduct—a deliberate intent to violate, attempt to violate, conspire to violate, or cause a violation of the law—the OEE enforcement response will be stronger. Among the factors OEE may consider in evaluating apparent willfulness or recklessness are:

1. Willfulness. Was the conduct at issue the result of a decision to take action with the knowledge that such action would constitute a violation of U.S. law? Did the Respondent know that the underlying conduct constituted, or likely constituted, a violation of U.S. law at the time of the conduct?

2. Recklessness/gross negligence. Did the Respondent demonstrate reckless disregard or gross negligence with respect to compliance with U.S. regulatory requirements or otherwise fail to exercise a minimal degree of caution or care in avoiding conduct that led to the apparent violation? Were there warning signs that should have alerted the Respondent that an action or failure to act would lead to an apparent violation?

3. Concealment. Was there a deliberate effort by the Respondent to hide or purposely obfuscate its conduct in order to mislead OEE, Federal, State, or foreign regulators, or other parties involved in the conduct, about an apparent violation?

4. Pattern of Conduct. Did the apparent violation constitute or result from a pattern or practice of conduct or was it relatively isolated and atypical in nature? In determining both whether to bring charges and, once charges are brought, whether to treat the case as egregious, OEE will be mindful of certain situations where multiple recurring violations resulted from a single inadvertent error, such as misclassification. However, for cases that settle before filing of a charging letter with an Administrative Law Judge, OEE will generally charge only the most serious violation per transaction. If OEE issues a proposed charging letter and subsequently

files a charging letter with an Administrative Law Judge because a mutually agreeable settlement cannot be reached, OEE will continue to reserve its authority to proceed with all available charges in the charging letter based on the facts presented. When determining a penalty, each violation is potentially chargeable.

5. Prior Notice. Was the Respondent on notice, or should it reasonably have been on notice, that the conduct at issue, or similar conduct, constituted a violation of U.S. law?

6. Management Involvement. In cases of entities, at what level within the organization did the willful or reckless conduct occur? Were supervisory or managerial level staff aware, or should they reasonably have been aware, of the willful or reckless conduct?

B. Awareness of Conduct at Issue: The Respondent's awareness of the conduct giving rise to the apparent violation. Generally, the greater a Respondent's actual knowledge of, or reason to know about, the conduct constituting an apparent violation, the stronger the OEE enforcement response will be. In the case of a corporation, awareness will focus on supervisory or managerial level staff in the business unit at issue, as well as other senior officers and managers. Among the factors OEE may consider in evaluating the Respondent's awareness of the conduct at issue are:

1. Actual Knowledge. Did the Respondent have actual knowledge that the conduct giving rise to an apparent violation took place, and remain willfully blind to such conduct, and fail to take remedial measures to address it? Was the conduct part of a business process, structure or arrangement that was designed or implemented with the intent to prevent or shield the Respondent from having such actual knowledge, or was the conduct part of a business process, structure or arrangement implemented for other legitimate reasons that consequently made it difficult or impossible for the Respondent to have actual knowledge?

2. Reason to Know. If the Respondent did not have actual knowledge that the conduct took place, did the Respondent have reason to know, or should the Respondent reasonably have known, based on all readily available information and with the exercise of reasonable due diligence, that the conduct would or might take place?

3. Management Involvement. In the case of an entity, was the conduct undertaken with the explicit or implicit knowledge of senior management, or was the conduct undertaken by personnel outside the knowledge of senior management? If the apparent violation was undertaken without the knowledge of senior management, was there oversight intended to detect and prevent violations, or did the lack of knowledge by senior management result from disregard for its responsibility to comply with applicable regulations and laws?

C. Harm to Regulatory Program Objectives: The actual or potential harm to regulatory program objectives caused by the conduct giving rise to the apparent violation. This factor is present where the conduct in question, in purpose or effect, substantially implicates national security, foreign policy or other essential interests protected by the U.S. export control system. Among other things, OEE may consider such factors as the reason for controlling the item to the destination in question; the sensitivity of the item; the prohibitions or restrictions against the recipient of the item; and the licensing policy concerning the transaction (such as presumption of approval or denial). OEE, in its discretion, may consult with other U.S. agencies or with licensing and enforcement authorities of other countries in making its determination. Among the factors OEE may consider in evaluating the harm to regulatory program objectives are:

1. Implications for U.S. National Security: The impact that the apparent violation had or could potentially have on the national security of the United States. For example, if a particular export could undermine U.S. military superiority or endanger U.S. or friendly military forces or be used in a military application contrary to U.S. interests, OEE would consider the implications of the apparent violation to be significant.

2. Implications for U.S. Foreign Policy: The effect that the apparent violation had or could potentially have on U.S. foreign policy objectives. For example, if a particular export is, or is likely to be, used by a foreign regime to monitor communications of its population in order to suppress free speech and persecute dissidents, or otherwise used to enable human rights abuses, OEE would consider the implications of the apparent violation to be significant.

D. Failure to disclose a significant apparent violation. If a firm (as that term is defined in §772.1 of the EAR) deliberately chooses not to disclose a significant apparent violation that it has identified, OEE will consider that non-disclosure to be an aggravating factor when assessing what administrative sanctions, if any, will be sought. A deliberate decision not to disclose occurs when a firm uncovers a significant apparent violation that they have committed but then chooses not to file a VSD.

General Factors

E. Individual Characteristics: The particular circumstances and characteristics of a Respondent. Among the factors OEE may consider in evaluating individual characteristics are:

1. Commercial Sophistication: The commercial sophistication and experience of the Respondent. Is the Respondent an individual or an entity? If an individual, was the conduct

constituting the apparent violation for personal or business reasons?

2. Size and Sophistication of Operations: The size of a Respondent's business operations, where such information is available and relevant. At the time of the violation, did the Respondent have any previous export experience and was the Respondent familiar with export practices and requirements? Qualification of the Respondent as a small business or organization for the purposes of the Small Business Regulatory Enforcement Fairness Act, as determined by reference to the applicable standards of the Small Business Administration, may also be considered.

3. Volume and Value of Transactions: The total volume and value of transactions undertaken by the Respondent on an annual basis, with attention given to the volume and value of the apparent violations as compared with the total volume and value of all transactions. Was the quantity and/or value of the exports high, such that a greater penalty may be necessary to serve as an adequate penalty for the violation or deterrence of future violations, or to make the penalty proportionate to those for otherwise comparable violations involving exports of lower quantity or value?

4. Regulatory History: The Respondent's regulatory history, including OEE's issuance of prior penalties, warning letters, or other administrative actions (including settlements). OEE will consider a Respondent's past regulatory history, including OEE's issuance of prior penalties, warning letters, or other administrative actions (including settlements). When an acquiring firm takes reasonable steps to uncover, correct, and voluntarily disclose or cause the voluntary self-disclosure to OEE of conduct that gave rise to violations by an acquired business before the acquisition, OEE typically will not take such violations into account in applying these factors in settling other violations by the acquiring firm.

5. Other illegal conduct in connection with the export. Was the transaction in support of other illegal conduct, for example the export of firearms as part of a drug smuggling operation, or illegal exports in support of intellectual property theft, economic espionage or money laundering?

6. Criminal Convictions. Has the Respondent previously been convicted of a criminal violation or otherwise entered into a resolution with the Department of Justice or other prosecutorial authority related to a criminal violation?

NOTE: Where necessary to effective enforcement, the prior involvement in export violation(s) of a Respondent's owners, directors, officers, partners, or other related persons may be imputed to a Respondent in determining whether these criteria are satisfied.

F. Compliance Program: The existence, nature and adequacy of a Respondent's risk-based BIS compliance program at the time of the apparent violation. OEE will take account of the extent to which a Respondent complies with the principles set forth in BIS's Export Compliance Guidelines. Information about the Export Compliance Guidelines can be accessed through the BIS website at *http://www.bis.gov/.* OEE will also consider whether a Respondent's export compliance program uncovered a problem, thereby preventing further violations, and whether the Respondent has taken steps to address compliance concerns raised by the violation, to include the submission of a VSD and steps to prevent reoccurrence of the violation that are reasonably calculated to be effective. Conversely, OEE will also consider whether a firm has deliberately failed to voluntarily disclose a significant apparent violation uncovered by a company's export compliance program.

Mitigating Factors

G. Remedial Response. The Respondent's corrective action taken in response to the apparent violation. Among the factors OEE may consider in evaluating the remedial response are:

1. The steps taken by the Respondent upon learning of the apparent violation. Did the Respondent immediately stop the conduct at issue? Did the Respondent undertake to file a VSD?

2. In the case of an entity, the processes followed to resolve issues related to the apparent violation. Did the Respondent discover necessary information to ascertain the causes and extent of the apparent violation, fully and expeditiously? Was senior management fully informed? If so, when?

3. In the case of an entity, whether it adopted new and more effective internal controls and procedures to prevent the occurrence of similar apparent violations. If the entity did not have a BIS compliance program in place at the time of the apparent violation, did it implement one upon discovery of the apparent violation? If it did have a BIS compliance program, did it take appropriate steps to enhance the program to prevent the recurrence of similar violations? Did the entity provide the individual(s) and/or managers responsible for the apparent violation with additional training, and/or take other appropriate action, to ensure that similar violations do not occur in the future?

4. Where applicable, whether the Respondent undertook a thorough review to identify other apparent violations.

H. Exceptional Cooperation with OEE: The nature and extent of the Respondent's cooperation with OEE, beyond those actions set forth in Factor F. Among the factors OEE may consider in evaluating exceptional cooperation are:

1. Did the Respondent provide OEE with all relevant information regarding the apparent violation at issue in a timely, comprehensive

and responsive manner (whether or not voluntarily self-disclosed), including, if applicable, overseas records?

2. Did the Respondent research and disclose to OEE relevant information regarding any other apparent violations caused by the same course of conduct?

3. Did the Respondent provide substantial assistance in another OEE investigation of another person who may have violated the EAR?

4. Has the Respondent previously made substantial voluntary efforts to provide information (such as providing tips that led to enforcement actions against other parties) to Federal law enforcement authorities in support of the enforcement of U.S. export control regulations? Has the Respondent previously disclosed information regarding the conduct of others that led to enforcement action by OEE?

5. Did the Respondent enter into a statute of limitations tolling agreement, if requested by OEE (particularly in situations where the apparent violations were not immediately disclosed or discovered by OEE, in particularly complex cases, and in cases in which the Respondent has requested and received additional time to respond to a request for information from OEE)? If so, the Respondent's entering into a tolling agreement may be deemed a mitigating factor.

NOTE: A Respondent's refusal to enter into a tolling agreement will not be considered by OEE as an aggravating factor in assessing a Respondent's cooperation or otherwise under the Guidelines.

I. License Was Likely To Be Approved. Would an export license application have likely been approved for the transaction had one been sought? Would the export have qualified for a License Exception? Some license requirements sections in the EAR also set forth a licensing policy (*i.e.,* a statement of the policy under which license applications will be evaluated), such as a general presumption of denial or case by case review. OEE may also consider the licensing history of the specific item to that destination and if the item or end-user has a history of export denials.

Other Relevant Factors Considered on a Case-by-Case Basis

J. Related Violations. Frequently, a single export transaction can give rise to multiple violations. For example, an exporter who inadvertently misclassifies an item on the Commerce Control List may, as a result of that error, export the item without the required export license and file Electronic Export Information (EEI) to the Automated Export System (AES) that both misstates the applicable Export Control Classification Number (ECCN) and erroneously identifies the export as qualifying for the designation ''NLR'' (no license required) or cites a license exception that is not applicable. In so doing, the exporter commits three violations: one violation of §764.2(a) of the EAR for the unauthorized export and two violations of §764.2(g) of the EAR for the two false statements on the EEI filing to the AES. OEE will consider whether the violations stemmed from the same underlying error or omission, and whether they resulted in distinguished or separate harm. OEE generally does not charge multiple violations on a single export, and would not consider the existence of such multiple violations as an aggravating factor in and of itself. It is within OEE's discretion to charge separate violations and settle the case for a penalty that is less than would be appropriate for unrelated violations under otherwise similar circumstances, or to charge fewer violations and pursue settlement in accordance with that charging decision. OEE generally will consider inadvertent, compounded clerical errors as related and not separate infractions when deciding whether to bring charges and in determining if a case is egregious.

K. Multiple Unrelated Violations. In cases involving multiple unrelated violations, OEE is more likely to seek a denial of export privileges and/or a greater monetary penalty than OEE would otherwise typically seek. For example, repeated unauthorized exports could warrant a denial order, even if a single export of the same item to the same destination under similar circumstances might warrant just a civil monetary penalty. OEE takes this approach because multiple violations may indicate serious compliance problems and a resulting greater risk of future violations. OEE may consider whether a Respondent has taken effective steps to address compliance concerns in determining whether multiple violations warrant a denial order in a particular case.

L. Other Enforcement Action. Other enforcement actions taken by Federal, State, or local agencies against a Respondent for the apparent violation or similar apparent violations, including whether the settlement of alleged violations of BIS regulations is part of a comprehensive settlement with other Federal, State, or local agencies. Where an administrative enforcement matter under the EAR involves conduct giving rise to related criminal or civil charges, OEE may take into account the related violations, and their resolution, in determining what administrative sanctions are appropriate under part 766 of the EAR (15 CFR part 766). A criminal conviction indicates serious, willful misconduct and an accordingly high risk of future violations, absent effective administrative sanctions. However, entry of a guilty plea can be a sign that a Respondent accepts responsibility for complying with the EAR

and will take greater care to do so in the future. In appropriate cases where a Respondent is receiving substantial criminal penalties, OEE may find that sufficient deterrence may be achieved by lesser administrative sanctions than would be appropriate in the absence of criminal penalties. Conversely, OEE might seek greater administrative sanctions in an otherwise similar case where a Respondent is not subjected to criminal penalties. The presence of a related criminal or civil disposition may distinguish settlements among civil penalty cases that appear otherwise to be similar. As a result, the factors set forth for consideration in civil penalty settlements will often be applied differently in the context of a ''global settlement'' of both civil and criminal cases, or multiple civil cases, and may therefore be of limited utility as precedent for future cases, particularly those not involving a global settlement.

M. Future Compliance/Deterrence Effect. The impact an administrative enforcement action may have on promoting future compliance with the regulations by a Respondent and similar parties, particularly those in the same industry sector.

N. Other Factors That OEE Deems Relevant. On a case-by-case basis, in determining the appropriate enforcement response and/or the amount of any civil monetary penalty, OEE will consider the totality of the circumstances to ensure that its enforcement response is proportionate to the nature of the violation.

IV. Civil Penalties

A. Determining What Sanctions Are Appropriate in a Settlement

OEE will review the facts and circumstances surrounding an apparent violation and apply the Factors Affecting Administrative Sanctions in section III of this supplement in determining the appropriate sanction or sanctions in an administrative case, including the appropriate amount of a civil monetary penalty where such a penalty is sought and imposed. Penalties for settlements reached after the initiation of litigation will usually be higher than those described by these guidelines.

B. Amount of Civil Penalty

1. Determining Whether a Case is Egregious. In those cases in which a civil monetary penalty is considered appropriate, the OEE Director will make a determination as to whether a case is deemed ''egregious'' for purposes of the base penalty calculation. If a case is determined to be egregious, the OEE Director also will also determine the appropriate base penalty amount within the range of base penalty amounts prescribed in paragraphs IV.B.2.a.iii and iv of this supplement. These determinations will be based on an analysis of the applicable factors. In making these determinations, substantial weight will generally be given to Factors A (''willful or reckless violation of law''), B (''awareness of conduct at issue''), C (''harm to regulatory program objectives''), and D (''individual characteristics''), with particular emphasis on Factors A, B, and C.

A case will be considered an ''egregious case'' where the analysis of the applicable factors, with a focus on Factors A, B, and C, indicates that the case represents a particularly serious violation of the law calling for a strong enforcement response.

2. Monetary Penalties in Egregious Cases and Non-Egregious Cases. The civil monetary penalty amount shall generally be calculated as follows, except that neither the base penalty amount nor the penalty amount will exceed the applicable statutory maximum:

a. Base Category Calculation and Voluntary Self-Disclosures.

i. In a non-egregious case, if the apparent violation is disclosed through a voluntary self-disclosure, the base penalty amount shall be up to one-half of the transaction value.

ii. In a non-egregious case, if the apparent violation comes to OEE's attention by means other than a voluntary self-disclosure, the base penalty amount shall be up to the transaction value.

iii. In an egregious case, if the apparent violation is disclosed through a voluntary self-disclosure, the base penalty amount shall be an amount up to one-half of the statutory maximum penalty applicable to the violation.

iv. In an egregious case, if the apparent violation comes to OEE's attention by means other than a voluntary self-disclosure, the base penalty amount shall be an amount up to the statutory maximum penalty applicable to the violation.

v. The applicable statutory maximum civil penalty per violation of the Export Control Reform Act (ECRA) of 2018 is a fine defined in ECRA and adjusted in accordance with U.S. law, *e.g.*, the Federal Civil Penalties Inflation Adjustment Act Improvements Act of 2015 (Pub. L. 114–74, sec. 701), which in 2024 was $364,992, or an amount that is twice the value of the transaction that is the basis of the violation with respect to which the penalty is imposed, whichever is greater.

The following matrix represents the base penalty amount of the civil monetary penalty for each category of violation:

BASE PENALTY MATRIX

Voluntary self-disclosure?	Egregious case?	
	NO	YES
YES	(1) Up to One-Half of the Transaction Value	(3) Up to One-Half of the Applicable Statutory Maximum.
NO	(2) Up to the Transaction Value	(4) Up to the Applicable Statutory Maximum.

b. Adjustment for Applicable Relevant Factors. The base penalty amount of the civil monetary penalty will be adjusted to reflect applicable Factors for Administrative Action set forth in section III of these guidelines. The Factors may result in a penalty amount that is lower or higher than the base penalty amount depending upon whether they are aggravating or mitigating and how they, in the discretion of OEE, apply in combination in a particular case.

C. Settlement Procedures

The procedures relating to the settlement of administrative enforcement cases are set forth in §766.18 of the EAR.

[89 FR 75485, Sept. 16, 2024]

SUPPLEMENT NO. 2 TO PART 766—GUIDANCE ON CHARGING AND PENALTY DETERMINATIONS IN SETTLEMENT OF ADMINISTRATIVE ENFORCEMENT CASES INVOLVING ANTIBOYCOTT MATTERS

(a) *Introduction*—(1) *Scope.* This Supplement describes how the Office of Antiboycott Compliance (OAC) responds to violations of part 760 of the EAR ''Restrictive Trade Practices or Boycotts'' and to violations of part 762 ''Recordkeeping'' when the recordkeeping requirement pertains to part 760 (together referred to in this supplement as the ''antiboycott provisions''). It also describes how BIS makes penalty determinations in the settlement of administrative enforcement cases brought under parts 764 and 766 of the EAR involving violations of the antiboycott provisions. This supplement does not apply to enforcement cases for violations of other provisions of the EAR.

(2) *Policy Regarding Settlement.* Because many administrative enforcement cases are resolved through settlement, the process of settling such cases is integral to the enforcement program. BIS carefully considers each settlement offer in light of the facts and circumstances of the case, relevant precedent, and BIS's objective to achieve in each case an appropriate level of penalty and deterrent effect. In settlement negotiations, BIS encourages parties to provide, and will give serious consideration to, information and evidence that the parties believe is relevant to the application of this guidance to their cases, to whether a violation has in fact occurred, and to whether they have a defense to potential charges.

(3) *Limitation.* BIS's policy and practice is to treat similarly situated cases similarly, taking into consideration that the facts and combination of mitigating and aggravating factors are different in each case. However, this guidance does not confer any right or impose any obligation regarding what posture or penalties BIS may seek in settling or litigating a case. Parties do not have a right to a settlement offer or particular settlement terms from BIS, regardless of settlement postures BIS has taken in other cases.

(b) *Responding to Violations.* OAC within BIS investigates possible violations of the Anti-Boycott Act of 2018, the antiboycott provisions of the EAR, or any order or authorization related thereto. When BIS has reason to believe that such a violation has occurred, BIS may issue a warning letter or initiate an administrative enforcement proceeding. A violation may also be referred to the Department of Justice for criminal prosecution.

(1) *Issuing a warning letter.* Warning letters represent BIS's belief that a violation has occurred. In the exercise of its discretion, BIS may determine in certain instances that issuing a warning letter, instead of bringing an administrative enforcement proceeding, will fulfill the appropriate enforcement objective. A warning letter will fully explain the violation.

(i) BIS may issue warning letters where:

(A) The investigation commenced as a result of a voluntary self-disclosure satisfying the requirements of §764.8 of the EAR; or

(B) The party has not previously committed violations of the antiboycott provisions.

(ii) BIS may also consider the category of violation as discussed in paragraph (d)(2) of this supplement in determining whether to issue a warning letter or initiate an enforcement proceeding. A violation covered by Category C (failure to report or late reporting of receipt of boycott requests) might warrant a warning letter rather than initiation of an enforcement proceeding.

(iii) BIS will not issue a warning letter if it concludes, based on available information, that a violation did not occur.

(iv) BIS may reopen its investigation of a matter should it receive additional evidence

or if it appears that information previously provided to BIS during the course of its investigation was incorrect.

(2) *Pursuing an administrative enforcement case.* The issuance of a charging letter under §766.3 of this part initiates an administrative proceeding.

(i) Charging letters may be issued when there is reason to believe that a violation has occurred. Cases may be settled before or after the issuance of a charging letter. See §766.18 of this part.

(ii) Although not required to do so by law, BIS may send a proposed charging letter to a party to inform the party of the violations that BIS has reason to believe occurred and how BIS expects that those violations would be charged. Issuance of the proposed charging letter provides an opportunity for the party and BIS to consider settlement of the case prior to the initiation of formal enforcement proceedings.

(3) *Referring for criminal prosecution.* In appropriate cases, BIS may refer a case to the Department of Justice for criminal prosecution, in addition to pursuing an administrative enforcement action.

(c) *Types of administrative sanctions.* Administrative enforcement cases generally are settled on terms that include one or more of three administrative sanctions:

(1) A monetary penalty may be assessed for each violation as provided in §764.3(a)(1) of the EAR;

NOTE TO PARAGRAPH (c)(1): The maximum penalty is subject to adjustments under the Federal Civil Penalties Adjustment Act of 1990 (28 U.S.C. 2461, note (2000)), which are codified at 15 CFR 6.4. For violations that occurred before March 9, 2006, the maximum monetary penalty per violation is $11,000. For violations occurring on or after March 9, 2006, the maximum monetary penalty per violation is $50,000.

(2) An order denying a party's export privileges under the EAR may be issued, under §764.3(a)(2) of the EAR; or

(3) Exclusion from practice under §764.3(a)(3) of the EAR.

(d) *How BIS determines what sanctions are appropriate in a settlement*—(1) *General Factors.* BIS looks to the following general factors in determining what administrative sanctions are appropriate in each settlement.

(i) *Degree of seriousness.* In order to violate the antiboycott provisions of the EAR, a U.S. person does not need to have actual ''knowledge'' or a reason to know, as that term is defined in §772.1 of the EAR, of relevant U.S. laws and regulations. Typically, in cases that do not involve knowing violations, BIS will seek a settlement for payment of a civil penalty (unless the matter is resolved with a warning letter). However, in cases involving knowing violations, conscious disregard of the antiboycott provisions, or other such serious violations (e.g., furnishing prohibited information in response to a boycott questionnaire with knowledge that such furnishing is in violation of the EAR), BIS is more likely to seek a denial of export privileges or an exclusion from practice, and/or a greater monetary penalty as BIS considers such violations particularly egregious.

(ii) Category of violations. In connection with its activities described in paragraph (a)(1) of this supplement, BIS recognizes three categories of violations under the antiboycott provisions of the EAR. (See §§760.2, 760.4 and 760.5 of the EAR for examples of each type of violation other than recordkeeping). These categories reflect the relative seriousness of a violation, with Category A violations typically warranting the most stringent penalties, including up to the maximum monetary penalty, a denial order and/or an exclusion order. Through providing these categories in this penalty guidelines notice, BIS hopes to give parties a general sense of how it views the seriousness of various violations. This guidance, however, does not confer any right or impose any obligation as to what penalties BIS may impose based on its review of the specific facts of a case.

(A) The Category A violations and the sections of the EAR that set forth their elements are:

(*1*) Discriminating against U.S. persons on the basis of race, religion, sex, or national origin—§760.2(b);

(*2*) Refusing to do business—§760.2(a);

(*3*) Furnishing information about race, religion, sex or national origin of U.S. persons including, but not limited to, providing information in connection with a boycott questionnaire about the religion of employees—760.2(c).

(*4*) Evading the provisions of part 760—§760.4; and

(*5*) Furnishing information about associations with charitable or fraternal organizations which support a boycotted country—§760.2(e).

(B) The Category B violations and the sections of the EAR that set forth their elements are:

(*1*) Knowingly agreeing to refuse to do business—§760.2(a);

(*2*) Requiring, or knowingly agreeing to require, any other person to refuse to do business—§760.2(a);

(*3*) Implementing letters of credit—§760.2(f);

(*4*) Furnishing information about business relationships with boycotted countries or blacklisted persons—§760.2(d); and

(*5*) Making recordkeeping violations—part 762.

(C) The Category C violation and the section of the EAR that sets forth its elements

is: Failing to report timely receipt of boycott requests—§760.5.

(iii) *Violations arising out of related transactions.* Frequently, a single transaction can give rise to multiple violations. Depending on the facts and circumstances, BIS may choose to impose a smaller or greater penalty per violation. In exercising its discretion, BIS typically looks to factors such as whether the violations resulted from conscious disregard of the requirements of the antiboycott provisions; whether they stemmed from the same underlying error or omission; and whether they resulted in distinguishable or separate harm. The three scenarios set forth below are illustrative of how BIS might view transactions that lead to multiple violations.

(A) *First scenario.* An exporter enters into a sales agreement with a company in a boycotting country. In the course of the negotiations, the company sends the exporter a request for a signed statement certifying that the goods to be supplied do not originate in a boycotted country. The exporter provides the signed certification. Subsequently, the exporter fails to report the receipt of the request. The exporter has committed two violations of the antiboycott provisions, first, a violation of §760.2(d) for furnishing information concerning the past or present business relationships with or in a boycotted country, and second, a violation of §760.5 for failure to report the receipt of a request to engage in a restrictive trade practice or boycott. Although the supplier has committed two violations, BIS may impose a smaller mitigated penalty on a per violation basis than if the violations had stemmed from two separate transactions.

(B) *Second scenario.* An exporter receives a boycott request to provide a statement that the goods at issue in a sales transaction do not contain raw materials from a boycotted country and to include the signed statement along with the invoice. The goods are shipped in ten separate shipments. Each shipment includes a copy of the invoice and a copy of the signed boycott-related statement. Each signed statement is a certification that has been furnished in violation of §760.2(d)'s bar on the furnishing of prohibited business information. Technically, the exporter has committed ten separate violations of §760.2(d) and one violation of §760.5 for failure to report receipt of the boycott request. Given that the violations arose from a single boycott request, however, BIS may treat the violations as related and impose a smaller penalty than it would if the furnishing had stemmed from ten separate requests.

(C) *Third scenario.* An exporter has an ongoing relationship with a company in a boycotting country. The company places three separate orders for goods on different dates with the exporter. In connection with each order, the company requests the exporter to provide a signed statement certifying that the goods to be supplied do not originate in a boycotted country. The exporter provides a signed certification with each order of goods that it ships to the company. BIS has the discretion to penalize the furnishing of each of these three items of information as a separate violation of §760.2(d) of the EAR for furnishing information concerning past or present business relationships with or in a boycotted country.

(iv) *Multiple violations from unrelated transactions.* In cases involving multiple unrelated violations, BIS is more likely to seek a denial of export privileges, an exclusion from practice, and/or a greater monetary penalty than in cases involving isolated incidents. For example, the repeated furnishing of prohibited boycott-related information about business relationships with or in boycotted countries during a long period of time could warrant a denial order, even if a single instance of furnishing such information might warrant only a monetary penalty. BIS takes this approach because multiple violations may indicate serious compliance problems and a resulting risk of future violations. BIS may consider whether a party has taken effective steps to address compliance concerns in determining whether multiple violations warrant a denial or exclusion order in a particular case.

(v) *Timing of settlement.* Under §766.18 of this part, settlement can occur before a charging letter is served, while a case is before an administrative law judge, or while a case is before the Under Secretary for Industry and Security under §766.22 of this part. However, early settlement—for example, before a charging letter has been filed—has the benefit of freeing resources for BIS to deploy in other matters. In contrast, for example, the BIS resources saved by settlement on the eve of an adversary hearing under §766.13 of this part are fewer, insofar as BIS has already expended significant resources on discovery, motions practice, and trial preparation. Given the importance of allocating BIS resources to maximize enforcement of the EAR, BIS has an interest in encouraging early settlement and will take this interest into account in determining settlement terms.

(vi) *Related criminal or civil violations.* Where an administrative enforcement matter under the antiboycott provisions involves conduct giving rise to related criminal charges, BIS may take into account the related violations and their resolution in determining what administrative sanctions are appropriate under part 766 of the EAR. A criminal conviction indicates serious, willful misconduct and an accordingly high risk of future violations, absent effective administrative sanctions. However, entry of a guilty

plea can be a sign that a party accepts responsibility for complying with the antiboycott provisions and will take greater care to do so in the future. In appropriate cases where a party is receiving substantial criminal penalties, BIS may find that sufficient deterrence may be achieved by lesser administrative sanctions than would be appropriate in the absence of criminal penalties. Conversely, BIS might seek greater administrative sanctions in an otherwise similar case where a party is not subjected to criminal penalties. The presence of a related criminal or civil disposition may distinguish settlements among civil penalty cases that appear to be otherwise similar. As a result, the factors set forth for consideration in civil penalty settlements will often be applied differently in the context of a ''global settlement'' of both civil and criminal cases, or multiple civil cases involving other agencies, and may therefore be of limited utility as precedent for future cases, particularly those not involving a global settlement.

(vii) *Familiarity with the Antiboycott Provisions.* Given the scope and detailed nature of the antiboycott provisions, BIS will consider whether a party is an experienced participant in the international business arena who may possess (or ought to possess) familiarity with the antiboycott laws. In this respect, the size of the party's business, the presence or absence of a legal division or corporate compliance program, and the extent of prior involvement in business with or in boycotted or boycotting countries, may be significant.

(2) *Specific mitigating and aggravating factors.* In addition to the general factors described in paragraph (d)(1) of this supplement, BIS also generally looks to the presence or absence of the specific mitigating and aggravating factors in this paragraph in determining what sanctions should apply in a given settlement. These factors describe circumstances that, in BIS's experience, are commonly relevant to penalty determinations in settled cases. However, this listing of factors is not exhaustive and BIS may consider other factors that may further indicate the blameworthiness of a party's conduct, the actual or potential harm associated with a violation, the likelihood of future violations, and/or other considerations relevant to determining what sanctions are appropriate. The assignment of mitigating or aggravating factors will depend upon the attendant circumstances of the party's conduct. Thus, for example, one prior violation should be given less weight than a history of multiple violations, and a previous violation reported in a voluntary self-disclosure by a party whose overall compliance efforts are of high quality should be given less weight than previous violation(s) not involving such mitigating factors. Some of the mitigating factors listed in this paragraph are designated as having ''great weight.'' When present, such a factor should ordinarily be given considerably more weight than a factor that is not so designated.

(i) *Specific mitigating factors.*

(A) *Voluntary self-disclosure.* (GREAT WEIGHT) The party has made a voluntary self-disclosure of the violation, satisfying the requirements of §764.8 of the EAR.

(B) *Effective compliance program.* (GREAT WEIGHT)

(*1*) *General policy or program pertaining to Antiboycott Provisions.* BIS will consider whether a party's compliance efforts uncovered a problem, thereby preventing further violations, and whether the party has taken steps to address compliance concerns raised by the violation, including steps to prevent recurrence of the violation, that are reasonably calculated to be effective. The focus is on the party's demonstrated compliance with the antiboycott provisions. Whether a party has an effective export compliance program covering other provisions of the EAR is not relevant as a mitigating factor. In the case of a party that has done previous business with or in boycotted countries or boycotting countries, BIS will examine whether the party has an effective antiboycott compliance program and whether its overall antiboycott compliance efforts have been of high quality. BIS may deem it appropriate to review the party's internal business documents relating to antiboycott compliance (e.g., corporate compliance manuals, employee training materials).

(*2*) *Compliance with reporting and recordkeeping requirements.* In the case of a party that has received reportable boycott requests in the past, BIS may examine whether the party complied with the reporting and recordkeeping requirements of the antiboycott provisions.

(C) *Limited business with or in boycotted or boycotting countries.* The party has had little to no previous experience in conducting business with or in boycotted or boycotting countries. Prior to the current enforcement proceeding, the party had not engaged in business with or in such countries, or had only transacted such business on isolated occasions. BIS may examine the volume of business that the party has conducted with or in boycotted or boycotting countries as demonstrated by the size and dollar amount of transactions or the percentage of a party's overall business that such business constitutes.

(D) *History of compliance with the Antiboycott Provisions of the EAR.*

(*1*) BIS will consider it to be a mitigating factor if:

(*i*) The party has never been convicted of a criminal violation of the antiboycott provisions;

(*ii*) In the past 5 years, the party has not entered into a settlement or been found liable in a boycott-related administrative enforcement case with BIS or another U.S. government agency;

(*iii*) In the past 3 years, the party has not received a warning letter from BIS relating to the antiboycott provisions; or

(*iv*) In the past 5 years, the party has not otherwise violated the antiboycott provisions.

(*2*) Where necessary to ensure effective enforcement, the prior involvement in violations of the antiboycott provisions of a party's owners, directors, officers, partners, or other related persons may be imputed to a party in determining whether these criteria are satisfied. When an acquiring firm takes reasonable steps to uncover, correct, and disclose to BIS conduct that gave rise to violations that the acquired business committed before the acquisition, BIS typically will not take such violations into account in applying this factor in settling other violations by the acquiring firm.

(E) *Exceptional cooperation with the investigation.* The party has provided exceptional cooperation to OAC during the course of the investigation.

(F) *Clarity of request to furnish prohibited information or take prohibited action.* The party responded to a request to furnish information or take action that was ambiguously worded or vague.

(G) *Violations arising out of a party's ''passive'' refusal to do business in connection with an agreement.* The party has acquiesced in or abided by terms or conditions that constitute a prohibited refusal to do business (e.g., responded to a tender document that contains prohibited language by sending a bid). See ''active'' agreements to refuse to do business in paragraph (d)(2)(ii)(I) of this supplement.

(H) *Isolated occurrence of violation.* The violation was an isolated occurrence. (Compare to long duration or high frequency of violations as an aggravating factor in paragraph (d)(2)(ii)(F) of this supplement.)

(ii) *Specific Aggravating Factors.*

(A) *Concealment or obstruction.* The party made a deliberate effort to hide or conceal the violation. (GREAT WEIGHT)

(B) *Serious disregard for compliance responsibilities.* (GREAT WEIGHT] There is evidence that the party's conduct demonstrated a serious disregard for responsibilities associated with compliance with the antiboycott provisions (e.g.: knowing violation of party's own compliance policy or evidence that a party chose to treat potential penalties as a cost of doing business rather than develop a compliance policy).

(C) *History of compliance with the Antiboycott Provisions.*

(*1*) BIS will consider it to be an aggravating factor if:

(*i*) The party has been convicted of a criminal violation of the antiboycott provisions;

(*ii*) In the past 5 years, the party has entered into a settlement or been found liable in a boycott-related administrative enforcement case with BIS or another U.S. government agency;

(*iii*) In the past 3 years, the party has received a warning letter from BIS relating to the antiboycott provisions; or

(*iv*) In the past 5 years, the party has otherwise violated the antiboycott provisions.

(*2*) Where necessary to ensure effective enforcement, the prior involvement in violations of the antiboycott provisions of a party's owners, directors, officers, partners, or other related persons may be imputed to a party in determining whether these criteria are satisfied.

(*3*) When an acquiring firm takes reasonable steps to uncover, correct, and disclose to BIS conduct that gave rise to violations that the acquired firm committed before being acquired, BIS typically will not take such violations into account in applying this factor in settling other violations by the acquiring firm.

(D) *Familiarity with the type of transaction at issue in the violation.* For example, in the case of a violation involving a letter of credit or related financial document, the party routinely pays, negotiates, confirms, or otherwise implements letters of credit or related financial documents in the course of its standard business practices.

(E) *Prior history of business with or in boycotted countries or boycotting countries.* The party has a prior history of conducting business with or in boycotted and boycotting countries. BIS may examine the volume of business that the party has conducted with or in boycotted and boycotting countries as reflected by the size and dollar amount of transactions or the percentage of a party's overall business that such business constitutes.

(F) *Long duration or high frequency of violations.* Violations that occur at frequent intervals or repeated violations occurring over an extended period of time may be treated more seriously than a single violation or related violations that are committed within a brief period of time, particularly if the violations are committed by a party with a history of business with or in boycotted and boycotting countries. (Compare to isolated occurrence of violation in paragraph (d)(2)(i)(H) of this supplement.)

(G) *Clarity of request to furnish prohibited information or take prohibited action.* The request to furnish information or take other prohibited action (e.g., enter into agreement to refuse to do business with a boycotted country or entity blacklisted by a boycotting country) is facially clear as to its intended purpose.

(H) *Violation relating to specific information concerning an individual entity or individual.* The party has furnished prohibited information about business relationships with specific companies or individuals.

(I) *Violations relating to ''active'' conduct concerning an agreement to refuse to do business.* The party has taken action that involves altering, editing, or enhancing prohibited terms or language in an agreement to refuse to do business, including a letter of credit, or drafting a clause or provision including prohibited terms or language in the course of negotiating an agreement to refuse to do business, including a letter of credit. See ''passive'' agreements to refuse to do business in paragraph (d)(2)(i)(G) of this supplement.

(e) *Determination of Scope of Denial or Exclusion Order.* In deciding whether and what scope of denial or exclusion order is appropriate, the following factors are particularly relevant: The presence of mitigating or aggravating factors of great weight; the degree of seriousness involved; the extent to which senior management participated in or was aware of the conduct in question; the number of violations; the existence and seriousness of prior violations; the likelihood of future violations (taking into account relevant efforts to comply with the antiboycott provisions); and whether a civil monetary penalty can be expected to have a sufficient deterrent effect.

(f) *How BIS Makes Suspension and Deferral Decisions*—(1) *Civil Penalties.* In appropriate cases, payment of a civil monetary penalty may be deferred or suspended. See §764.3(a)(1)(iii) of the EAR. In determining whether suspension or deferral is appropriate, BIS may consider, for example, whether the party has demonstrated a limited ability to pay a penalty that would be appropriate for such violations, so that suspended or deferred payment can be expected to have sufficient deterrent value, and whether, in light of all the circumstances, such suspension or deferral is necessary to make the impact of the penalty consistent with the impact of BIS penalties on other parties who committed similar violations.

(2) *Denial of Export Privileges and Exclusion from Practice.* In deciding whether a denial or exclusion order should be suspended, BIS may consider, for example, the adverse economic consequences of the order on the party, its employees, and other persons, as well as on the national interest in maintaining or promoting the competitiveness of U.S. businesses. An otherwise appropriate denial or exclusion order will be suspended on the basis of adverse economic consequences only if it is found that future violations of the antiboycott provisions are unlikely and if there are adequate measures (usually a substantial civil monetary penalty) to achieve the necessary deterrent effect.

[72 FR 39006, July 17, 2007, as amended at 87 FR 60892, Oct. 7, 2022]

PART 768—FOREIGN AVAILABILITY DETERMINATION PROCEDURES AND CRITERIA

Sec.

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SUPPLEMENT NO. 1 TO PART 768—EVIDENCE OF FOREIGN AVAILABILITY
SUPPLEMENT NO. 2 TO PART 768—ITEMS ELIGIBLE FOR EXPEDITED LICENSING PROCEDURES [RESERVED]

AUTHORITY: 50 U.S.C. 4601 *et seq.;* 50 U.S.C. 1701 *et seq.;* E.O. 13222, 66 FR 44025, 3 CFR, 2001 Comp., p. 783; Notice of August 15, 2017, 82 FR 39005 (August 16, 2017).

SOURCE: 61 FR 12915, Mar. 25, 1996, unless otherwise noted.

§768.1 Introduction.

In this part, references to the Export Administration Regulations (EAR) are references to 15 CFR chapter VII, subchapter C.

(a) *Authority.* Pursuant to sections 5(f) and 5(h) of the Export Administration Act (EAA), the Under Secretary of Commerce for Export Administration directs the Bureau of Industry and Security (BIS) in gathering and analyzing all the evidence necessary for the Secretary to determine foreign availability.

(b) *Scope.* This part applies only to the extent that items are controlled for national security purposes. This part does not apply to encryption items that were formerly controlled on the U.S. Munitions List and that were transferred to the Commerce Control List consistent with E.O. 13026 of November 15, 1996 (61 FR 58767) and pursuant to the Presidential Memorandum

of that date, which shall not be subject to any mandatory foreign availability review procedures.

(c) *Types of programs.* There are two general programs of foreign availability:

(1) *Foreign availability to controlled countries.* In this category are denied license assessments (see §§ 768.4(b) and 768.7 of this part) and decontrol assessments (see §§ 768.4(c) and 768.7 of this part).

(2) *Foreign availability to non-controlled countries.* In this category are denied license assessments, decontrol assessments, and evaluations of eligibility for expedited licensing (see § 768.8 of this part).

(d) *Definitions.* The following are definitions of terms used in this part 768:

Allegation. See foreign availability submission.

Assessment. An evidentiary analysis that BIS conducts concerning the foreign availability of a given item based on the assessment criteria, data gathered by BIS, and the data and recommendations submitted by the Departments of Defense and State and other relevant departments and agencies, TAC committees, and industry.

Assessment criteria. Statutorily established criteria that must be assessed for the Secretary to make a determination with respect to foreign availability. They are, available-in-fact, from a non-U.S. source, in sufficient quantity so as to render the control ineffective, and of comparable quality. (See § 768.6 of this part).

Available-in-fact. An item is available-in-fact to a country if it is produced within the country or if it may be obtained by that country from a third country. Ordinarily, items will not be considered available-in-fact to non-controlled countries if the items are available only under a validated national security license or a comparable authorization from a country that maintains export controls on such items cooperatively with the United States.

Claimant. Any party who makes a foreign availability submission, excluding TACs.

Comparable quality. An item is of comparable quality to an item controlled under the EAR if it possesses the characteristics specified in the Commerce Control List (CCL) for that item and is alike in key characteristics that include, but are not limited to: (1) Function; (2) technological approach; (3) performance thresholds; (4) maintainability and service life; and (5) any other attribute relevant to the purpose for which the control was placed on the item.

Controlled countries. Albania, Armenia, Azerbaijan, Belarus, Bulgaria, Cambodia, Cuba, Estonia, Georgia, Kazakhstan, Kyrgyzstan, Laos, Latvia, Lithuania, Moldova, Mongolia, North Korea, Romania, Russia, Tajikistan, Turkmenistan, Ukraine, Uzbekistan, Vietnam and the People's Republic of China.

Decontrol. Removal of license requirements under the EAR.

Decontrol assessment. An assessment of the foreign availability of an item to a country or countries for purposes of determining whether decontrol is warranted. Such assessments may be conducted after BIS receives a foreign availability submission or a TAC certification, or by the Secretary's own initiative.

Denied license assessment. A foreign availability assessment conducted as a result of a claimant's allegation of foreign availability for an item (or items) that BIS has denied or has issued a letter of intent to deny a license. If the Secretary determines that foreign availability exists, BIS's approval of a license will be limited to the items, countries, and quantities in the allegation.

Determination. The Secretary's decision that foreign availability within the meaning of the EAA does or does not exist. (See § 768.7 of this part).

Expedited licensing procedure eligibility evaluation. An evaluation that BIS initiates for the purpose of determining whether an item is eligible for the expedited licensing procedure. (See § 768.8 of this part).

Expedited licensing procedures. Under expedited licensing procedures, BIS reviews and processes a license application for the export of an eligible item to a non-controlled country within statutory time limits. Licenses are deemed approved unless BIS denies

within the statutory time limits (See § 768.8 of this part).

Foreign availability submission (FAS). An allegation of foreign availability a claimant makes, supported by reasonable evidence, and submits to BIS. (See § 768.5 of this part).

Item. Any commodity, software, or technology.

Items eligible for non-controlled country expedited licensing procedures. The items described in supplement no. 2 to this part 768 are eligible for the expedited license procedures (See § 768.8 of this part).

National Security Override (NSO). A Presidential decision to maintain export controls on an item notwithstanding its foreign availability as determined under the EAA. The President's decision is based on his/her determination that the absence of the controls would prove detrimental to the national security of the United States. Once the President makes such a decision, the President must actively pursue negotiations to eliminate foreign availability with the governments of the sources of foreign availability. (See § 768.7 of this part).

Non-controlled countries. Any country not defined as a controlled country by this section.

Non-U.S. source/foreign source. A person located outside the jurisdiction of the United States (as defined in part 772 of the EAR).

Reasonable evidence. Relevant information that is credible.

Reliable evidence. Relevant information that is credible and dependable.

Secretary. As used in this part, the Secretary refers to the Secretary of Commerce or his/her designee.

Similar quality. An item is of similar quality to an item that is controlled under the EAR if it is substantially alike in key characteristics that may include, but are not limited to: (1) Function; (2) technological approach; (3) performance thresholds; (4) maintainability and service life; and (5) any other attribute relevant to the purpose for which the control was placed on the item.

Sufficient quantity. The amount of an item that would render the U.S. export control, or the denial of the license in question, ineffective in achieving its purpose. For a controlled country, it is the quantity that meets the military needs of that country so that U.S. exports of the item to that country would not make a significant contribution to its military potential.

Technical Advisory Committee (TAC). A Committee created under section 5(h) of the EAA that advises and assists the Secretary of Commerce, the Secretary of Defense, and any other department, agency, or official of the Government of the United States to which the President delegates authority under the EAA on export control matters related to specific areas of controlled items.

TAC certification. A statement that a TAC submits to BIS, supported by reasonable evidence, documented as in a FAS, that foreign availability to a controlled country exists for an item that falls within the TAC's area of technical expertise.

[61 FR 12915, Mar. 25, 1996, as amended at 61 FR 68585, Dec. 30, 1996; 62 FR 25469, May 9, 1997]

§ 768.2 Foreign availability described.

(a) *Foreign availability.* Foreign availability exists when the Secretary determines that an item is comparable in quality to an item subject to U.S. national security export controls, and is available-in-fact to a country, from a non-U.S. source, in sufficient quantities to render the U.S. export control of that item or the denial of a license ineffective. For a controlled country, such control or denial is ''ineffective'' when maintaining such control or denying a specific license would not restrict the availability of items that would make a significant contribution to the military potential of the controlled country or combination of countries detrimental to the national security of the United States (see sections 5(a) and 3(2)(A) of the EAA.)

(b) *Types of foreign availability.* There are two types of foreign availability:

(1) Foreign availability to a controlled country; and

(2) Foreign availability to a non-controlled country.

NOTE TO PARAGRAPH (b) OF THIS SECTION: See § 768.7 of this part for delineation of the foreign availability assessment procedures,

and § 768.6 of this part for the criteria used in determining foreign availability.

§ 768.3 Foreign availability assessment.

(a) *Foreign availability assessment.* A foreign availability assessment is an evidentiary analysis that BIS conducts to assess the foreign availability of a given item according to the assessment criteria, based on data submitted by a claimant, the data gathered by BIS, and the data and recommendations submitted by the Departments of Defense and State and other relevant departments and agencies, TAC committees, and industry. BIS uses the results of the analysis in formulating its recommendation to the Secretary on whether foreign availability exists for a given item. If the Secretary determines that foreign availability exists, the Secretary will decontrol the item for national security reasons or approve the license in question if there is no foreign policy reason to deny the license, unless the President exercises a National Security Override (see § 768.7 of this part). The effect of any such determination on the effectiveness of foreign policy controls may be considered independent of this part.

(b) *Types of assessments.* There are two types of foreign availability assessments:

(1) Denied license assessment; and

(2) Decontrol assessment.

(c) *Expedited licensing procedures.* See § 768.8 of this part for the evaluation of eligibility of an item for the expedited licensing procedures.

[61 FR 12915, Mar. 25, 1996, as amended at 61 FR 68585, Dec. 30, 1996]

§ 768.4 Initiation of an assessment.

(a) *Assessment request.* To initiate an assessment, each claimant or TAC must submit a FAS or a TAC Certification to BIS. TACs are authorized to certify foreign availability only to controlled countries. Claimants can allege foreign availability for either controlled or non-controlled countries.

(b) *Denied license assessment.* A claimant whose license application BIS has denied, or for which it has issued a letter of intent to deny on national security grounds, may request that BIS initiate a denied license assessment by submitting a Foreign Availability Submission (FAS) within 90 days after denial of the license. As part of its submission, the claimant must request that the specified license application be approved on the grounds of foreign availability. The evidence must relate to the particular export as described on the license application and to the alleged comparable item. If foreign availability is found, the Secretary will approve the license for the specific items, countries, and quantities listed on the application. The denied license assessment procedure, however, is not intended to result in the removal of the U.S. export control on an item by incrementally providing a country with amounts that, taken together, would constitute a sufficient quantity of an item. The Secretary will not approve on foreign availability grounds a denied license if the approval of such license would itself render the U.S. export control ineffective in achieving its purpose. In the case of a positive determination, the Secretary will determine whether a decontrol assessment is warranted. If so, then BIS will initiate a decontrol assessment.

(c) *Decontrol assessment.* (1) Any claimant may at any time request that BIS initiate a decontrol assessment by a FAS to BIS alleging foreign availability to any country or countries.

(2) A TAC may request that BIS initiate a decontrol assessment at any time by submitting a TAC Certification to BIS that there is foreign availability to a controlled country for items that fall within the area of the TAC's technical expertise.

(3) The Secretary, on his/her own initiative, may initiate a decontrol assessment.

(d) *BIS mailing address.* All foreign availability submissions and TAC certifications should be submitted to: Department of Commerce, Bureau of Industry and Security, Room H–1093, 14th Street and Pennsylvania Avenue, NW, Washington, DC 20230.

[61 FR 12915, Mar. 25, 1996, as amended at 72 FR 25196, May 4, 2007]

§ 768.5 Contents of foreign availability submissions and Technical Advisory Committee certifications.

(a) All foreign availability submissions must contain, in addition to information on product or technology alleged to be available from foreign sources, at least:

(1) The name of the claimant;

(2) The claimant's mailing and business address;

(3) The claimant's telephone number; and

(4) A contact point and telephone number.

(b) Foreign availability submissions and TAC certifications should contain as much evidence as is available to support the claim, including, but not limited to:

(1) Product names and model designations of the items alleged to be comparable;

(2) Extent to which the alleged comparable item is based on U.S. technology;

(3) Names and locations of the non-U.S. sources and the basis for claiming that the item is a non-U.S. source item;

(4) Key performance elements, attributes, and characteristics of the items on which a qualitative comparison may be made;

(5) Non-U.S. source's production quantities and/or sales of the alleged comparable items and marketing efforts;

(6) Estimated market demand and the economic impact of the control;

(7) Product names, model designations, and value of U.S. controlled parts and components incorporated in the items alleged to be comparable; and

(8) The basis for the claim that the item is available-in-fact to the country or countries for which foreign availability is alleged.

(c) Supporting evidence of foreign availability may include, but is not limited to, the following:

(1) Foreign manufacturers' catalogs, brochures, operation or maintenance manuals;

(2) Articles from reputable trade and technical publications;

(3) Photographs;

(4) Depositions based on eyewitness accounts; and

(5) Other credible evidence.

NOTE TO PARAGRAPH (c) OF THIS SECTION: See supplement no. 1 to part 768 for additional examples of supporting evidence.

(d) Upon receipt of a FAS or TAC certification, BIS will review it to determine whether there is sufficient evidence to support the belief that foreign availability may exist. If BIS determines the FAS or TAC certification is lacking in supporting evidence, BIS will seek additional evidence from appropriate sources, including the claimant or TAC. BIS will initiate the assessment when it determines that it has sufficient evidence that foreign availability may exist. Claimant and TAC certified assessments will be deemed to be initiated as of the date of such determination.

(e) Claimants and TACs are advised to review the foreign availability assessment criteria described in § 768.6 of this part and the examples of evidence described in supplement no. 1 to part 768 when assembling supporting evidence for inclusion in the FAS or TAC certification.

§ 768.6 Criteria.

BIS will evaluate the evidence contained in a FAS or TAC certification and all other evidence gathered in the assessment process in accordance with certain criteria that must be met before BIS can recommend a positive determination to the Secretary. The criteria are defined in § 768.1(d) of this part. In order to initiate an assessment, each FAS and TAC certification should address each of these criteria. The criteria are statutorily prescribed and are:

(a) Available-in-fact;

(b) Non-U.S. source;

(c) Sufficient quantity; and

(d) Comparable quality.

§ 768.7 Procedures.

(a) *Initiation of an assessment.* (1) Once BIS accepts a FAS or TAC certification of foreign availability, BIS will notify the claimant or TAC that it is initiating the assessment.

(2) BIS will publish a FEDERAL REGISTER notice of the initiation of any assessment.

(3) BIS will notify the Departments of Defense and State, the intelligence community, and any other departments, agencies and their contractors that may have information concerning the item on which BIS has initiated an assessment. Each such department, agency, and contractor shall provide BIS all relevant information concerning the item. BIS will invite interested departments and agencies to participate in the assessment process (See paragraph (e) of this section).

(b) *Data gathering.* BIS will seek and consider all available information that bears upon the presence or absence of foreign availability, including but not limited to that evidence described in §768.5 (b) and (c) of this part. As soon as BIS initiates the assessment, it will seek evidence relevant to the assessment, including an analysis of the military needs of a selected country or countries, technical analysis, and intelligence information from the Departments of Defense and State, and other U.S. agencies. Evidence is particularly sought from: industry sources worldwide; other U.S. organizations; foreign governments; commercial, academic and classified data bases; scientific and engineering research and development organizations; and international trade fairs.

(c) *Analysis.* BIS will conduct its analysis by evaluating whether the reasonable and reliable evidence that is relevant to each of the foreign availability criteria provides a sufficient basis to recommend a determination that foreign availability does or does not exist.

(d) *Recommendation and determination.* (1) Upon completion of each assessment, BIS, on the basis of its analysis, will recommend that the Secretary make a determination either that there is or that there is not foreign availability, whichever the evidence supports. The assessment upon which BIS bases its recommendation will accompany the recommendation to the Secretary.

(2) BIS will recommend on the basis of its analysis that the Secretary determine that foreign availability exists to a country when the available evidence demonstrates that an item of comparable quality is available-in-fact to the country, from non-U.S. sources, in sufficient quantity so that continuation of the existing national security export control, or denial of the license application in question on national security grounds, would be ineffective in achieving its purpose. For a controlled country, such control or denial is ''ineffective'' when comparable items are available-in-fact from foreign sources in sufficient quantities so that maintaining such control or denying a license would not be effective in restricting the availability of items that would make a significant contribution to the military potential of any country or combination of countries detrimental to the national security of the United States.

(3) The Secretary will make the determination of foreign availability on the basis of the BIS assessment and recommendation; the Secretary's determination will take into account the evidence provided to BIS, the recommendations of the Secretaries of Defense and State and any other interested agencies, and any other information that the Secretary considers relevant.

(4) For all decontrol and denied license assessments (under section 5(f)(3) of the EAA) initiated by a FAS, the Secretary will make a determination within 4 months of the initiation of the assessment and will notify the claimant. The Secretary will submit positive determinations for review to the appropriate departments and agencies.

(5) The deadlines for determinations based on self-initiated and TAC-initiated assessments are different from the deadlines for claimant-initiated assessments (see paragraphs (f)(2) and (f)(3) of this section).

(e) *Interagency review.* BIS will notify all appropriate U.S. agencies and Departments upon the initiation of an assessment and will invite their participation in the assessment process. BIS will provide all interested agencies and departments an opportunity to review source material, draft analyses and draft assessments immediately upon

their receipt or production. For claimant-initiated assessments, BIS will provide a copy of all positive recommendations and assessments to interested agencies and departments for their review following the Secretary's determination of foreign availability. For self-initiated and TAC-initiated assessments, BIS will provide all interested agencies an opportunity to review and comment on the assessment.

(f) *Notification.* (1) No later than 5 months after the initiation of an assessment based on a FAS (claimant assessments), the Secretary will inform the claimant in writing and will submit for publication in the FEDERAL REGISTER a notice that:

(i) Foreign availability exists, and

(A) The requirement of a license has been removed or the license application in question has been approved; or

(B) The President has determined that for national security purposes the export controls must be maintained or the license application must be denied, notwithstanding foreign availability, and that appropriate steps to eliminate the foreign availability are being initiated; or

(C) In the case of an item controlled multilaterally under the former COCOM regime, the U.S. Government will conduct any necessary consultations concerning the proposed decontrol or approval of the license with the former COCOM regime for a period of up to 4 months from the date of the publication of the determination in the FEDERAL REGISTER (the U.S. Government may remove the license requirement for exports to non-controlled countries pending completion of the former COCOM regime review process); or

(ii) Foreign availability does not exist.

(2) For all TAC certification assessments, the Secretary will make a foreign availability determination within 90 days following initiation of the assessment. BIS will prepare and submit a report to the TAC and to the Congress stating that:

(i) The Secretary has found foreign availability and has removed the license requirement; or

(ii) The Secretary has found foreign availability, but has recommended to the President that negotiations be undertaken to eliminate the foreign availability; or

(iii) The Secretary has not found foreign availability.

(3) There is no statutory deadline for assessments self-initiated by the Secretary or for the resulting determination. However, BIS will make every effort to complete such assessments and determinations promptly.

(g) *Foreign availability to controlled countries.* When the Secretary determines that an item controlled for national security reasons is available to a controlled country and the President does not issue a National Security Override (NSO), BIS will submit the determination to the Department of State, along with a draft proposal for the multilateral decontrol of the item or for the former COCOM regime approval of the license. The Department of State will submit the proposal or the license for former COCOM regime review. The former COCOM regime will have up to 4 months for review of the proposal.

(h) *Foreign availability to non-controlled countries.* If the Secretary determines that foreign availability to non-controlled countries exists, the Secretary will decontrol the item for export to all non-controlled countries where it is found to be available, or approve the license in question, unless the President exercises a National Security Override.

(i) *Negotiations to eliminate foreign availability.* (1) The President may determine that an export control must be maintained notwithstanding the existence of foreign availability. Such a determination is called a National Security Override (NSO) and is based on the President's decision that the absence of the control would prove detrimental to the United States national security. Unless extended (as described in paragraph (i)(7) of this section), an NSO is effective for 6 months. Where the President invokes an NSO, the U.S. Government will actively pursue negotiations with the government of any source country during the 6 month period to eliminate the availability.

(2) There are two types of National Security Overrides:

(i) An NSO of a determination of foreign availability resulting from an assessment initiated pursuant to section 5(f) of the EAA (claimant and self-initiated assessments); and

(ii) An NSO of a determination of foreign availability resulting from an assessment initiated pursuant to section 5(h) of the EAA (TAC-certification assessments).

(3) For an NSO resulting from an assessment initiated under section 5(f) of the EAA, the Secretary of any agency may recommend that the President exercise the authority under the EAA to retain the controls or deny the license notwithstanding the finding of foreign availability.

(4) For an NSO resulting from an assessment initiated under section 5(h) of the EAA, the Secretary of Commerce may recommend that the President exercise the authority under the EAA to retain the controls notwithstanding the finding of foreign availability.

(5) Under an NSO resulting from an assessment initiated under section 5(f) of the EAA, the Committee on Banking, Housing, and Urban Affairs of the Senate and the Committee on International Relations of the House of Representatives will be notified of the initiation of the required negotiations. The notice will include an explanation of the national security interest that necessitates the retention of controls.

(6) Under an NSO resulting from an assessment initiated under section 5(f) of the EAA, BIS will publish notices in the FEDERAL REGISTER consisting of:

(i) The Secretary's determination of foreign availability;

(ii) The President's decision to exercise the NSO;

(iii) A concise statement of the basis for the President's decision; and

(iv) An estimate of the economic impact of the decision.

(7) The 6 month effective period for an NSO may be extended up to an additional 12 months if, prior to the end of the 6 months, the President certifies to Congress that the negotiations are progressing, and determines that the absence of the controls would continue to be detrimental to the United States national security.

(8) After the conclusion of negotiations, BIS will retain the control only to the extent that foreign availability is eliminated. If foreign availability is not eliminated, BIS will decontrol the item by removing the requirement for a license for the export of the item to the destinations covered by the assessment. To the extent that the negotiations are successful and the foreign availability is eliminated, BIS will remove the license requirement for the export of the item to any country that has agreed to eliminate foreign availability.

(j) *Changes in foreign availability*. If BIS becomes aware of conditions, including new evidence, that affect a previous determination that foreign availability exists or does not exist, BIS may review the conditions. If BIS finds that the foreign availability previously determined no longer exists, or that foreign availability not earlier found now does exist, BIS will make a recommendation to the Secretary of Commerce for the appropriate changes in the control. The Secretary of Commerce will make a determination, and BIS will publish a FEDERAL REGISTER notice of the determination.

§ 768.8 Eligibility of expedited licensing procedures for non-controlled countries.

(a) BIS determines the eligibility of an item for expedited licensing procedures on the basis of an evaluation of the foreign availability of the item. Eligibility is specific to the items and the countries to which they are found to be available.

(b) BIS will initiate an eligibility evaluation:

(1) On its own initiative;

(2) On receipt of a FAS; or

(3) On receipt of a TAC certification.

(c) Upon initiation of an eligibility evaluation following receipt of either a FAS or TAC certification, BIS will notify the claimant or TAC of the receipt and initiation of an evaluation and publish a FEDERAL REGISTER notice of the initiation of the evaluation.

(d) The criteria for determining eligibility for expedited licensing procedures are:

(1) The item must be available-in-fact to the specified

non-controlled country from a foreign source;

(2) The item must be of a quality similar to that of the U.S.-controlled item; and

(3) The item must be available-in-fact to the specified non-controlled country without effective restrictions.

(e) Within 30 days of initiation of the evaluation, the Secretary of Commerce will make a determination of foreign availability on the basis of the BIS evaluation and recommendation, taking into consideration the evidence the Secretaries of Defense, State, and other interested agencies provide to BIS and any other information that the Secretary considers relevant.

(f) Within 30 days of the receipt of the FAS or TAC certification, BIS will publish the Secretary's determination in the FEDERAL REGISTER, that the item will or will not be eligible for expedited licensing procedures to the stated countries and, where appropriate, amend supplement no. 2 to part 768.

(g) Following completion of a self-initiated evaluation, BIS will be notified of the Secretary's determination and, where appropriate, supplement no. 2 to part 768 will be amended.

(h) Foreign availability submissions and TAC certifications to initiate an expedited licensing procedure evaluation must be clearly designated on their face as a request for expedited licensing procedure and must specify the items, quantities and countries alleged eligible. Submissions and certifications should be sent to: Department of Commerce, Bureau of Industry and Security, Room H–1093, 14th Street and Pennsylvania Avenue, NW., Washington, DC 20230.

[61 FR 12915, Mar. 25, 1996, as amended at 72 FR 25196, May 4, 2007]

§ 768.9 Appeals of negative foreign availability determinations.

Appeals of negative determinations will be conducted according to the standards and procedures described in part 756 of the EAR. A Presidential decision (NSO) to deny a license or continue controls notwithstanding a determination of foreign availability is not subject to appeal.

§ 768.10 Removal of controls on less sophisticated items.

Where the Secretary has removed national security controls on an item for foreign availability reasons, the Secretary will also remove controls on similar items that are controlled for national security reasons and whose functions, technological approach, performance thresholds, and other attributes that form the basis for national security export controls do not exceed the technical parameters of the item that BIS has decontrolled for foreign availability reasons.

SUPPLEMENT NO. 1 TO PART 768—EVIDENCE OF FOREIGN AVAILABILITY

This supplement provides a list of examples of evidence that the Bureau of Industry and Security (BIS) has found to be useful in conducting assessments of foreign availability. A claimant submitting evidence supporting a claim of foreign availability should review this list for suggestions as evidence is collected. Acceptable evidence indicating possible foreign availability is not limited to these examples, nor is any one of these examples, usually, in and of itself, necessarily sufficient to meet a foreign availability criterion. A combination of several types of evidence for each criterion usually is required. A Foreign Availability Submission (FAS) should include as much evidence as possible on all four of the criteria listed below. BIS combines the submitted evidence with the evidence that it collects from other sources. BIS evaluates all evidence, taking into account factors that may include, but are not limited to: Information concerning the source of the evidence, corroborative or contradictory indications, and experience concerning the reliability or reasonableness of such evidence. BIS will assess all relevant evidence to determine whether each of the four criteria has been met. Where possible, all information should be in writing. If information is based on third party documentation, the submitter should provide such documentation to BIS. If information is based on oral statements a third party made, the submitter should provide a memorandum of the conversation to BIS if the submitter cannot obtain a written memorandum from the source. BIS will amend this informational list as it identifies new examples of evidence.

(a) Examples of evidence of foreign availability:

The following are intended as examples of evidence that BIS will consider in evaluating foreign availability. BIS will evaluate all evidence according to the provisions in §768.7(c) of this part in order for it to be used

in support of a foreign availability determination. This list is illustrative only.

(1) *Available-in-fact:*

(i) Evidence of marketing of an item in a foreign country (e.g., an advertisement in the media of the foreign country that the item is for sale there);

(ii) Copies of sales receipts demonstrating sales to foreign countries;

(iii) The terms of a contract under which the item has been or is being sold to a foreign country;

(iv) Information, preferably in writing, from an appropriate foreign government official that the government will not deny the sale of an item it produces to another country in accordance with its laws and regulations;

(v) Information, preferably in writing, from a named company official that the company legally can and would sell an item it produces to a foreign country;

(vi) Evidence of actual shipments of the item to foreign countries (e.g., shipping documents, photographs, news reports);

(vii) An eyewitness report of such an item in operation in a foreign country, providing as much information as available, including where possible the make and model of the item and its observed operating characteristics;

(viii) Evidence of the presence of sales personnel or technical service personnel in a foreign country;

(ix) Evidence of production within a foreign country;

(x) Evidence of the item being exhibited at a trade fair in a foreign country, particularly for the purpose of inducing sales of the item to the foreign country;

(xi) A copy of the export control laws or regulations of the source country, showing that the item is not controlled; or

(xii) A catalog or brochure indicating the item is for sale in a specific country.

(2) *Foreign (non-U.S.) source:*

(i) Names of foreign manufacturers of the item including, if possible, addresses and telephone numbers;

(ii) A report from a reputable source of information on commercial relationships that a foreign manufacturer is not linked financially or administratively with a U.S. company;

(iii) A list of the components in the U.S. item and foreign item indicating model numbers and their sources;

(iv) A schematic of the foreign item identifying its components and their sources;

(v) Evidence that the item is a direct product of foreign technology (e.g., a patent law suit lost by a U.S. producer, a foreign patent);

(vi) Evidence of indigenous technology, production facilities, and the capabilities at those facilities; or

(vii) Evidence that the parts and components of the item are of foreign origin or are exempt from U.S. licensing requirements by the parts and components provision §732.4 of the EAR.

(3) *Sufficient quantity:*

(i) Evidence that foreign sources have the item in serial production;

(ii) Evidence that the item or its product is used in civilian applications in foreign countries;

(iii) Evidence that a foreign country is marketing in the specific country an item of its indigenous manufacture;

(iv) Evidence of foreign inventories of the item;

(v) Evidence of excess capacity in a foreign country's production facility;

(vi) Evidence that foreign countries have not targeted the item or are not seeking to purchase it in the West;

(vii) An estimate by a knowledgeable source of the foreign country's needs; or

(viii) An authoritative analysis of the worldwide market (i.e., demand, production rate for the item for various manufacturers, plant capacities, installed tooling, monthly production rates, orders, sales and cumulative sales over 5–6 years).

(4) *Comparable quality:*

(i) A sample of the foreign item;

(ii) Operation or maintenance manuals of the U.S. and foreign items;

(iii) Records or a statement from a user of the foreign item;

(iv) A comparative evaluation, preferably in writing, of the U.S. and foreign items by, for example, a western producer or purchaser of the item, a recognized expert, a reputable trade publication, or independent laboratory;

(v) A comparative list identifying, by manufacturers and model numbers, the key performance components and the materials used in the item that qualitatively affect the performance of the U.S. and foreign items;

(vi) Evidence of the interchangeability of U.S. and foreign items;

(vii) Patent descriptions for the U.S. and foreign items;

(viii) Evidence that the U.S. and foreign items meet a published industry, national, or international standard;

(ix) A report or eyewitness account, by deposition or otherwise, of the foreign item's operation;

(x) Evidence concerning the foreign manufacturers' corporate reputation;

(xi) Comparison of the U.S. and foreign end item(s) made from a specific commodity, tool(s), device(s), or technical data; or

(xii) Evidence of the reputation of the foreign item including, if possible, information on maintenance, repair, performance, and other pertinent factors.

SUPPLEMENT NO. 2 TO PART 768—ITEMS ELIGIBLE FOR EXPEDITED LICENSING PROCEDURES [RESERVED]

PART 770—INTERPRETATIONS

Sec.
770.1 Introduction.
770.2 Item interpretations.
770.3 Interpretations related to exports of technology and software to destinations in Country Group D:1.

AUTHORITY: 50 U.S.C. 4801–4852; 50 U.S.C. 4601 *et seq.*; 50 U.S.C. 1701 *et seq.*; E.O. 13222, 66 FR 44025, 3 CFR, 2001 Comp., p. 783.

§ 770.1 Introduction.

In this part, references to the EAR are references to 15 CFR chapter VII, subchapter C. This part provides commodity, technology, and software interpretations. These interpretations clarify the scope of controls where such scope is not readily apparent from the Commerce Control List (CCL) (see supplement no. 1 to part 774 of the EAR) and other provisions of the Export Administration Regulations.

§ 770.2 Item interpretations.

(a) *Interpretation 1: Anti-friction bearing or bearing systems and specially designed parts.* (1) Anti-friction bearings or bearing systems shipped as spares or replacements are classified under Export Control Classification Number (ECCN) 2A001 (ball, roller, or needle-roller bearings and parts). This applies to separate shipments of anti-friction bearings or bearing systems and anti-friction bearings or bearing systems shipped with machinery or equipment for which they are intended to be used as spares or replacement parts.

(2) An anti-friction bearing or bearing system physically incorporated in a segment of a machine or in a complete machine prior to shipment loses its identity as a bearing. In this scenario, the machine or segment of machinery containing the bearing is the item subject to export control requirements.

(3) An anti-friction bearing or bearing system not incorporated in a segment of a machine prior to shipment, but shipped as a component of a complete unassembled (knocked-down) machine, is considered a component of a machine. In this scenario, the complete machine is the item subject to export license requirements.

(b) *Interpretation 2: Classification of ''parts'' of machinery, equipment, or other items*—(1) *An assembled machine or unit of equipment is being exported.* In instances where one or more assembled machines or units of equipment are being exported, the individual component parts that are physically incorporated into the machine or equipment do not require a license. The license or general exception under which the complete machine or unit of equipment is exported will also cover its component parts, provided that the parts are normal and usual components of the machine or equipment being exported, or that the physical incorporation is not used as a device to evade the requirement for a license.

(2) *Parts are exported as spares, replacements, for resale, or for stock.* In instances where parts are exported as spares, replacements, for resale, or for stock, a license is required only if the appropriate entry for the part specifies that a license is required for the intended destination.

(c) [Reserved]

(d) *Interpretation 4: Telecommunications equipment and systems.* Control equipment for paging systems (broadcast radio or selectively signalled receiving systems) is defined as circuit switching equipment in Category 5 of the CCL.

(e) *Interpretation 5: Numerical control systems*—(1) *Classification of ''Numerical Control'' Units.* ''Numerical control'' units for machine tools, regardless of their configurations or architectures, are controlled by their functional characteristics as described in ECCN 2B001.a. ''Numerical control'' units include computers with add-on ''motion control boards''. A computer with add-on ''motion control boards'' for machine tools may be controlled under ECCN 2B001.a even when the computer alone without ''motion control boards'' is not subject to licensing requirements under Category 4 and the ''motion control boards'' are not controlled under ECCN 2B001.b.

(2) *Export documentation requirement.* (i) When preparing a license application for a numerical control system, the machine tool and the control unit

are classified separately. If either the machine tool or the control unit requires a license, then the entire unit requires a license. If either a machine tool or a control unit is exported separately from the system, the exported component is classified on the license application without regard to the other parts of a possible system.

(ii) When preparing the Electronic Export Information (EEI) on the Automated Export System (AES), a system being shipped complete (i.e., machine and control unit), should be reported under the Schedule B number for each machine. When either a control unit or a machine is shipped separately, it should be reported under the Schedule B number appropriate for the individual item being exported.

(f) *Interpretation 6: ''Parts,'' ''accessories,'' and equipment exported as scrap.* ''Parts,'' ''accessories,'' or equipment that are being shipped as scrap should be described on the EEI filing to the AES in sufficient detail to be identified under the proper ECCN. When commodities declared as ''parts,'' ''accessories,'' or equipment are shipped in bulk, or are otherwise not packaged, packed, or sorted in accordance with normal trade practices, the Customs Officer may require evidence that the shipment is not scrap. Such evidence may include, but is not limited to, bills of sale, orders and correspondence indicating whether the commodities are scrap or are being exported for use as ''parts,'' ''accessories,'' or equipment.

(g) *Interpretation 7: Scrap arms, ammunition, and implements of war.* Arms, ammunition, and implements of war, as defined in the U.S. Munitions List, and are under the jurisdiction of the U.S. Department of State (22 CFR parts 120 through 130), except for the following, which are under the jurisdiction of the Department of Commerce:

(1) Cartridge and shell cases that have been rendered useless beyond the possibility of restoration to their original identity by means of excessive heating, flame treatment, mangling, crushing, cutting, or by any other method are ''scrap''.

(2) Cartridge and shell cases that have been sold by the armed services as ''scrap'', whether or not they have been heated, flame-treated, mangled, crushed, cut, or reduced to scrap by any other method.

(3) Other commodities that may have been on the U.S. Munitions List are ''scrap'', and therefore under the jurisdiction of the Department of Commerce, if they have been rendered useless beyond the possibility of restoration to their original identity only by means of mangling, crushing, or cutting. When in doubt as to whether a commodity covered by the Munitions List has been rendered useless, exporters should consult the Directorate of Defense Trade Controls, U.S. Department of State, Washington, DC 20520, or the Exporter Counseling Division, Office of Exporter Services, Room 1099A, U.S. Department of Commerce, Washington, DC 20230, before reporting a shipment as metal scrap.

(h)–(j) [Reserved]

(k) *Interpretation 11: Precursor chemicals.* The following chemicals are controlled by ECCN 1C350. The appropriate Chemical Abstract Service Registry (C.A.S.) number and synonyms (i.e., alternative names) are included to help you determine whether or not your chemicals are controlled by this entry.

(1) (C.A.S. #1341–49–7) Ammonium hydrogen bifluoride
Acid ammonium fluoride
Ammonium bifluoride
Ammonium difluoride
Ammonium hydrofluoride
Ammonium hydrogen bifluoride
Ammonium hydrogen difluoride
Ammonium monohydrogen difluoride

(2) (C.A.S. #7784–34–1) Arsenic trichloride
Arsenic (III) chloride
Arsenous chloride
Fuming liquid arsenic
Trichloroarsine

(3) (C.A.S. #76–93–7) Benzilic acid
.alpha.,.alpha.-Diphenyl-.alpha.-hydroxyacetic acid
Diphenylglycolic acid
.alpha.,.alpha.-Diphenylglycolic acid
Diphenylhydroxyacetic acid
.alpha.-Hydroxy-2,2-diphenylacetic acid
2-Hydroxy-2,2-diphenylacetic acid
.alpha.-Hydroxy-.alpha.-phenylbenzeneacetic acid
Hydroxydiphenylacetic acid

(4) (C.A.S. #107–07–3) 2-Chloroethanol
2-Chloro-1-ethanol

Chloroethanol
2-Chloroethyl alcohol
Ethene chlorohydrin
Ethylchlorohydrin
Ethylene chlorhydrin
Ethylene chlorohydrin
Glycol chlorohydrin
Glycol monochlorohydrin
2-Hydroxyethyl chloride

(5) (C.A.S. #78–38–6) Diethyl ethylphosphonate Ethylphosphonic acid diethyl ester

(6) (C.A.S. #15715–41–0) Diethyl methylphosphonite
Diethoxymethylphosphine
Diethyl methanephosphonite
0,0-Diethyl methylphosphonite
Methyldiethoxyphosphine
Methylphosphonous acid diethyl ester

(7) (C.A.S. #2404–03–7) Diethyl-N, N-dimethylphosphoro-amidate
N,N-Dimethyl-O,O′-diethyl phosphoramidate
Diethyl dimethylphosphoramidate
Dimethylphosphoramidic acid diethyl ester

(8) (C.A.S. #762–04–9) Diethyl phosphite
Diethoxyphosphine oxide
Diethyl acid phosphite
Diethyl hydrogen phosphite
Diethyo phosphonate
Hydrogen diethyl phosphite

(9) (C.A.S. #100–37–8) N, N-Diethylethanolamine
N,N-Diethyl-2-aminoethanol
Diethyl (2-hydroxyethyl) amine
N,N-Diethyl-N-(.beta.-hydroxyethyl) amine
N,N-Diethyl-2-hydroxyethylamine
Diethylaminoethanol
2-(Diethylamino) ethanol
2-(Diethylamino)ethyl alcohol
N,N-Diethylmonoethanolamine
(2-Hydroxyethyl) diethylamine
2-Hydroxytriethylamine

(10) (C.A.S. #5842–07–9) N,N-Diisopropyl-.beta.-aminoethane thiol
2-(Diisopropylamino) ethanethiol
Diisopropylaminoethanethiol
.beta.-Diisopropylaminoethanethiol
2-(bis(1-Methylethyl)amino) ethanethiol

(11) (C.A.S. #4261–68–1) N, N-Diisopropyl-.2-aminoethyl chloride hydrochloride

(12) (C.A.S. #96–80–0) N,N-Diisopropyl-.beta.-aminoethanol
N,N-Diisopropyl-2-aminoethanol
2-(Diisopropylamino) ethanol
(N,N-Diisopropylamino) ethanol
2-(Diisopropylamino) ethyl alcohol
N,N-Diisopropylethanolamine

(13) (C.A.S. #96–79–7) N,N-Diisopropyl-.beta.-aminoethyl chloride
2-Chloro-N,N-diisopropylethanamine
1-Chloro-N,N-diisopropylaminoethane
2-Chloro-N,N-diisopropylethylamine
N-(2-chloroethyl)-N-(1-methylethyl)-2-propanamine
N-(2-Chloroethyl) diisopropylamine
N,N-Diisopropyl-2-chloroethylamine
1-(Diisopropylamino)-2-cholorethane
2-(Diisopropylamino)ethyl chloride
Diisopropylaminoethyl chloride
.beta.-Diisopropylaminoethyl chloride

(14) (C.A.S. #108–18–9) Diisopropylamine
N,N-Diisopropylamine
N-(1-Methylethyl)-2-propanamine

(15) (C.A.S. #6163–75–3) Dimethyl ethylphosphonate
Dimethyl ethanephosphonate
Ethylphosphonic acid dimethyl ester

(16) (C.A.S. #756–79–6) Dimethyl methylphosphonate
Dimethoxymethyl phosphine oxide
Dimethyl methanephosphonate
Methanephosphonic acid dimethyl ester
Methylphosphonic acid dimethyl ester

(17) (C.A.S. #868–85–9) Dimethyl phosphite
Dimethoxyphosphine oxide
Dimethyl acid phosphite
Dimethyl hydrogen phosphite
Dimethyl phosphonate
Hydrogen dimethyl phosphite
Methyl phosphate

(18) (C.A.S. #124–40–3) Dimethylamine
N-Methyl methanamine

(19) (C.A.S. #506–59–2) Dimethylamine hydrochloride
Dimethylammonium chloride
N-Methyl methanamine hydrochloride

(20) [Reserved]

(21) (C.A.S. #1498–40–4) Ethylphosphonous dichloride
Dichloroethylphosphine
Ethyl phosphonous dichloride
Ethyldichlorophosphine

(22) (C.A.S. #430–78–4) Ethylphosphonus difluoride

Ethyldifluorophosphine
(23) (C.A.S. #1066–50–8) Ethylphosphonyl dichloride
Dichloroethylphosphine oxide
Ethanephosphonyl chloride
Ethylphosphinic dichloride
Ethylphosphonic acid dichloride
Ethylphosphonic dichloride
(24) [Reserved]
(25) (C.A.S. #7664–39–3) Hydrogen fluoride
Anhydrous hydrofluoric acid
Fluorhydric acid
Fluorine monohydride
Hydrofluoric acid gas
(26) (C.A.S. #3554–74–3) 3-Hydroxyl-1-methylpiperidine
3-Hydroxy-N-methylpiperidine
1-Methyl-3-hydroxypiperidine
N-Methyl-3-hydroxypiperidine
1-Methyl-3-piperidinol
N-Methyl-3-piperidinol
(27) (C.A.S. #76–89–1) Methyl benzilate
Benzilic acid methyl ester
.alpha.-Hydroxy-.alpha.-phenylbenzeneacetic acid methyl ester
Methyl .alpha.-phenylmandelate
Methyl diphenylglycolate
(28)–(31) [Reserved]
(32) (C.A.S. #10025–87–3) Phosphorus oxychloride
Phosphonyl trichloride
Phosphoric chloride
Phosphoric trichloride
Phosphoroxychloride
Phosphoroxytrichloride
Phosphorus chloride oxide
Phosphorus monoxide trichloride
Phosphorus oxide trichloride
Phosphorus oxytrichloride
Phosphorus trichloride oxide
Phosphoryl trichloride
Trichlorophosphine oxide
Trichlorophosphorus oxide
(33) (C.A.S. #10026–13–8) Phosphorus pentachloride
Pentachlorophosphorane
Pentachlorophosphorus
Phosphoric chloride
Phosphorus(V) chloride
Phosphorus perchloride
(34) (C.A.S. #1314–80–3) Phosphorus pentasulfide
Diphosphorus pentasulfide
Phosphoric sulfide
Phosphorus persulfide
Phosphorus sulfide
(35) (C.A.S. #7719–12–2) Phosphorus trichloride
Phosphorus chloride
Trichlorophosphine
(36) C.A.S. #75–97–8) Pinacolone
tert-Butyl methyl ketone
2,2-Dimethyl-3-butanone
3,3-Dimethyl-2-butanone
2,2-Dimethylbutanone
3,3-Dimethylbutanone
1,1-Dimethylethyl methyl ketone
Methyl tert-butyl ketone
Pinacolin
Pinacoline
1,1,1-Trimethylacetone
(37) (C.A.S. #464–07–3) Pinacolyl alcohol
tert-Butyl methyl carbinol
2,2-Dimethyl-3-butanol
3,3-Dimethyl-2-butanol
1-Methyl-2,2-dimethylpropanol
(38) (C.A.S. #151–50–8) Potassium cyanide
(39) (C.A.S. #7789–23–3) Potassium fluoride
Potassium monofluoride
(40) (C.A.S. #7789–29–9) Potassium hydrogen fluoride
Hydrogen potassium difluoride
Hydrogen potassium fluoride
Potassium acid fluoride
Potassium bifluoride
Potassium hydrogen difluoride
Potassium monohydrogen difluoride
(41) (C.A.S. #1619–34–7) 3-Quinuclidinol
1-Azabicyclo(2.2.2)octan-3-ol
3-Hydroxyquinuclidine
(42) (C.A.S. #3731–38–2) 3-Quinuclidinone
1-Azabicyclo(2.2.2)octan-3-one
3-Oxyquinuclidine
Quinuclidone
(43) (C.A.S.) #1333–83–1) Sodium bifluoride
Sodium hydrogen difluoride
Sodium hydrogen fluoride
(44) (C.A.S. #143–33–9) Sodium cyanide
(45) (C.A.S. #7681–49–4) Sodium fluoride
Sodium monofluoride
(46) (C.A.S. #1313–82–2) Sodium sulfide
Disodium monosulfide
Disodium sulfide
Sodium monosulfide
Sodium sulfide
(47) (C.A.S. #10025–67–9) Sulfur Monochloride
(48) (C.A.S. #10545–99–0) Sulfur dicholoride
(49) (C.A.S. #111–48–8) Thiodiglycol

Bis(2-hydroxyethyl) sulfide
Bis(2-hydroxyethyl) thioether
Di(2-hydroxyethyl) sulfide
Diethanol sulfide
2,2′-Dithiobis-(ethanol)
3-Thiapentane-1,5-diol
2,2′-Thiobisethanol
2,2′-Thiodiethanol
Thiodiethylene glycol
2,2′-Thiodiglycol

(50) C.A.S. #7719–09–7) Thionyl chloride
Sulfinyl chloride
Sulfinyl dichloride
Sulfur chloride oxide
Sulfur oxychloride
Sulfurous dichloride
Sulfurous oxychloride
Thionyl dichloride

(51) (C.A.S. #102–71–6) Triethanolamine
Alkanolamine 244
Nitrilotriethanol
2,2′,2″-Nitrilotriethanol
2,2′,2″-Nitrilotris(ethanol)
TEA
TEA (amino alcohol)
Tri (2-hydroxyethyl) amine
Triethanolamin
Tris (.beta.-hydroxyethyl) amine
Tris (2-hydroxyethyl) amine
Trolamine

(52) (C.A.S. #637–39–8) Triethanolamine hydrochloride

(53) (C.A.S. #122–52–1) Triethyl phosphite
Phosphorous acid triethyl ester
Triethoxyphosphine
Tris(ethoxy)phosphine

(54) (C.A.S. #121–45–9) Trimethyl phosphite
Phosphorus acid trimethyl ester
Trimethoxyphosphine

(l) *Interpretation 12: Computers.* (1) Digital computers or computer systems classified under ECCN 4A003.b or .c, that qualify for ''No License Required'' (NLR) must be evaluated on the basis of Adjusted Peak Performance (APP) alone, to the exclusion of all other technical parameters. Digital computers or computer systems classified under ECCN 4A003.b or .c that qualify for License Exception APP must be evaluated on the basis of APP, to the exclusion of all other technical parameters. Assemblies performing analog-to-digital conversions are evaluated under Category 3—Electronics, ECCN 3A002.h.

(2) Related equipment classified under ECCN 4A003.g may be exported or reexported under License Exceptions GBS or CIV. When related equipment is exported or reexported as part of a computer system, NLR or License Exception APP is available for the computer system and the related equipment, as appropriate.

(m) *Interpretation 13: Encryption commodities and software controlled for EI reasons.* Encryption commodities and software controlled for EI reasons under ECCNs 5A002, 5A004 and 5D002 may be pre-loaded on a laptop, handheld device or other computer or equipment and exported under the tools of trade provision of License Exception TMP or the personal use exemption under License Exception BAG, subject to the terms and conditions of such License Exceptions. Neither License Exception TMP nor License Exception BAG contains a reporting requirement. Like other ''information security'' ''software,'' components, ''electronic assemblies'' or modules, the control status of encryption commodities and software is determined in Category 5—Part 2 even if they are bundled, commingled or incorporated in a computer or other equipment. However, commodities and software specially designed for medical end use that incorporate an item in Category 5—Part 2 are not controlled in Category 5—Part 2. See paragraph (a) of supplement no. 3 to part 774 (Statements of Understanding) of the EAR.

(n) *Interpretation 14: Unfinished ''600 series'' commodities.* Forgings, castings, and other unfinished products, such as extrusions and machined bodies, that have reached a stage in manufacturing where they are clearly identifiable by mechanical properties, material composition, geometry, or function as commodities controlled by any Product Group A (''End Items,'' ''Equipment,'' ''Accessories,'' ''Attachments,'' ''Parts,'' ''Components'' and ''Systems'') ''600 series'' ECCN are controlled in that ''600 series'' ECCN.

(o) *Interpretation 15: Certain integrated circuits acquired, tested, or otherwise used by or for the United States Government—* (1) *Classification of the integrated circuit (IC).* Integrated circuits (ICs), including packaged ''electronic assemblies''

of ICs described by this section, that are manufactured using existing commercial fabrication process technologies and which are acquired, tested, or otherwise used by, for, or under contract with the United States Government (USG), are not considered to be radiation hardened (*e.g.*, designed to withstand a specified radiation dose or upset) or temperature rated (*e.g.*, rated to operate at prescribed temperatures) as may otherwise be specified under an Export Control Classification Number (ECCN) on the Commerce Control List (CCL) in supplement no. 1 to part 774 of the EAR, provided all of the following apply:

(i) During ''development'', the IC is not designed, rated, or certified (except by or for the USG) to meet the radiation or temperature specifications of any ECCN; and

(ii) All commercial testing (including by the manufacturer during fabrication, sort, packaging or assembly) regarding radiation or temperature is limited to standard commercial tools and techniques, or else by means funded or furnished by the USG for their use in the commercial setting for these specified ICs.

(2) *Activities that do not change the classification of ''software'' or ''technology'' for the commercial fabrication of ICs.* The ''development'', ''production,'' or subsequent use of the ICs described by this section does not change the classification of any underlying standard commercial process ''software'' or ''technology'' used to manufacture or test these ICs, provided all of the following apply:

(i) Any utilized existing commercial ''software'' or ''technology'' specified under ECCNs 3D991, 3D992, 3D993, 3E001, 3E991, 3E992, 3E993, 9D515.d, 9D515.e, 9E515.d or 9E515.e does not meet the ''required'' standard (as defined in part 772 of the EAR) of any other ECCN on the CCL; and

NOTE 1 TO PARAGRAPH (o)(2)(i): The use of existing commercial ''software'' or ''technology'' by or for the USG for the purposes described in paragraph (o)(1) of this section does not, in and of itself, establish the ''required'' standard to meet the specifications of any ECCN on the CCL.

(ii) The functional capability of the hardware, ''software,'' or ''technology'' existing within the standard commercial fabrication process has not been modified (*e.g.*, by addition of special process steps or unique interpretation of design data), except as may be required or requested by the USG (*e.g.*, as a stipulation of contract performance) where all of the following apply:

(A) The modifications do not change the ECCN of any item subject to the EAR (except to a less restrictive classification, *e.g.*, from an ECCN on the CCL to EAR99); and

(B) The modifications are limited to the manufacture or testing of ICs by or for the USG as specified in paragraph (o)(1) of this section.

(3) *Examples.* Scenarios addressed by this section include the following:

(i) If a commercially fabricated IC specified under ECCN 3A991 is tested by the USG (or by a person or entity in a contractual relationship with the USG) and meets the radiation-hardened parameters in ECCN 3A001.a.1, the classification of the IC does not change from ECCN 3A991 and the classifications of the underlying standard process ''technology'', ''equipment'' and ''software'' do not change from their original ECCNs.

(ii) If a standard commercial process for fabricating ICs includes certain ''technology'' specified under ECCN 3E001 (*e.g.*, for ICs specified under ECCN 3A001.a.1), or ECCN 9E515 (*e.g.*, for discrete electronic components specified under ECCNs 9A515.d or .e) and those process ''technologies'' are used to manufacture ICs and discrete electronic components for the U.S. Government, only the portion of the ''technology'' that is ''required'' meets the specifications under ECCN 3E001 or 9E515. Moreover, the use of these standard commercial processes does not presumptively result in the control of the resulting U.S. Government ICs under ECCN paragraphs 3A001.a.1 or 9A515.d or .e; instead, the ECCNs of the U.S. Government ICs subject to the EAR would be determined according to paragraph (o)(1) of this section.

(iii) If a standard commercial IC fabrication process at a particular foundry is comprised of tools specified under ECCNs 3B001 or 3B991 or as EAR99, and where the ''technology'' is limited to ''technology'' specified under ECCN 3E991 or as EAR99, and that foundry

(which typically produces ICs specified under ECCN 3A991 or as EAR99) were to deviate from its standard fabrication process (*e.g.*, by adding special process steps or design features) to produce a family of ICs designed to meet or exceed the radiation hardened parameters in ECCN paragraphs 3A001.a.1 or 9A515.d. or .e and intended for sale to U.S. and non-U.S. commercial and government customers, then the ECCN of the additional process ''technology'' that is ''required'' for producing those specific radiation hardened ICs would need to be separately evaluated and determined (*e.g.*, under ECCNs 3E001 and 9E515, as applicable).

[61 FR 12920, Mar. 25, 1996]

EDITORIAL NOTE: For FEDERAL REGISTER citations affecting §770.2, see the List of CFR Sections Affected, which appears in the Finding Aids section of the printed volume and at *www.govinfo.gov*.

§770.3 Interpretations related to exports of technology and software to destinations in Country Group D:1.

(a) *Introduction*. This section is intended to provide you additional guidance on how to determine whether your technology or software would be eligible for a License Exception, may be exported under NLR, or require a license, for export to Country Group D:1.

(b) *Scope of licenses*. The export of technology and software under a license is authorized only to the extent specifically indicated on the face of the license. The only technology and software related to equipment exports that may be exported without a license is technology described in §§734.7 through 734.11 of the EAR; operating technology and software described in §740.13(a) of the EAR; sales technology described in §740.13(b) of the EAR; and software updates described in §740.13(c) of the EAR.

(c) *Commingled technology and software*. (1) U.S.-origin technology does not lose its U.S.-origin when it is redrawn, used, consulted, or otherwise commingled abroad in any respect with other technology of any other origin. Therefore, any subsequent or similar technical data prepared or engineered abroad for the design, construction, operation, or maintenance of any plant or equipment, or part thereof, which is based on or utilizes any U.S.-origin technology, is subject to the EAR in the same manner as the original U.S.-origin technology, including license requirements, unless the commingled technology is not subject to the EAR by reason of the *de minimis* exclusions described in §734.4 of the EAR.

(2) U.S.-origin software that is incorporated into or commingled with foreign-origin software does not lose its U.S.-origin. Such commingled software is subject to the EAR is the same manner as the original U.S.-origin software, including license requirements, unless the commingled software is not subject to the EAR by reason of the *de minimis* exclusions described in §734.4 of the EAR.

(d) *Certain License Exception*. The following questions and answers are intended to further clarify the scope of technology and software eligible for a License Exception.

(1)(i) *Question 1*. (A) Our engineers, in installing or repairing equipment, use techniques (experience as well as proprietary knowledge of the internal componentry or specifications of the equipment) that exceed what is provided in the standard manuals or instructions (including training) given to the customer. In some cases, it is also a condition of the license that such information provided to the customer be constrained to the minimum necessary for normal installation, maintenance and operation situations.

(B) Can we send an engineer (with knowledge and experience) to the customer site to perform the installation or repair, under the provisions of License Exception TSU for operation technology and software described in §740.13(a) of the EAR, if it is understood that he is restricted by our normal business practices to performing the work without imparting the knowledge or technology to the customer personnel?

(ii) *Answer 1*. Export of technology includes release of U.S.-origin data in a foreign country as defined in §734.15 of the EAR. So long as the circumstances described here would not exceed that permitted under the License Exception TSU for operation technology and software, as described in §740.13(a) of the

EAR, this is not a ''release'' of technology and a license would not be required.

(2)(i) *Question 2.* We plan, according to our normal business practices, to train customer engineers to maintain equipment that we have exported under a license, License Exception, or NLR. The training is contractual in nature, provided for a fee, and is scheduled to take place in part in the customer's facility and in part in the U.S. Can we now proceed with this training at both locations under a License Exception?

(ii) *Answer 2.* (A) Provided that this is your normal training, and involves technology contained in your manuals and standard instructions for the exported equipment, and meets the other requirements of License Exception TSU for operation technology and software described in §740.13(a), the training may be provided within the limits of those provisions of License Exception TSU. The location of the training is not significant, as the export occurs at the time and place of the actual transfer or imparting of the technology to the customer's engineers.

(B) Any training beyond that covered under the provisions of License Exception TSU for operation technology and software described in §740.13(a), but specifically represented in your license application as required for this customer installation, and in fact authorized on the face of the license or a separate technology license, may not be undertaken while the license is suspended or revoked.

[61 FR 12920, Mar. 25, 1996, as amended at 61 FR 64286, Dec. 4, 1996; 62 FR 25470, May 9, 1997; 65 FR 14860, Mar. 20, 2000; 86 FR 54813, Oct. 5, 2021]

PART 772—DEFINITIONS OF TERMS

AUTHORITY: 50 U.S.C. 4801–4852; 50 U.S.C. 4601 *et seq.;* 50 U.S.C. 1701 *et seq.*

SOURCE: 61 FR 12925, Mar. 25, 1996, unless otherwise noted.

§ 772.1 Definitions of terms as used in the Export Administration Regulations (EAR).

The following are definitions of terms as used in the Export Administration Regulations (EAR). In this part, references to the EAR are references to 15 CFR chapter VII, subchapter C. Those terms in quotation marks refer to terms used on the Commerce Control List (CCL) (supplement no. 1 to part 774 of the EAR). Parenthetical references following the terms in quotation marks (i.e., (Cat 5)) refer to the CCL category in which that term is found. If a term is used in only one Export Control Classification Number (ECCN) on the CCL, then that term will *not* appear in this part, but will be defined in the Related Definitions paragraph in the List of Items Controlled Section of that ECCN.

16/14 nanometer node (16/14 nm node) is indicated in the Logic Industry ''Node Range'' figure described in the International Roadmap for Devices and Systems, 2016 edition (''More Moore'' White Paper), available at: *https://irds.ieee.org/images/files/pdf/2016__MM.pdf*).

600 series. ECCNs in the ''xY6zz'' format on the Commerce Control List (CCL) that control items on the CCL that were previously controlled on the U.S. Munitions List or that are covered by the Wassenaar Arrangement Munitions List (WAML). The ''6'' indicates the entry is a munitions entry on the CCL. The ''x'' represents the CCL category and ''Y'' the CCL product group. The ''600 series'' constitutes the munitions ECCNs within the larger CCL.

600 Series Major Defense Equipment or *MDE.* Any item listed in ECCN 9A610.a, 9A619.a, 9A619.b or 9A619.c, having a nonrecurring research and development cost of more than $50,000,000 or a total production cost of more than $200,000,000.

NOTE TO ''600 SERIES MAJOR DEFENSE EQUIPMENT'': For the most current list of MDE, see Appendix 1, (Nonrecurring Cost Recoupment Charges for Major Defense Equipment) to DoD 5105.38–M, ''Security Assistance Management Manual (SAMM),'' dated 04/30/2012, available online at *http://www.dsca.osd.mil/samm/ESAMM/Appendix01.htm.*

Access information. For purposes of §734.19(a), information that allows access to encrypted technology or encrypted software in an unencrypted form. Examples include decryption keys, network access codes, and passwords.

Accessories. These are associated items for any ''component,'' ''end item,'' or ''system,'' and which are not necessary for their operation, but which enhance their usefulness or effectiveness. For example, for a riding lawnmower, ''accessories'' and ''attachments'' will include the bag to capture the cut grass, and a canopy to protect the operator from the sun and rain. For purposes of this definition, ''accessories'' and ''attachments'' are the same.

Accuracy. (Cat 2, 3, 6, 7 and 8)—''Accuracy'' is usually measured in terms of inaccuracy. It is defined as the maximum deviation, positive or negative, of an indicated value from an accepted standard or true value.

Active flight control systems. (Cat 7)—Function to prevent undesirable ''aircraft'' and ''missile'' motions or structural loads by autonomously processing outputs from multiple sensors and then providing necessary preventive commands to effect automatic control.

Active pixel. (Cat 6)—A minimum (single) element of the solid state array that has a photoelectric transfer function when exposed to light (electromagnetic) radiation.

Adaptive control. (Cat 2)—A control system that adjusts the response from conditions detected during the operation (Ref. ISO 2806–1980).

Adjusted Peak Performance (APP). (Cat 4) An adjusted peak rate at which ''digital computers'' perform 64-bit or larger floating point additions and multiplications. The formula to calculate APP is contained in a technical note at the end of Category 4 of the Commerce Control List.

Advanced-Node Integrated Circuits (Advanced-Node IC). For parts 734 and 744 of the EAR, ''advanced-node integrated circuits'' include integrated circuits that meet any of the following criteria:

(1) Logic integrated circuits using a non-planar transistor architecture or with a ''production'' 'technology node' of 16/14 nanometers or less;

(2) NOT AND (NAND) memory integrated circuits with 128 layers or more; or

(3) Dynamic random-access memory (DRAM) integrated circuits having:

(i) A memory cell area of less than 0.0026 μm^2;

(ii) A memory density greater than 0.20 gigabits per square millimeter; or

(iii) More than 3000 through-silicon vias per die.

NOTE 1 TO DEFINITION OF ''ADVANCED-NODE INTEGRATED CIRCUITS'': *For the purposes of paragraph (1) of this definition, the term technology node refers to the Logic Industry ''Node Range'' figure described in the International Roadmap for Devices and Systems, 2016 edition (''More Moore'' White Paper), available at: ≤ https://irds.ieee.org/images/files/pdf/2016__MM.pdf.*

NOTE 2 TO DEFINITION OF ''ADVANCED-NODE INTEGRATED CIRCUITS'': *For the purposes of paragraph (3) of this definition, the term memory density refers to the capacity of the monolithic die, package, or stack comprising the DRAM integrated circuit measured in gigabits divided by the relevant area. For a monolithic die, the relevant area is the area of the die. For package or stack, the relevant area is the footprint of the package or stack measured in square millimeters. In the case where a stack is contained in a package, use the area of the package. Cell area is defined as Wordline*Bitline (which takes into consideration both transistor and capacitor dimensions).*

Advisory Committee on Export Policy (ACEP). The ACEP voting members include the Assistant Secretary of Commerce for Export Administration, and Assistant Secretary-level representatives from the Departments of State, Defense, Justice (for encryption exports), Energy, and the Arms Control and Disarmament Agency. The appropriate representatives of the Joint Chiefs of Staff and the Director of the Nonproliferation Center of the Central Intelligence Agency are non-voting members. The Assistant Secretary of Commerce for Export Administration is the Chair. Appropriate acting Assistant Secretary, Deputy Assistant Secretary or equivalent strength of any agency or department may serve in lieu of the Assistant Secretary of the concerned agency or department. Such representatives, regardless of rank, will speak and vote on behalf of their agencies or departments. The ACEP may invite Assistant Secretary-level representatives of other Government agencies or departments (other than those identified above) to participate in the activities of the ACEP when matters of interest to such agencies or departments are under consideration. Decisions are made by majority vote.

AES. See ''Automated Export System.''

Aggregated approximated transistor count means the sum of the 'approximated transistor counts,' as defined in Note 1 to 3A090.a, of each ''applicable advanced logic integrated circuit'' die within the final package fabricated using a ''16/14 nanometer node'' or below, or using a non-planar transistor architecture.

Agricultural commodities. Agricultural commodities include food (including processed food); feed; fish; shellfish and fish products; beer, wine and spirits; livestock; fiber including cotton, wool and other fibers; tobacco and tobacco products; wood and wood products; seeds; fertilizer and organic fertilizer; reproductive materials such as fertilized eggs, embryos and semen. For the purposes of the EAR, agricultural commodities do not include furniture made from wood; clothing manufactured from plant or animal materials; agricultural equipment (whether hand tools or motorized equipment); pesticides, insecticides, or herbicides; or cosmetics (unless derived entirely from plant materials).

NOTE 1: This definition of agricultural commodities includes fertilizer and organic fertilizer, as listed in section 775 of the 2001 Agriculture, Rural Development, Food and Drug Administration, and Related Agencies Appropriations Act (Act) (Public Law 106–387) and commodities listed in section 102 of the Agricultural Trade Act of 1978 (7 U.S.C. 5602) as incorporated in section 902 of the Act, as well as commodities determined by the Department of Agriculture to fall within the scope of section 102 of the 1978 Agricultural Trade Act.

NOTE 2: For purposes of License Exception AGR (see §740.18 of the EAR), agricultural commodities also include vitamins, minerals, food additives and dietary supplements, and bottled water. These items do not fall within the scope of section 102 of the 1978 Agricultural Trade Act, but are treated as agricultural commodities for the purposes of License Exception AGR.

NOTE 3: For purposes of License Exception AGR and export license applications to Iran under the licensing procedures set forth in the appropriate regulations promulgated and administered by Treasury's Office of Foreign Assets Control, agricultural commodities only include those that are classified as EAR99.

Aircraft. (Cat 1, 6, 7, and 9)—A fixed wing, swivelwing, rotary wing (helicopter), tilt rotor or tilt-wing airborne vehicle. (See also ''civil aircraft''.)

Airline. Any person engaged primarily in the transport of persons or property by aircraft for compensation or hire, pursuant to authorization by the U.S. Government or a foreign government.

Airship. (Cat 2 and 9) A power-driven airborne vehicle that is kept buoyant by a body of gas (usually helium, formerly hydrogen) which is lighter than air.

All compensations available. (Cat 2) means after all feasible measures available to the manufacturer to minimize all systematic positioning errors for the particular machine-tool model or measuring errors for the particular coordinate measuring machine are considered.

Allocated by the ITU. (Cat 3 and Cat 5 part 1)—The allocation of frequency bands according to the current edition of the ITU Radio Regulations for primary, permitted and secondary services.

N.B. Additional and alternative allocations are not included.

Angle random walk. (Cat 7) The angular error buildup with time that is due to white noise in angular rate. (IEEE STD 528–2001)

Angular position deviation. (Cat 2)—The maximum difference between angular position and the actual, very accurately measured angular position after the workpiece mount of the table has been turned out of its initial position. (Reference: VDI/VDE 2617, Draft: ''Rotary tables on coordinate measuring machines'').

''*APP*'' See ''Adjusted Peak Performance.'' This term may also appear without quotation marks.

Applicable advanced logic integrated circuits are logic integrated circuits produced using the ''16/14 nanometer node'' or below, or using a non-planar transistor architecture.

Applicant. The person who applies for an export or reexport license, and who has the authority of a principal party in interest to determine and control the export or reexport of items. See §748.4 of the EAR and definition for ''exporter'' in this part of the EAR.

Asymmetric algorithm. (Cat 5) means a cryptographic algorithm using different, mathematically-related keys for encryption and decryption.

TECHNICAL NOTE: A common use of ''asymmetric algorithms'' is key management.

Attachments. These are associated items for any ''component,'' ''end item,'' or ''system,'' and which are not necessary for their operation, but which enhance their usefulness or effectiveness. For example, for a riding lawnmower, ''accessories'' and ''attachments'' will include the bag to capture the cut grass, and a canopy to protect the operator from the sun and rain. For purposes of this definition, ''attachments'' and ''accessories'' are the same.

Australia Group. The countries participating in the Australia Group have agreed to adopt harmonized controls on certain dual-use chemicals (i.e., precursor chemicals), biological agents, related manufacturing facilities and equipment, and related technology in order to ensure that exports of these items do not contribute to the proliferation of chemical or biological weapons. Countries participating in the Australia Group as of November 1, 2013, include: Argentina, Australia, Austria, Belgium, Bulgaria, Canada, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, India, Ireland, Italy, Japan, Korea (South), Latvia, Lithuania, Luxembourg, Malta, Mexico, the Netherlands, New Zealand, Norway, Poland, Portugal, Romania, Slovak Republic, Slovenia, Spain, Sweden, Switzerland, Turkey, Ukraine, the United Kingdom, and the United States. See also §742.2 of the EAR.

Australian airline. Any citizen of Australia who is authorized by the Australian Government to engage in business as an airline. For purposes of this definition, an Australian citizen is:

(1) A natural person who is a citizen of Australia; or

(2) A partnership of which each member is such an individual; or

(3) An Australian firm incorporated or otherwise organized under the laws of Australia or any Australian state or territory, having a total foreign stock interest not greater than 40 percent, and having the Chairman or Acting Chairman and at least two-thirds of the Directors thereof Australian citizens.

''*Authentication*''. (Cat 5P2) Verifying the identity of a user, process or device, often as a prerequisite to allowing access to resources in an information system. This includes verifying the origin or content of a message or other information, and all aspects of access control where there is no encryption of files or text except as directly related to the protection of passwords, Personal Identification Numbers (PINs) or similar data to prevent unauthorized access.

Automated Export System (AES). AES is a nationwide system operational at all ports and for all methods of transportation through which export shipment data required by multiple agencies is filed electronically to U.S. Customs and Border Protection, using the efficiencies of Electronic Data Interchange (EDI). AES allows the export information to be collected electronically and edited immediately. For more information about AES, visit the Bureau of Census Web site at: *http://www.census.gov/foreign-trade/aes/index.html* or see 15 CFR part 30 the Foreign Trade Regulations

Average Output Power. (Cat 6) The average output power is the total ''laser'' output energy, in joules, divided by the period over which a series of consecutive pulses is emitted, in seconds. For a series of uniformly spaced pulses it is equal to the total ''laser'' output energy in a single pulse, in joules, multiplied by the pulse frequency of the ''laser,'' in Hertz.

Bank. Means any of the following:

(a) Bank, savings association, credit union, bank holding company, bank or savings association service corporation, Edge Act corporation, Agreement corporation, or any insured depository institution, which is organized under the laws of the United States or any State and regulated or supervised by a Federal banking agency or a State bank supervisor; or

(b) A company organized under the laws of a foreign country and regulated or supervised by a foreign bank regulatory or supervisory authority which

engages in the business of banking, including without limitation, foreign commercial banks, foreign merchant banks and other foreign institutions that engage in banking activities usual in connection with the business of banking in the countries where such foreign institutions are organized or operating; or

(c) An entity engaged in the business of providing clearing or settlement services, that is, or whose members are, regulated or supervised by a Federal banking agency, a State bank supervisor, or a foreign bank regulatory or supervisory authority; or

(d) A branch or affiliate of any of the entities listed in paragraphs (a), (b), or (c) of this definition, regulated or supervised by a Federal banking agency, a State bank supervisor or a foreign bank regulatory or supervisory authority; or

(e) An affiliate of any of the entities listed in paragraph (a), (b), (c), or (d) of this definition, engaged solely in the business of providing data processing services to a bank or financial institution, or a branch of such an affiliate.

Basic gate propagation delay time. (Cat 3) The propagation delay time value corresponding to the basic gate used in a ''monolithic integrated circuit.'' For a 'family' of ''monolithic integrated circuits'', this may be specified either as the propagation delay time per typical gate within the given 'family' or as the typical propagation delay time per gate within the given 'family'.

TECHNICAL NOTES: 1. ''Basic gate propagation delay time'' is not to be confused with the input/output delay time of a complex ''monolithic integrated circuit.''

2. 'Family' consists of all integrated circuits to which all of the following are applied as their manufacturing methodology and specifications except their respective functions:

a. The common hardware and software architecture;

b. The common design and process technology; *and*

c. The common basic characteristics.

Basic Scientific Research. (GTN)—Experimental or theoretical work undertaken principally to acquire new knowledge of the fundamental principles of phenomena or observable facts, not primarily directed towards a specific practical aim or objective.

Bias. (accelerometer) (Cat 7)—The average over a specified time of accelerometer output measured at specified operating conditions, that has no correlation with input acceleration or rotation. ''Bias'' is expressed in g or in meters per second^2 (g or m/s^2) (IEEE Std 528–2001) (Micro g equals 1×10^{-6} g).

''Bias''. (gyro) (Cat 7) The average over a specified time of gyro output measured at specified operating conditions that has no correlation with input rotation or acceleration. ''Bias'' is typically expressed in degrees per hour (deg/hr). (IEEE Std 528–2001).

Bill of Lading. The contract of carriage and receipt for items, issued by the carrier. It includes an air waybill, but does not include an inland bill of lading or a domestic air waybill covering movement to port only.

Build-to-Print technology. (1) This is ''production'' ''technology'' that is sufficient for an inherently capable end user to produce or repair a commodity from engineering drawings without any of the following:

(i) Revealing ''development'' ''technology,'' such as design methodology, engineering analysis, detailed process or manufacturing know-how;

(ii) Revealing the production engineering or process improvement aspect of the ''technology;'' or

(iii) Requiring assistance from the provider of the technology to produce or repair the commodity.

(2) Acceptance, test, or inspection criteria pertaining to the commodity at issue is included within the scope of ''build-to-print technology'' only if it is necessary to verify that the commodity is acceptable.

Business Unit. As applied to encryption items, means a unit of a business which, whether or not separately incorporated, has:

(a) A distinct organizational structure which does not overlap with other business units of the same business;

(b) A distinct set of accounts; and

(c) Separate facilities for purchase, sale, delivery, and production of goods and services.

CCL. See Commerce Control List.

CCL Group. The Commerce Control List (CCL) is divided into 10 categories. Each category is subdivided into five groups, designated by the letters A

through E: (A) Equipment, assemblies and components; (B) Test, inspection and production equipment; (C) Materials; (D) Software; and (E) Technology. See § 738.2(b) of the EAR.

Camming. (axial displacement) (Cat 2)—Axial displacement in one revolution of the main spindle measured in a plane perpendicular to the spindle faceplate, at a point next to the circumference of the spindle faceplate (Ref.: ISO 230 Part 1–1986, paragraph 5.63).

Canadian airline. Any citizen of Canada who is authorized by the Canadian Government to engage in business as an airline. For purposes of this definition, a Canadian citizen is:

(1) A natural person who is a citizen of Canada; or

(2) A partnership of which each member is such an individual; or

(3) A Canadian firm incorporated or otherwise organized under the laws of Canada or any Canadian province or territory, having a total foreign stock interest not greater than 40 percent, and having the Chairman or Acting Chairman and at least two-thirds of the Directors thereof Canadian citizens.

Capable of. (MTCR context)—See ''usable in''.

Category. The Commerce Control List (CCL) is divided into ten categories: (0) Nuclear Materials, Facilities and Equipment, and Miscellaneous; (1) Materials, Chemicals, ''Microorganisms'', and Toxins; (2) Materials Processing; (3) Electronics Design, Development and Production; (4) Computers; (5) Telecommunications and Information Security; (6) Sensors; (7) Navigation and Avionics; (8) Marine; (9) Propulsion Systems, Space Vehicles, and Related Equipment. See § 738.2(a) of the EAR.

Chemical laser. (Cat 6)—A ''laser'' in which the excited species is produced by the output energy from a chemical reaction.

Chemical Weapons Convention (CWC). Means ''The Convention on the Prohibition of the Development, Production, Stockpiling and Use of Chemical Weapons and on Their Destruction'', opened for signature on January 13, 1993.

Circular Error Probable. (''CEP'') (Cat 7) In a circular normal distribution, the radius of the circle containing 50% of the individual measurements being made, or the radius of the circle within which there is a 50% probability of being located.

Circulation-controlled, anti-torque or circulation-controlled direction control systems (Cat 7)—Control systems using air blown over aerodynamic surfaces to increase or control the forces generated by the surfaces.

Civil aircraft. (Cat 1, 3, 4, 7 and 9) Those ''aircraft'' listed by designation in published airworthiness certification lists by civil aviation authorities of one or more Wassenaar Arrangement Participating States to fly commercial civil internal and external routes or for legitimate civil, private or business use. (see also ''aircraft'')

COCOM (Coordinating Committee on Multilateral Export Controls). A multilateral organization that cooperated in restricting strategic exports to controlled countries. COCOM was officially disbanded on March 31, 1994. COCOM members included: Australia, Belgium, Canada, Denmark, France, Germany, Greece, Italy, Japan, Luxembourg, Netherlands, Norway, Portugal, Spain, Turkey, United Kingdom, and United States.

Commerce Control List (CCL). A list of items under the export control jurisdiction of the Bureau of Industry and Security, U.S. Department of Commerce. Note that certain additional items described in part 732 of the EAR are also subject to the EAR. The CCL is found in supplement no. 1 to part 774 of the EAR.

Commodity. Any article, material, or supply except technology and software.

Communications Channel Controller. (Cat 4)—The physical interface which controls the flow of synchronous or asynchronous digital information. It is an assembly that can be integrated into computer or telecommunications equipment to provide communications access.

Compensation systems. (Cat 6) Consist of the primary scalar sensor, one or more reference sensors (*e.g.*, vector ''magnetometers'') together with software that permit reduction of the rigid body rotation noise of the platform.

Complete breech mechanisms. The mechanism for opening and closing the

breech of a breech-loading firearm, especially of a heavy-caliber weapon.

Component. This is an item that is useful only when used in conjunction with an ''end item.'' ''Components'' are also commonly referred to as assemblies. For purposes of this definition an assembly and a ''component'' are the same. There are two types of ''components'': ''Major components'' and ''minor components.'' A ''major component'' includes any assembled element which forms a portion of an ''end item'' without which the ''end item'' is inoperable. For example, for an automobile, ''components'' will include the engine, transmission, and battery. If you do not have all those items, the automobile will not function, or function as effectively. A ''minor component'' includes any assembled element of a ''major component.'' ''Components'' consist of ''parts.'' References in the CCL to ''components'' include both ''major components'' and ''minor components.''

Composite. (Cat 1, 2, 6, 8, and 9)—A ''matrix'' and an additional phase or additional phases consisting of particles, whiskers, fibers or any combination thereof, present for a specific purpose or purposes.

''III/V compounds''. (Cat 3 and 6) Polycrystalline or binary or complex monocrystalline products consisting of elements of groups IIIA and VA of Mendeleyev's periodic classification table (e.g., gallium arsenide, gallium-aluminum arsenide, indium phosphide).

Contouring control. (Cat 2)—Two or more ''numerically controlled'' motions operating in accordance with instructions that specify the next required position and the required feed rates to that position. These feed rates are varied in relation to each other so that a desired contour is generated (Ref. ISO/DIS 2806—1980).

Controlled country. Countries designated controlled for national security purposes under authority delegated to the Secretary of Commerce by Executive Order 12214 of May 2, 1980 pursuant to section 5(b) of the EAA. The controlled countries are: Albania, Armenia, Azerbaijan, Belarus, Cambodia, Cuba, the People's Republic of China, Georgia, Iraq, Kazakhstan, Kyrgyzstan, Laos, Macau, Moldova, Mongolia, North Korea, Russia, Tajikistan, Turkmenistan, Ukraine, Uzbekistan, and Vietnam. All of the controlled countries except Cuba are listed in Country Group D:1 of the EAR. Cuba is listed in Country Group E:2. This definition does not apply to part 768 of the EAR (Foreign Availability), which provides a dedicated definition.

Countries supporting international terrorism. In accordance with §6(j) of the Export Administration Act of 1979, as amended (EAA), the Secretary of State has determined that the following countries' governments have repeatedly provided support for acts of international terrorism: Iran, North Korea, and Syria.

Country Chart. A chart, found in supplement no. 1 to part 738 of the EAR, that contains certain licensing requirements based on destination and reason for control. In combination with the CCL, the Country Chart indicates when a license is required for any item on the CCL to any country in the world under General Prohibition One (Exports and Reexports in the Form Received), General Prohibition Two (Parts and Components Reexports), and General Prohibition Three (Foreign Produced Direct Product Reexports). See part 736 of the EAR.

Country Groups. For export control purposes, foreign countries are separated into five country groups designated by the symbols A, B, C, D, and E. (See supplement no. 1 to part 740 of the EAR for a list of countries in each Country Group.)

Critical temperature. (Cat 1, 3, 5P1, and 6)—The ''critical temperature'' (sometimes referred to as the transition temperature) of a specific ''superconductive'' material is the temperature at which the material loses all resistance to the flow of direct electrical current.

Crude oil. A mixture of hydrocarbons that existed in liquid phase in underground reservoirs, remains liquid at atmospheric pressure (after passing through surface separating facilities), and has not been processed through a crude oil distillation tower. Crude oil includes reconstituted crude petroleum, lease condensate, and liquid hydrocarbons produced from tar sands,

gilsonite, and oil shale. Drip gases are also included, but topped crude oil, residual oil, and other finished and unfinished oils are excluded.

Cryptanalytic items. (Cat 5P2) Systems, equipment or components designed or modified to perform 'cryptanalytic functions', software having the characteristics of cryptanalytic hardware or performing 'cryptanalytic functions', or technology for the development, production or use of cryptanalytic commodities or software.

NOTE: 1. 'Cryptanalytic functions' are functions designed to defeat cryptographic mechanisms in order to derive confidential variables or sensitive data, including clear text, passwords or cryptographic keys. These functions may include 'cryptanalysis,' which is the analysis of a cryptographic system or its inputs and outputs to derive confidential variables or sensitive data, including clear text. (ISO 7498–2–1988 (E), paragraph 3.3.18).

2. Functions specially designed and limited to protect against malicious computer damage or unauthorized system intrusion (e.g., viruses, worms and trojan horses) are not construed to be 'cryptanalytic functions.').

Cryptographic activation. (Cat 5P2) Any technique that specifically activates or enables cryptographic capability of an item, by means of a mechanism implemented by the manufacturer of the item, where this mechanism is uniquely bound to any of the following:

(1) A single instance of the item; or

(2) One customer, for multiple instances of the item.

TECHNICAL NOTE 1 TO DEFINITION OF ''CRYPTOGRAPHIC ACTIVATION'': ''Cryptographic activation'' techniques and mechanisms may be implemented as hardware, ''software'' or ''technology''.

TECHNICAL NOTE 2 TO DEFINITION OF ''CRYPTOGRAPHIC ACTIVATION'': Mechanisms for ''cryptographic activation'' can, for example, be serial number-based license keys or authentication instruments such as digitally signed certificates.

Cryptography (Cat 5P2)—The discipline that embodies principles, means and methods for the transformation of data in order to hide its information content, prevent its undetected modification or prevent its unauthorized use. ''Cryptography'' is limited to the transformation of information using one or more 'secret parameters' (*e.g.*, crypto variables) and/or associated key management.

NOTES: *1. ''Cryptography'' does not include 'fixed' data compression or coding techniques.*

2. ''Cryptography'' includes decryption.

TECHNICAL NOTES: *1. 'Secret parameter': A constant or key kept from the knowledge of others or shared only within a group.*

2. 'Fixed': The coding or compression algorithm cannot accept externally supplied parameters (e.g., cryptographic or key variables) and cannot be modified by the user.

Customs officer. The Customs officers in the U.S. Customs Service and postmasters unless the context indicates otherwise.

CW Laser. (Cat 6) A CW (Continuous Wave) laser is defined as a laser that produces a nominally constant output energy for greater than 0.25 seconds.

Cyber incident response. (§ 740.22, Cat 4) means the process of exchanging necessary information on a cybersecurity incident with individuals or organizations responsible for conducting or coordinating remediation to address the cybersecurity incident.

Data-Based Referenced Navigation (''DBRN'') Systems. (Cat 7) Systems which use various sources of previously measured geo-mapping data integrated to provide accurate navigation information under dynamic conditions. Data sources include bathymetric maps, stellar maps, gravity maps, magnetic maps or 3–D digital terrain maps.

''Data signaling rate.'' (Cat 5) means the rate, as defined in ITU Recommendation 53–36, taking into account that, for non-binary modulation, baud and bit per second are not equal. Bits for coding, checking and synchronization functions are to be included.

NOTE: When determining the ''data signaling rate'', servicing and administrative channels shall be excluded.

TECHNICAL NOTE: It is the maximum one-way rate, i.e., the maximum rate in either transmission or reception.

Depleted uranium. (Cat 0) means uranium depleted in the isotope 235 below that occurring in nature.

Designed or modified. (MTCR context)—Equipment, parts, components, or ''software'' that, as a result of ''development'', or modification, have specified properties that make them fit for a particular application. ''Designed

or modified'' equipment, parts, components or ''software'' can be used for other applications. For example, a titanium coated pump designed for a ''missile'' may be used with corrosive fluids other than propellants.

Development. (General Technology Note)—''Development'' is related to all stages prior to serial production, such as: design, design research, design analyses, design concepts, assembly and testing of prototypes, pilot production schemes, design data, process of transforming design data into a product, configuration design, integration design, layouts.

Diffusion bonding. (Cat 1 and 2)—A solid state joining of at least two separate pieces of metals into a single piece with a joint strength equivalent to that of the weakest material, wherein the principal mechanism is interdiffusion of atoms across the interface.

Digital computer. (Cat 4 and 5)—Equipment that can, in the form of one or more discrete variables, perform all of the following:

(a) Accept data;

(b) Store data or instructions in fixed or alterable (writable) storage devices;

(c) Process data by means of a stored sequence of instructions that is modifiable; and

(d) Provide output of data.

NOTE: Modifications of a stored sequence of instructions include replacement of fixed storage devices, but not a physical change in wiring or interconnections.

Digital transfer rate. (Cat 5)—The total bit rate of the information that is directly transferred on any type of medium. (See also ''total digital transfer rate'')

Direct product. The immediate product (including processes and services) produced directly by the use of technology or software.

Directorate of Defense Trade Controls (DDTC). The office at the Department of State, formerly known as the Office of Defense Trade Controls and before that as the Office of Munitions Control, responsible for reviewing applications to export and reexport items on the U.S. Munitions List. (See 22 CFR parts 120 through 130.)

Dual use. Items that have both commercial and military or proliferation applications. While this term is used informally to describe items that are subject to the EAR, purely commercial items and certain munitions items listed on the Wassenaar Arrangement Munitions List (WAML) or the Missile Technology Control Regime Annex are also subject to the EAR (see § 734.2(a) of the EAR).

Dynamic adaptive routing. (Cat 5)—Automatic rerouting of traffic based on sensing and analysis of current actual network conditions.

NOTE: This does not include cases of routing decisions taken on predefined information.

Effective control. You maintain effective control over an item when you either retain physical possession of the item, or secure the item in such an environment as a hotel safe, a bonded warehouse, or a locked or guarded exhibition facility. Retention of effective control over an item is a condition of certain temporary exports and reexports.

Electronic assembly. (Cat 4) means a number of electronic components (i.e., 'circuit elements', 'discrete components', integrated circuits, etc.) connected together to perform (a) specific function(s), replaceable as an entity and normally capable of being disassembled.

Technical Notes: 1. 'Circuit element': a single active or passive functional part of an electronic circuit, such as one diode, one transistor, one resistor, one capacitor, etc.

2. 'Discrete component': a separately packaged 'circuit element' with its own external connections.

Encryption component. Any encryption commodity or software (except source code), including encryption chips, integrated circuits, application specific encryption toolkits, or executable or linkable modules that alone are incapable of performing complete cryptographic functions, and is designed or intended for use in or the production of another encryption item.

Encryption items. The phrase encryption items includes all encryption commodities, software, and technology that contain encryption features and are subject to the EAR. This does not include encryption items specifically designed, developed, configured, adapted or modified for military applications (including command,

control and intelligence applications) which are controlled by the Department of State on the U.S. Munitions List.

Encryption licensing arrangement. A license that allows the export of specified products to specified destinations in unlimited quantities. In certain cases, exports are limited to specified end-users for specified end-uses. Generally, reporting of all sales of the specified products is required at six month intervals. This includes sales made under distribution arrangements and distribution and warehousing agreements that were previously issued by the Department of State for encryption items.

Encryption object code. Computer programs containing an encryption source code that has been compiled into a form of code that can be directly executed by a computer to perform an encryption function.

Encryption software. Computer programs that provide capability of encryption functions or confidentiality of information or information systems. Such software includes source code, object code, applications software, or system software.

Encryption source code. A precise set of operating instructions to a computer that, when compiled, allows for the execution of an encryption function on a computer.

End-effectors. (Cat 2) Grippers, 'active tooling units' and any other tooling that is attached to the baseplate on the end of a ''robot'' manipulator arm.

TECHNICAL NOTE TO DEFINITION OF ''END-EFFECTORS'': 'Active tooling unit': a device for applying motive power, process energy or sensing to the workpiece.

End item. This is a system, equipment or assembled commodity ready for its intended use. Only ammunition, or fuel or other energy source is required to place it in an operating state. Examples of end items include ships, aircraft, computers, firearms, and milling machines.

End-user. The person abroad that receives and ultimately uses the exported or reexported items. The end-user is not a forwarding agent or intermediary, but may be the purchaser or ultimate consignee.

Energetic materials. (Cat 1) Substances or mixtures that react chemically to release energy required for their intended application. ''Explosives'', ''pyrotechnics'' and ''propellants'' are subclasses of energetic materials.

Equipment. This is a combination of parts, components, accessories, attachments, firmware, or software that operate together to perform a function of, as, or for an end item or system. Equipment may be a subset of ''end items'' based on the characteristics of the equipment. Equipment that meets the definition of an end-item is an end-item. Equipment that does not meet the definition of an end-item is a part, component, accessory, attachment, firmware, or software.

Equivalent Density. (Cat 6)—The mass of an optic per unit optical area projected onto the optical surface.

Equivalent standards. (Cat 1)—Comparable national or international standards recognized by one or more Wassenaar Arrangement Participating States and applicable to the relevant entry.

Explosives. (Cat 1)—see Annex ''List of Explosives'' located at the end of Category 1 of supplement no. 1 to part 774 ''Commerce Control List''.

Export. See § 734.13 of the EAR.

Export Administration Act (EAA). Export Administration Act of 1979, as amended, effective October 1, 1979.

Export Administration Regulations (EAR). Regulations set forth in parts 730–774, inclusive, of Title 15 of the Code of Federal Regulations.

Export Administration Review Board— The body authorized by Executive Order 12002 as amended by Executive Orders 12755 and 13286. The Export Administration Review Board's role in license application review is in accordance with Executive Order 12981 as amended by Executive Orders 13020, 13026 and 13117.

Export Control Classification Number (ECCN). The numbers used in supplement no. 1 to part 774 of the EAR and throughout the EAR. The Export Control Classification Number consists of a set of digits and a letter. Reference § 738.2(c) of the EAR for a complete description of each ECCN's composition.

Export control document. A license; application for license; any and all documents submitted in accordance with

the requirements of the EAR in support of, or in relation to, a license application; application for International Import Certificate; Delivery Verification Certificate or similar evidence of delivery; Electronic Export Information (EEI) on the Automated Export System (AES) presented in connection with shipments to any country; a Dock Receipt or bill of lading issued by any carrier in connection with any export subject to the EAR and any and all documents prepared and submitted by exporters and agents pursuant to the export clearance requirements of part 758 of the EAR; a U.S. exporter's report of request received for information, certification, or other action indicating a restrictive trade practice or boycott imposed by a foreign country against a country friendly to the United States, submitted to the U.S. Department of Commerce in accordance with the provisions of part 760 of the EAR; Customs Form 7512, Transportation Entry and Manifest of Goods, Subject to Customs Inspection and Permit, when used for Transportation and Exportation (T. & E.) or Immediate Exportation (I.E.); and any other document issued by a U.S. Government agency as evidence of the existence of a license for the purpose of loading onto an exporting carrier or otherwise facilitating or effecting an export from the United States or any reexport of any item requiring a license.

Exporter. The person in the United States who has the authority of a principal party in interest to determine and control the sending of items out of the United States.

Exporting carrier. Any instrumentality of water, land, or air transportation by which an export is effected, including any domestic air carrier on which any cargo for export is laden or carried.

Extreme Ultraviolet (EUV). Extreme Ultraviolet (EUV) means electromagnetic spectrum wavelengths greater than 5 nm and less than 124 nm.

FADEC systems. See ''full authority digital engine control systems.''

FMU—See ''flexible manufacturing unit''

Facilities. This means a building or outdoor area in which people use an item that is built, installed, produced, or developed for a particular purpose.

Fibrous or filamentary materials. (Cat 1, 2, 8 and 9)—The term ''fibrous and filamentary materials'' includes:

(a) Continuous monofilaments;

(b) Continuous yarns and rovings;

(c) Tapes, fabrics, random mats and braids;

(d) Chopped fibers, staple fibers and coherent fiber blankets;

(e) Whiskers, either monocrystalline or polycrystalline, of any length;

(f) Aromatic polyimide pulp.

Film type integrated circuit. (Cat 3)—An array of ''circuit elements'' and metallic interconnections formed by deposition of a thick or thin film on an insulating ''substrate''.

NOTE: ''Circuit element'': a single active or passive functional part of an electronic circuit, such as one diode, one transistor, one resistor, one capacitor, etc.

Financial Institution. As applied to encryption items, means any of the following:

(a) A broker, dealer, government securities broker or dealer, self-regulatory organization, investment company or investment adviser, which is regulated or supervised by the Securities and Exchange Commission or a self-regulatory organization that is registered with the Securities and Exchange Commission; or

(b) A broker, dealer, government securities broker or dealer, investment company, investment adviser, or entity that engages in securities activities that, if conducted in the United States, would be described by the definition of the term ''self-regulatory organization'' in the Securities Exchange Act of 1934, which is organized under the laws of a foreign country and regulated or supervised by a foreign securities authority; or

(c) A U.S. board of trade that is designated as a contract market by the Commodity Futures Trading Commission or a futures commission merchant that is regulated or supervised by the Commodity Futures Trading Commission; or

(d) A U.S. entity engaged primarily in the business of issuing a general purpose charge, debit, or stored value card, or a branch of, or affiliate controlled by, such an entity; or

(e) A branch or affiliate of any of the entities listed in paragraphs (a), (b), or (c) of this definition regulated or supervised by the Securities and Exchange Commission, the Commodity Futures Trading Commission, or a foreign securities authority; or

(f) An affiliate of any of the entities listed in paragraph (a), (b), (c), or (e), of this definition engaged solely in the business of providing data processing services to one or more bank or financial institutions, or a branch of such an affiliate; or

(g) A company organized and regulated under the laws of any of the United States and its branches and affiliates whose primary and predominant business activity is the writing of insurance or the reinsuring of risks; or a company organized and regulated under the laws of a foreign country and its branches and affiliates whose primary and predominant business activity is the writing of insurance or the reinsuring of risks.

Firm. A corporation, partnership, limited partnership, association, company, trust, or any other kind of organization or body corporate, situated, residing, or doing business in the United States or any foreign country, including any government or agency thereof.

Flexible manufacturing unit. (FMU), (sometimes also referred to as 'flexible manufacturing system' (FMS) or 'flexible manufacturing cell' (FMC)) (Cat 2)—An entity that includes a combination of at least:

(a) A ''digital computer'' including its own ''main storage'' and its own ''related equipment''; and

(b) Two or more of the following:

(1) A machine tool described in 2B001.c;

(2) A dimensional inspection machine described in Category 2, or another digitally controlled measuring machine controlled by an entry in Category 2;

(3) A ''robot'' controlled by an entry in Category 2 or 8;

(4) Digitally controlled equipment controlled by 1B003, 2B003, or 9B001;

(5) ''Stored program controlled'' equipment controlled by 3B001;

(6) Digitally controlled equipment controlled by 1B001;

(7) Digitally controlled electronic equipment controlled by 3A002.

Fly-by-light system. (Cat 7) A primary digital flight control system employing feedback to control the ''aircraft'' during flight, where the commands to the effectors/actuators are optical signals.

Fly-by-wire system. (Cat 7) A primary digital flight control system employing feedback to control the ''aircraft'' during flight, where the commands to the effectors/actuators are electrical signals.

Focal plane array. (Cat 6 and 8)—A linear or two-dimensional planar layer, or combination of planar layers, of individual detector elements, with or without readout electronics, that work in the focal plane.

N.B. This definition does not include a stack of single detector elements or any two, three, or four element detectors provided time delay and integration is not performed within the element.

Food. Specific to exports and reexports to North Korea, Syria, Crimea region of Ukraine, and the so-called Donetsk People's Republic and Luhansk People's Republic regions of Ukraine, food means items that are consumed by and provide nutrition to humans and animals, and seeds, with the exception of castor bean seeds, that germinate into items that will be consumed by and provide nutrition to humans and animals. (Food does not include alcoholic beverages.)

Foreign government agency. For the purposes of exemption from support documentation (see §748.9 of the EAR), a foreign government agency is defined as follows:

(a) National governmental departments operated by government-paid personnel performing governmental administrative functions; e.g. Finance Ministry, Ministry of Defense, Ministry of Health, etc. (municipal or other local government entities must submit required support documentation); or

(b) National government-owned public service entities; e.g., nationally owned railway, postal, telephone, telegraph, broadcasting, and power systems, etc. The term ''foreign government agency'' does not include government corporations, quasi-government agencies, and state enterprises engaged

in commercial, industrial, and manufacturing activities, such as petroleum refineries, mines, steel mills, retail stores, automobile manufacturing plants, airlines, or steamship lines that operate between two or more countries, etc.

Foreign person. Any natural person who is not a lawful permanent resident of the United States, citizen of the United States, or any other protected individual as defined by 8 U.S.C. 1324b(a)(3). It also means any corporation, business association, partnership, trust, society or any other entity or group that is not incorporated in the United States or organized to do business in the United States, as well as international organizations, foreign governments and any agency or subdivision of a foreign government (*e.g.*, diplomatic mission). ''Foreign person'' is synonymous with ''foreign national,'' as used in the EAR, and ''foreign person'' as used in the International Traffic in Arms Regulations (22 CFR 120.16). This definition does not apply to part 760 of the EAR (Restrictive Trade Practices or Boycotts).

Foreign policy control. A control imposed under the EAR for any and all of the following reasons: chemical and biological weapons, nuclear nonproliferation, missile technology, regional stability, crime control, anti-terrorism, United Nations sanctions, and any other reason for control implemented under section 6 of the EAA or other similar authority.

Foreign Terrorist Organizations (FTO). Any organization that is determined by the Secretary of the Treasury to be a foreign terrorist organization under notices or regulations issued by the Office of Foreign Assets Control (see 31 CFR chapter V).

Forwarding agent. The person in the United States who is authorized by a principal party in interest to perform the services required to facilitate the export of the items from the United States. This may include air couriers or carriers. In routed export transactions, the forwarding agent and the exporter may be the same for compliance purposes under the EAR.

Fractional bandwidth. (Cat 3, 5P1, 5P2)—The ''instantaneous bandwidth'' divided by the center frequency, expressed as a percentage.

Frequency hopping. (Cat 5P1, 5P2 and 6)—A form of ''spread spectrum'' in which the transmission frequency of a single communication channel is made to change by a random or pseudo-random sequence of discrete steps.

Frequency switching time. (Cat 3) The time (*i.e.*, delay) taken by a signal when switched from an initial specified output frequency, to arrive at or within any of the following:

(1) ±100 Hz of a final specified output frequency of less than 1 GHz; *or*

(2) ±0.1 part per million of a final specified output frequency equal to or greater than 1 GHz.

Front-end fabricator is the company that provides front-end fabrication services to produce an integrated circuit, creating circuits on the surface of a wafer through processes such as photolithography, etch, and deposition.

Fuel cell. (Cat 8) An electrochemical device that converts chemical energy directly into Direct Current (DC) electricity by consuming fuel from an external source.

Full Authority Digital Engine Control Systems. (''FADEC Systems'') (Cat 9) A digital electronic control system for a gas turbine engine that is able to autonomously control the engine throughout its whole operating range from demanded engine start until demanded engine shut down, in both normal and fault conditions.

Fundamental research. See §734.8 of the EAR.

Fusible. (Cat 1)—Capable of being cross-linked or polymerized further (cured) by the use of heat, radiation, catalysts, etc., or that can be melted without pyrolysis (charring).

Gate-All-Around Field-Effect Transistor (''GAAFET''). (Cat 3)—A device having a single or multiple semiconductor conduction channel element(s) with a common gate structure that surrounds and controls current in all of the semiconductor conduction channel elements. (*Note:* This definition includes nanosheet or nanowire field-effect and surrounding gate transistors and other ''GAAFET'' semiconductor channel element structures.)

GDSII (''Graphic Design System II'') (Cat 3) is a database file format for

data exchange of integrated circuit artwork or integrated circuit layout artwork.

General prohibitions. The 10 prohibitions found in part 736 of the EAR that prohibit certain exports, reexports, and other conduct, subject to the EAR, absent a license, license exception, or determination that no license is required (''NLR'').

''Government end user'' (as applied to encryption items). A government end user is any foreign central, regional or local government department, agency, or other entity performing governmental functions; including governmental research institutions, governmental corporations or their separate business units (as defined in part 772 of the EAR) which are engaged in the manufacture or distribution of items or services controlled on the Wassenaar Munitions List, and international governmental organizations. This term does not include: Utilities (including telecommunications companies and Internet service providers); banks and financial institutions; transportation; broadcast or entertainment; educational organizations (except public schools and universities); civil health and medical organizations (including public civilian hospitals); retail or wholesale firms; and manufacturing or industrial entities not engaged in the manufacture or distribution of items or services controlled on the Wassenaar Munitions List.

Hard selectors. (Cat 5P1) Data or set of data, related to an individual (*e.g.,* family name, given name, email, street address, phone number or group affiliations).

Hold Without Action (HWA). License applications may be held without action only in the limited circumstances described in §750.4(b) of the EAR. Encryption review requests may be placed on hold without action status as provided in §§740.17(d)(2) and 742.15(b)(2) of the EAR.

Hybrid computer. (Cat 4)—Equipment that can:

(a) Accept data;

(b) Process data, in both analog and digital representation; and

(c) Provide output of data.

Hybrid integrated circuit. (Cat 3)—Any combination of integrated circuit(s), or integrated circuit with ''circuit elements'' or ''discrete components'' connected together to perform (a) specific function(s), and having all of the following criteria:

(a) Containing at least one unencapsulated device;

(b) Connected together using typical IC-production methods;

(c) Replaceable as an entity; and

(d) Not normally capable of being disassembled.

NOTES: 1. ''Circuit element'': a single active or passive functional part of an electronic circuit, such as one diode, one transistor, one resistor, one capacitor, etc.

2. ''Discrete component'': a separately packaged ''circuit element'' with its own external connections.

Image enhancement. (Cat 4)—The processing of externally derived information-bearing images by algorithms such as time compression, filtering, extraction, selection, correlation, convolution or transformations between domains (e.g., fast Fourier transform or Walsh transform). This does not include algorithms using only linear or rotational transformation of a single image, such as translation, feature extraction, registration or false coloration.

Information security. (Cat 5P2, GSIN, GSN)—All the means and functions ensuring the accessibility, confidentiality or integrity of information or communications, excluding the means and functions intended to safeguard against malfunctions. This includes ''cryptography'', ''cryptographic activation'', ''cryptanalysis'', protection against compromising emanations and computer security.

TECHNICAL NOTE TO DEFINITION OF ''INFORMATION SECURITY'': 'Cryptanalysis': the analysis of a cryptographic system or its inputs and outputs to derive confidential variables or sensitive data, including clear text. (ISO 7498–2–1988 (E), paragraph 3.3.18)

Instantaneous bandwidth. (Cat 3 and 5)—The bandwidth over which output power remains constant within 3 dB without adjustment of other operating parameters.

Intent to Deny (ITD) letter. A letter informing the applicant:

(a) Of the reason for BIS's decision to deny a license application; and

(b) That the application will be denied 45 days from the date of the ITD

letter, unless the applicant provides, and BIS accepts, a reason why the application should not be denied for the stated reason. See § 750.6 of the EAR.

Interleaved Analog-to-Digital Converter (ADC). (Cat 3) Devices that have multiple ADC units that sample the same analog input at different times such that when the outputs are aggregated, the analog input has been effectively sampled and converted at a higher sampling rate.

Intermediate consignee. The person that acts as an agent for a principal party in interest for the purpose of effecting delivery of items to the ultimate consignee. The intermediate consignee may be a bank, forwarding agent, or other person who acts as an agent for a principal party in interest.

Intrinsic Magnetic Gradiometer. (Cat 6)—A single magnetic field gradient sensing element and associated electronics the output of which is a measure of magnetic field gradient. (See also ''Magnetic Gradiometer'')

Intrusion software. (5P2) ''Software'' specially designed or modified to avoid detection by 'monitoring tools', or to defeat 'protective countermeasures', of a computer or network-capable device, and performing any of the following:

(1) The extraction of data or information, from a computer or network-capable device, or the modification of system or user data; or

(2) The modification of the standard execution path of a ''program'' or process in order to allow the execution of externally provided instructions.

NOTE 1 TO ''INTRUSION SOFTWARE'' DEFINITION: ''Intrusion software'' does not include any of the following: Hypervisors, debuggers or Software Reverse Engineering (SRE) tools; Digital Rights Management (DRM) ''software''; or ''Software'' designed to be installed by manufacturers, administrators or users, for the purposes of asset tracking or recovery.

NOTE 2 TO ''INTRUSION SOFTWARE'' DEFINITION: Network-capable devices include mobile devices and smart meters.

TECHNICAL NOTE 1 TO ''INTRUSION SOFTWARE'' DEFINITION: 'Monitoring tools': ''software'' or hardware devices, that monitor system behaviors or processes running on a device. This includes antivirus (AV) products, end point security products, Personal Security Products (PSP), Intrusion Detection Systems (IDS), Intrusion Prevention Systems (IPS) or firewalls.

TECHNICAL NOTE 2 TO ''INTRUSION SOFTWARE'' DEFINITION: 'Protective countermeasures': techniques designed to ensure the safe execution of code, such as Data Execution Prevention (DEP), Address Space Layout Randomization (ASLR) or sandboxing.

Isostatic presses. (Cat 2)—Equipment capable of pressurizing a closed cavity through various media (gas, liquid, solid particles, etc.) to create equal pressure in all directions within the cavity upon a workpiece or material.

Item. ''Item'' means ''commodities, software, and technology.'' When the EAR intend to refer specifically to commodities, software, or technology, the text will use the specific reference.

Know. See ''knowledge.''

Knowledge. Knowledge of a circumstance (the term may be a variant, such as ''know,'' ''reason to know,'' or ''reason to believe'') includes not only positive knowledge that the circumstance exists or is substantially certain to occur, but also an awareness of a high probability of its existence or future occurrence. Such awareness is inferred from evidence of the conscious disregard of facts known to a person and is also inferred from a person's willful avoidance of facts. This definition does not apply to part 760 of the EAR (Restrictive Trade Practices or Boycotts).

Laser. (Cat 1, 2, 3, 5P1, 6, 7, 8 and 9)—An item that produces spatially and temporally coherent light through amplification by stimulated emission of radiation. See also: ''Chemical laser;'' ''Super High Power Laser;'' and ''Transfer laser.''

Law or regulation relating to export control. Any statute, proclamation, executive order, regulation, rule, license, or order applicable to any conduct involving an export transaction shall be deemed to be a ''law or regulation relating to export control.''

Legible or legibility. Legible and legibility mean the quality of a letter or numeral that enables the observer to identify it positively and quickly to the exclusion of all other letters or numerals.

Less sensitive government end users (as applied to encryption items and 'cybersecurity items'). The following ''government end users'' (as defined in this section) are considered ''less sensitive'' for

the purposes of License Exception ENC (§ 740.17 of the EAR) and License Exception ACE (§ 740.22 of the EAR):

(1) Local/state/provincial ''government end users'' (departments, agencies, and entities), including local/state/provincial executive, legislative, judicial, police, fire, rescue, and public safety agencies.

(2) National/federal/royal ''government end users'' (departments, agencies, and entities) providing the following civil government functions and services:

(i) Census and statistics services;

(ii) Civil public works infrastructure services (construction, maintenance, repair, regulation, and administration) as follows: Buildings, public transportation, roads and highways, trucking;

(iii) Civil service administration and regulation, including human resources and personnel/labor management;

(iv) Clean water infrastructure services (treatment, supply and testing);

(v) Economic (trade/commerce/investment), business and industrial development, promotion, regulation and administration, excluding the following end users/end uses:

(A) Agencies, departments, boards, and councils for science and technology;

(B) Research, development, and national laboratories (other than as specified in paragraphs (2)(xi) (measurements and standards services) and (2)(xii) (meteorology/weather/atmospheric services) of this definition); and

(C) National telecommunications and information technology agencies, boards, councils, and development authorities (including national information center, and Information Communications Technology (ICT)/telecommunications infrastructure/spectrum planning, policy, regulation, and testing);

(vi) Elections, balloting, and polling services;

(vii) Energy regulation and administration, including oil, gas, and mining sectors;

(viii) Environmental/natural resources regulation, administration, and protection, including wildlife, fisheries, and national parks;

(ix) Food/agriculture regulation and administration;

(x) Labor/community/social services planning, regulation, and administration, including: Housing and urban development, municipality and rural affairs;

(xi) Measurements and standards services;

(xii) Meteorology (weather, atmospheric) services;

(xiii) National archives/museums;

(xiv) Patents;

(xv) Pilgrimage and religious affairs;

(xvi) Postal services;

(xvii) Public and higher education (excluding government research institutions and any agency, institution, or affiliate engaged in the manufacture or distribution of items or services controlled on the Wassenaar Munitions List);

(xviii) Public health and medicine/pharmaceutical regulation and administration;

(xix) Public libraries;

(xx) Sports/culture (includes film, commercial broadcasting, and the arts) promotion, regulation, and administration; and

(xxi) Travel/tourism promotion, regulation, and administration.

Library. (Cat 1) (parametric technical database) A collection of technical information, reference to which may enhance the performance of the relevant systems, equipment or components.

License. Authority issued by the Bureau of Industry and Security authorizing an export, reexport, or other regulated activity. The term ''license'' does not include authority represented by a ''License Exception.''

License application; application for license. License application and similar wording mean an application to BIS requesting the issuance of a license to the applicant.

License Exception. An authorization described in part 740 of the EAR that allows you to export or reexport, under stated conditions, items subject to the EAR that otherwise would require a license. Unless otherwise indicated, these License Exceptions are not applicable to exports under the licensing jurisdiction of agencies other than the Department of Commerce.

Licensee. The person to whom a license has been issued by BIS. See

§ 750.7(c) of the EAR for a complete definition and identification of a licensee's responsibilities.

Lighter-than-air vehicles. (Cat 2 and 9) Balloons and ''airships'' that rely on hot air or on lighter-than-air gases such as helium or hydrogen for their lift.

Local area network. (Cat 4 and 5 Part 1)—A data communication system that:

(a) Allows an arbitrary number of independent 'data devices' to communicate directly with each other; and

(b) Is confined to a geographical area of moderate size (*e.g.*, office building, plant, campus, warehouse).

Technical Note to definition of ''Local area network'': 'Data device' means equipment capable of transmitting or receiving sequences of digital information.

MBTR—See ''maximum bit transfer rate''.

MTCR. See Missile Technology Control Regime.

MTEC. See Missile Technology Export Control Group.

Magnetic Gradiometers. (Cat 6)—Are designed to detect the spatial variation of magnetic fields from sources external to the instrument. They consist of multiple ''magnetometers'' and associated electronics the output of which is a measure of magnetic field gradient. (See also ''Intrinsic Magnetic Gradiometer''.)

Magnetometers. (Cat 6)—Are designed to detect magnetic fields from sources external to the instrument. They consist of a single magnetic field sensing element and associated electronics the output of which is a measure of the magnetic field.

Material. This is any list-specified crude or processed matter that is not clearly identifiable as any of the types of items defined in § 772.1 under the defined terms, ''end item,'' ''component,'' ''accessories,'' ''attachments,'' ''part,'' ''software,'' ''system, ''equipment,'' or ''facilities.'' The exclusion from the definition of material for clearly identifiable items defined in § 772.1, such as for ''parts'' and ''components,'' does not apply to the following ECCNs: 1C233, 1C234, 1C235, 1C236, 1C237, 1C239, 1C350, 1C395, 1C991, 1C992, and 1C995.

Matrix. (Cat 1, 2, 8, and 9)—A substantially continuous phase that fills the space between particles, whiskers or fibers.

Maximum bit transfer rate. (MBTR) (Cat 4)—Of solid state storage equipment: the number of data bits per second transferred between the equipment and its controller. Of a disk drive: the internal data transfer rate calculated as follows:

''MBTR'' (bits per second) = B × R × T, where:

B = Maximum number of data bits per track available to read or write in a single revolution;

R = Revolutions per second;

T = Number of tracks that can be used or written simultaneously.

Measurement uncertainty. (Cat 2) The characteristic parameter that specifies in what range around the output value the correct value of the measurable variable lies with a confidence level of 95%. It includes the uncorrected systematic deviations, the uncorrected backlash, and the random deviations (Ref.: ISO 10360–2).

Media access unit. (Cat 5)—Equipment that contains one or more communication interfaces (''network access controller'', ''communications channel controller'', modem or computer bus) to connect terminal equipment to a network.

Medical devices. For purposes of the EAR, medical devices are ''devices'' as defined in section 201 of the Federal Food, Drug, and Cosmetic Act (21 U.S.C. 321) including medical supplies, instruments, equipment, equipped ambulances, institutional washing machines for sterilization, and vehicles with medical testing equipment. Note that certain component parts and spares to be exported for incorporation into medical devices are on the Commerce Control List. Only items meeting the definition of ''medical device'' and that are classified as EAR99 are eligible for export to Iran and under the licensing procedures set forth in the appropriate regulations promulgated and administered by Treasury's Office of Foreign Assets Control.

Medicines. Medicines means ''drug'' as defined in section 201 of the Federal Food, Drug and Cosmetic Act (21 U.S.C. 321). For purposes of the EAR, medicines includes prescription and over

the counter medicines for humans and animals. Note that certain medicines, such as vaccines and immunotoxins, are on the Commerce Control List. Only items meeting the definition of ''medicine'' and that are classified as EAR99 are eligible for export to Iran and under the licensing procedures set forth in the appropriate regulations promulgated and administered by Treasury's Office of Foreign Assets Control.

Metal embrittlement agents. (Cat. 0)—Non-lethal weapon substances that alter the crystal structure of metals within a short time span. Metal embrittlement agents severely weaken metals by chemically changing their molecular structure. These agents are compounded in various substances to include adhesives, liquids, aerosols, foams, and lubricants.

Microcomputer microcircuit. (Cat 3) means a ''monolithic integrated circuit'' or ''multichip integrated circuit'' containing an arithmetic logic unit (ALU) capable of executing a series of general purpose instructions from an internal storage, on data contained in the internal storage.

TECHNICAL NOTE 1: The ''microprocessor microcircuit'' normally does not contain integral user-accessible storage, although storage present on-the-chip may be used in performing its logic function.

TECHNICAL NOTE 2: The internal storage may be augmented by an external storage.

NOTE: This definition includes chip sets which are designed to operate together to provide the function of a ''microprocessor microcircuit.''

Microorganisms. (Cat 1 and 2) means bacteria, viruses, mycoplasms, rickettsiae, chlamydiae or fungi, whether natural, enhanced or modified, either in the form of isolated live cultures or as material including living material which has been deliberately inoculated or contaminated with such cultures.

Microprocessor microcircuit. (Cat 3)—A ''monolithic integrated circuit'' or ''multichip integrated circuit'' containing an arithmetic logic unit (ALU) capable of executing a series of general purpose instructions from an external storage.

N.B. 1: The ''microprocessor microcircuit'' normally does not contain integral user-accessible storage, although storage present on-the-chip may be used in performing its logic function.

N.B. 2: This definition includes chip sets that are designed to operate together to provide the function of a ''microprocessor microcircuit''.

Microprogram. (Cat 4 and 5)—A sequence of elementary instructions, maintained in a special storage, the execution of which is initiated by the introduction of its reference instruction into an instruction register.

Military commodity. As used in §734.4(a)(5), supplement no. 1 to part 738 (footnote No. 3), §§740.2(a)(11), 740.16(a)(2), 740.16(b)(2), 742.6(a)(3), 744.9(a)(2), 744.9(b), ECCN 0A919 and (*Related Controls*) in ''600 series'' ECCNs, ''military commodity'' or ''military commodities'' means an article, material, or supply that is described on the U.S. Munitions List (22 CFR Part 121) or on the Munitions List that is published by the Wassenaar Arrangement on Export Controls for Conventional Arms and Dual-Use Goods and Technologies, but does not include software, technology and any item listed in any ECCN for which the last three numerals are 018 or any item in the ''600 series.''

Missile Technology Control Regime (MTCR). The United States and other nations in this multilateral control regime have agreed to guidelines for restricting the export and reexport of dual-use items that may contribute to the development of missiles. The MTCR Annex lists missile-related equipment and technology controlled either by the Department of Commerce's Bureau of Industry and Security—Export Administration Regulations (15 CFR Parts 730 through 799) or by the Department of State's Directorate of Defense Trade Controls—International Traffic in Arms Regulations (22 CFR Parts 120 through 130).

Missile Technology Export Control Group (MTEC). Chaired by the Department of State, the MTEC primarily reviews applications involving items controlled for Missile Technology (MT) reasons. The MTEC also reviews applications involving items not controlled for MT reasons, but destined for a country and/or end-use/end-user of concern.

''*Missiles*''. (All) Rocket systems (including ballistic missiles, space launch vehicles, and sounding rockets) and unmanned aerial vehicle systems (including cruise missiles, target drones, and reconnaissance drones) ''capable of'' delivering at least 500 kilograms payload to a range of at least 300 kilometers. See §746.3 for definition of a ''ballistic missile'' to be exported or reexported to Iraq or transferred within Iraq.

''*MMIC*''. (Cat 3 and 5) See ''Monolithic Microwave Integrated Circuit''

Model Weights. See ECCN 4E091 (supplement no. 1 to part 774).

Monolithic integrated circuit. (Cat 3)—A combination of passive or active ''circuit elements'' or both that:

(a) Are formed by means of diffusion processes, implantation processes or deposition processes in or on a single semiconducting piece of material, a so-called 'chip';

(b) Can be considered as indivisibly associated; and

(c) Perform the function(s) of a circuit.

NOTE: ''Circuit element'': a single active or passive functional part of an electronic circuit, such as one diode, one transistor, one resistor, one capacitor, etc.

''*Monolithic Microwave Integrated Circuit*'' (''*MMIC*'') (Cat 3, 5P1 and 9) is a ''monolithic integrated circuit'' that operates at microwave or millimeter wave frequencies.

Monospectral imaging sensors. (Cat 6) are capable of acquisition of imaging data from one discrete spectral band.

More sensitive government end users (as applied to encryption items and 'cybersecurity items'). The following national/federal/royal (departments, agencies, and entities) ''government end users'' (as defined in this section) providing the following government functions and services, are considered ''more sensitive'' for the purposes of License Exception ENC (§ 740.17 of the EAR) and License Exception ACE (§ 740.22 of the EAR):

(1) Agencies, departments, boards, and councils for science and technology (including research, development, and state/national laboratories, but not including measurements and standards);

(2) Currency and monetary authorities (including departments and offices of the national/federal/royal reserve);

(3) Executive agents of state (including offices of president/vice president/prime minister, royal courts, national security councils, cabinet/council of ministers/supreme councils/executive councils, crown princes and other deputies of the rulers, departments and offices of political/constitutional/mainland affairs);

(4) Legislative bodies responsible for the enactment of laws;

(5) Import/export control, customs and immigration agencies, and entities;

(6) Intelligence agencies and entities;

(7) Judiciary (including supreme courts and other national/federal/regional/royal high courts and tribunals);

(8) Maritime, port, railway, and airport authorities;

(9) Military and armed services (including national guard, coast guard, security bureaus, and paramilitary);

(10) Ministries, departments, and garrisons of defense (including defense technology agencies);

(11) Ministries and departments of finance and taxation (including national/federal/royal budget and revenue authorities);

(12) Ministries and departments of foreign affairs/foreign relations/consulates/embassies;

(13) Ministries of interior, internal/home/mainland affairs, and homeland security;

(14) State/national telecommunications and information technology agencies, boards, councils, and development authorities (including national information/critical infrastructure data centers, and Information and Communications Technology (ICT)/telecommunications infrastructure/spectrum planning, policy, regulation, and testing);

(15) Police, investigation and other law enforcement agencies, and entities (including digital crime/cybercrime/computer forensics, counter narcotics/counter terrorism/counter proliferation agencies);

(16) Prisons; and

(17) Public safety agencies and entities (including national/federal/royal

agencies and departments of civil defense, emergency management, and first responders).

Motion control board. (Cat 2)—An electronic ''assembly'' specially designed to provide a computer system with the capability to coordinate simultaneously the motion of axes of machine tools for ''contouring control''.

Multichip integrated circuit. (Cat 3)—Two or more ''monolithic integrated circuits'' bonded to a common ''substrate''.

Multi-data-stream processing. (Cat 4)—The ''microprogram'' or equipment architecture technique that permits simultaneous processing of two or more data sequences under the control of one or more instruction sequences by means such as:

(a) Single Instruction Multiple Data (SIMD) architectures such as vector or array processors;

(b) Multiple Single Instruction Multiple Data (MSIMD) architectures;

(c) Multiple Instruction Multiple Data (MIMD) architectures, including those that are tightly coupled, closely coupled or loosely coupled; or

(d) Structured arrays of processing elements, including systolic arrays.

Multiple channel Analog-to-Digital Converter (ADC). (Cat 3) Devices that integrate more than one ADC, designed so that each ADC has a separate analog input.

Multispectral Imaging Sensors. (Cat 6)—Are capable of simultaneous or serial acquisition of imaging data from two or more discrete spectral bands. Sensors having more than twenty discrete spectral bands are sometimes referred to as hyperspectral imaging sensors.

N.E.S. N.E.S or n.e.s. is an abbreviation meaning ''not elsewhere specified''.

NATO (North Atlantic Treaty Organization). A strategic defensive organization that consists of the following member nations: Albania, Belgium, Bulgaria, Canada, Croatia, Czech Republic, Denmark, Estonia, France, Germany, Greece, Hungary, Iceland, Italy, Latvia, Lithuania, Luxembourg, the Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Turkey, the United Kingdom, and the United States.

NLR. NLR (''no license required'') is a symbol entered on the Electronic Export Information filing on the Automated Export System certifying that no license is required.

NSG. See Nuclear Suppliers Group.

Natural uranium. (Cat 0) means uranium containing the mixtures of isotopes occurring in nature.

Net value. The actual selling price, less shipping charges or current market price, whichever is the larger, to the same type of purchaser in the United States.

Network Access Controller. (Cat 4)—A physical interface to a distributed switching network. It uses a common medium which operates throughout at the same ''digital transfer rate'' using arbitration (e.g., token or carrier sense) for transmission. Independently from any other, it selects data packets or data groups (e.g., IEEE 802) addressed to it. It is an assembly that can be integrated into computer or telecommunications equipment to provide communications access.

Non-standard cryptography. Means any implementation of ''cryptography'' involving the incorporation or use of proprietary or unpublished cryptographic functionality, including encryption algorithms or protocols that have not been adopted or approved by a duly recognized international standards body (e.g., IEEE, IETF, ISO, ITU, ETSI, 3GPP, TIA, and GSMA) and have not otherwise been published.

Nuclear reactor. (Cat 0 and 2) includes the items within or attached directly to the reactor vessel, the equipment which controls the level of power in the core, and the components which normally contain, come into direct contact with or control the primary coolant of the reactor core.

Nuclear Suppliers Group (NSG). The United States and other nations in this multilateral control regime have agreed to guidelines for restricting the export or reexport of items with nuclear applications. Members include: Argentina, Australia, Austria, Belarus, Belgium, Brazil, Bulgaria, Canada, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Japan, Kazakhstan, Latvia,

Lithuania, Luxembourg, Malta, Mexico, the Netherlands, New Zealand, Norway, People's Republic of China, Poland, Portugal, Republic of Korea, Romania, Russia, Serbia, Slovak Republic, Slovenia, South Africa, Spain, Sweden, Switzerland, Turkey, Ukraine, the United Kingdom, and the United States. See also §742.3 of the EAR.

Numerical control. (Cat 2)—The automatic control of a process performed by a device that makes use of numeric data usually introduced as the operation is in progress (Ref. ISO 2382).

''*Object code*''. (or object language) (GSN)—An equipment executable form of a convenient expression of one or more processes (''source code'' (or source language)) that has been compiled by a programming system. (See also ''source code'')

Office of Foreign Assets Control (FAC) or (OFAC). The office at the Department of the Treasury responsible for blocking assets of foreign countries subject to economic sanctions, controlling participation by U.S. persons, including foreign subsidiaries, in transactions with specific countries or nationals of such countries, and administering embargoes on certain countries or areas of countries. (See 31 CFR parts 500 through 590.)

Open cryptographic interface. A mechanism which is designed to allow a customer or other party to insert cryptographic functionality without the intervention, help or assistance of the manufacturer or its agents, e.g., manufacturer's signing of cryptographic code or proprietary interfaces. If the cryptographic interface implements a fixed set of cryptographic algorithms, key lengths or key exchange management systems, that cannot be changed, it will not be considered an ''open'' cryptographic interface. All general application programming interfaces (e.g., those that accept either a cryptographic or non-cryptographic interface but do not themselves maintain any cryptographic functionality) will not be considered ''open'' cryptographic interfaces.

Operate autonomously. (Cat 8)—Fully submerged, without snorkel, all systems working and cruising at minimum speed at which the submersible can safely control its depth dynamically by using its depth planes only, with no need for a support vessel or support base on the surface, sea-bed or shore, and containing a propulsion system for submerged or surface use.

Operating Committee (OC). The OC voting members include representatives of appropriate agencies in the Departments of Commerce, State, Defense, Justice (for encryption exports), and Energy and the Arms Control and Disarmament Agency. The appropriate representatives of the Joint Chiefs of Staff and the Director of the Nonproliferation Center of the Central Intelligence Agency are non-voting members. The Department of Commerce representative, appointed by the Secretary, is the Chair of the OC and serves as the Executive Secretary of the Advisory Committee on Export Policy. The OC may invite representatives of other Government agencies or departments (other than those identified in this definition) to participate in the activities of the OC when matters of interest to such agencies or departments are under consideration.

Operations, Administration or Maintenance (''OAM''). (Cat 5P2) Means performing one or more of the following tasks:

(a) Establishing or managing any of the following:

(1) Accounts or privileges of users or administrators;

(2) Settings of an item; or

(3) Authentication data in support of the tasks described in paragraphs (a)(1) or (2) of this definition;

(b) Monitoring or managing the operating condition or performance of an item; or

(c) Managing logs or audit data in support of any of the tasks described in paragraphs (a) or (b) of this definition.

NOTE TO DEFINITION OF ''OPERATIONS, ADMINISTRATION OR MAINTENANCE'': ''OAM'' does not include any of the following tasks or their associated key management functions:

a. Provisioning or upgrading any cryptographic functionality that is not directly related to establishing or managing authentication data in support of the tasks described in paragraphs (a)(1) or (2) of this definition; or

b. Performing any cryptographic functionality on the forwarding or data plane of an item.

Optical integrated circuit. (Cat 3)—A ''monolithic integrated circuit'' or a ''hybrid integrated circuit'', containing one or more parts designed to function as photosensor or photoemitter or to perform (an) optical or (an) electro-optical function(s).

Optical switching. (Cat 5)—The routing of or switching of signals in optical form without conversion to electrical signals.

Order Party. The person in the United States who conducted the direct negotiations or correspondence with the foreign purchaser or ultimate consignee and who, as a result of these negotiations, received the order from the foreign purchaser or ultimate consignee.

Organization for the Prohibition of Chemical Weapons (OPCW). Means the international organization, located in The Hague, Netherlands, that administers the Chemical Weapons Convention.

Other party authorized to receive license. The person authorized by the applicant to receive the license. If a person and address is listed in Block 15 of the application, the Bureau of Industry and Security will send the license to that person instead of the applicant. Designation of another party to receive the license does not alter the responsibilities of the applicant, licensee or exporter.

Outsourced Semiconductor Assembly and Test (OSAT) is a company that provides third-party manufacturing and testing services to semiconductor businesses. OSAT companies are responsible for assembling, packaging, and testing integrated circuits and other semiconductor devices.

Overall current density. (Cat 3)—The total number of ampere-turns in the coil (i.e., the sum of the number of turns multiplied by the maximum current carried by each turn) divided by the total cross-section of the coil (comprising the superconducting filaments, the metallic matrix in which the superconducting filaments are embedded, the encapsulating material, any cooling channels, etc.).

Part. This is any single unassembled element of a ''component,'' ''accessory,'' or ''attachment'' which is not normally subject to disassembly without the destruction or the impairment of design use. Examples include threaded fasteners (e.g., screws, bolts, nuts, nut plates, studs, inserts), other fasteners (e.g., clips, rivets, pins), common hardware (e.g., washers, spacers, insulators, grommets, bushings), springs and wire.

Part program. (Cat. 2)—An ordered set of instructions that is in a language and in a format required to cause operations to be effected under automatic control and that is either written in the form of a machine program on an input medium or prepared as input data for processing in a computer to obtain a machine program (Ref. ISO 2806–1980).

Payload. (MTCR context)—The total mass that can be carried or delivered by the specified rocket system or unmanned aerial vehicle (UAV) system that is not used to maintain flight.

NOTE: The particular equipment, subsystems, or components to be included in the ''payload'' depends on the type and configuration of the vehicle under construction.

TECHNICAL NOTES: a. Ballistic Missiles

1. ''Payload'' for systems with separating re-entry vehicles (RVs) includes:

i. The RVs, including:

A. Dedicated guidance, navigation, and control equipment;

B. Dedicated countermeasures equipment;

ii. Munitions of any type (e.g., explosive or non-explosive);

iii. Supporting structures and deployment mechanisms for the munitions (e.g., hardware used to attach to, or separate the RV from, the bus/post-boost vehicle) that can be removed without violating the structural integrity of the vehicle;

iv. Mechanisms and devices for safing, arming, fuzing, or firing;

v. Any other countermeasures equipment (e.g., decoys, jammers, or chaff dispensers) that separate from the RV bus/post-boost vehicle;

vi. The bus/post-boost vehicle or attitude control/velocity trim module not including systems/subsystems essential to the operation of other stages.

2. ''Payload'' for systems with non-separating re-entry vehicles includes:

i. Munitions of any type (e.g., explosive or non-explosive);

ii. Supporting structures and deployment mechanisms for the munitions that can be removed without violating the structural integrity of the vehicle;

iii. Mechanisms and devices for safing, arming, fuzing or firing;

iv. Any countermeasures equipment (e.g., decoys, jammers, or chaff dispensers) that can be removed without violating the structural integrity of the vehicle.

b. Space Launch Vehicles—''Payload'' includes:

1. Spacecraft (single or multiple), including satellites;

2. Spacecraft-to-launch vehicle adapters including, if applicable, apogee/perigee kick motors or similar maneuvering systems and separation systems;

c. Sounding Rockets—''Payload'' includes:

1. Equipment required for a mission, such as data gathering, recording or transmitting devices for mission-specific data;

2. Recovery equipment (e.g., parachutes) that can be removed without violating the structural integrity of the vehicle.

d. Cruise Missiles—''Payload'' includes:

1. Munitions of any type (e.g., explosive or non-explosive);

2. Supporting structures and mechanisms for the munitions that can be removed without violating the structural integrity of the vehicle;

3. Mechanisms and devices for safing, arming, fuzing or firing;

4. Countermeasures equipment (e.g., decoys, jammers or chaff dispensers) that can be removed without violating the structural integrity of the vehicle;

5. Signature alteration equipment that can be removed without violating the structural integrity of the vehicle;

e. Other UAVs—''Payload'' includes:

1. Munitions of any type (e.g., explosive or non-explosive);

2. Mechanisms and devices for safing, arming, fuzing or firing;

3. Countermeasures equipment (e.g., decoys, jammers or chaff dispensers) that can be removed without violating the structural integrity of the vehicle;

4. Signature alteration equipment that can be removed without violating the structural integrity of the vehicle;

5. Equipment required for a mission such as data gathering, recording or transmitting devices for mission-specific data and supporting structures that can be removed without violating the structural integrity of the vehicle;

6. Recovery equipment (e.g., parachutes) that can be removed without violating the structural integrity of the vehicle;

7. Munitions supporting structures and deployment mechanisms that can be removed without violating the structural integrity of the vehicle.

Peak power. (Cat 6)—The highest power attained in the ''pulse duration.''

Person. A natural person, including a citizen or national of the United States or of any foreign country; any firm; any government, government agency, government department, or government commission; any labor union; any fraternal or social organization; and any other association or organization whether or not organized for profit. This definition does not apply to part 760 of the EAR (Restrictive Trade Practices or Boycotts).

Personal area network (Cat 5 Part 2)—A data communication system having all of the following characteristics:

(1) Allows an arbitrary number of independent or interconnected 'data devices' to communicate directly with each other; and

(2) Is confined to the communication between devices within the immediate physical vicinity of an individual person or device controller (*e.g.*, single room, office, or automobile).

TECHNICAL NOTES:

1. 'Data device' means equipment capable of transmitting or receiving sequences of digital information.

2. The ''local area network'' extends beyond the geographical area of the ''personal area network''.

Port of export. The port where the cargo to be shipped abroad is laden aboard the exporting carrier. It includes, in the case of an export by mail, the place of mailing.

Principal element. (Cat 4)—An element is a ''principal element'' when its replacement value is more than 35% of the total value of the system of which it is an element. Element value is the price paid for the element by the manufacturer of the system, or by the system integrator. Total value is the normal international selling price to unrelated parties at the point of manufacture or consolidation of shipment.

Principal parties in interest. Those persons in a transaction that receive the primary benefit, monetary or otherwise, of the transaction. Generally, the principals in a transaction are the seller and the buyer. In most cases, the forwarding or other agent is not a principal party in interest.

Production. (General Technology Note) (All Categories)—Means all production stages, such as: product engineering, manufacture, integration, assembly (mounting), inspection, testing, quality assurance.

Production equipment. (MTCR context)—Tooling, templates, jigs, mandrels, moulds, dies, fixtures, alignment mechanisms, test equipment, other machinery and components therefor, limited to those specially designed or modified for ''development'' or for one or more phases of ''production''.

Production Facilities. (MTCR Context only). (Cat 7 and 9)—Means ''production equipment'' and specially designed ''software'' therefor integrated into installations for ''development'' or for one or more phases of ''production''.

Program. (Cat 1, 4, 6, and 7)—A sequence of instructions to carry out a process in, or convertible into, a form executable by an electronic computer.

Proof test. (Cat 5)—On-line or off-line production screen testing that dynamically applies a prescribed tensile stress over a 0.5 to 3 m length of fiber at a running rate of 2 to 5 m/s while passing between capstans approximately 150 mm in diameter. The ambient temperature is a nominal 293 K (20 °C) and relative humidity 40%.

NOTE: Equivalent national standards for executing the ''proof test'' may be used.

Proscribed person. A person who is prohibited from receiving the items at issue or participating in a transaction that is subject to the EAR without authorization under the EAR, such as persons on the Entity List or denied persons.

Publicly available encryption software. See § 742.15(b) of the EAR.

Published. See § 734.7 of the EAR.

Pulse compression. (Cat 6)—The coding and processing of a radar signal pulse of long time duration to one of short time duration, while maintaining the benefits of high pulse energy.

Pulse duration. (Cat 6)—Duration of a ''laser'' pulse is the time between the half-power points on the leading edge and trailing edge of an individual pulse.

Pulsed Laser. (Cat 6)—A pulsed ''laser'' is defined as having a ''pulse duration'' that is less than or equal to 0.25 seconds.

Purchaser. The person abroad who has entered into a transaction to purchase an item for delivery to the ultimate consignee. In most cases, the purchaser is not a bank, forwarding agent, or intermediary. The purchaser and ultimate consignee may be the same entity.

Pyrotechnic(s). (Cat 1) Mixtures of solid or liquid fuels and oxidizers which, when ignited, undergo an energetic chemical reaction at a controlled rate intended to produce specific time delays, or quantities of heat, noise, smoke, visible light or infrared radiation. Pyrophorics are a subclass of pyrotechnics, which contain no oxidizers but ignite spontaneously on contact with air.

Quantum cryptography. (Cat 5P2) A family of techniques for the establishment of a shared key for ''cryptography'' by measuring the quantum-mechanical properties of a physical system (including those physical properties explicitly governed by quantum optics, quantum field theory, or quantum electrodynamics).

RWA. See Return Without Action.

Radar frequency agility. (Cat 6)—Any technique that changes, in a pseudo-random sequence, the carrier frequency of a pulsed radar transmitter between pulses or between groups of pulses by an amount equal to or larger than the pulse bandwidth.

Radar spread spectrum. (Cat 6)—Any modulation technique for spreading energy originating from a signal with a relatively narrow frequency band, over a much wider band of frequencies, by using random or pseudo-random coding.

Radiant sensitivity (Cat 6)—Radiant sensitivity (mA/W) = 0.807 × (wavelength in nm) × 'Quantum Efficiency (QE)'.

TECHNICAL NOTE: 'QE' is usually expressed as a percentage; however, for the purposes of this formula 'QE' is expressed as a decimal number less than one, e.g., 78% is 0.78.

Range. (Cat 8)—Half the maximum distance a submersible vehicle can cover.

Range. (MTCR context)—The maximum distance that the specified rocket system or unmanned aerial vehicle (UAV) system is capable of traveling in the mode of stable flight as measured by the projection of its trajectory over the surface of the Earth.

TECHNICAL NOTES: a. The maximum capability based on the design characteristics of the system, when fully loaded with fuel or propellant, will be taken into consideration in determining ''range''.

b. The ''range'' for both rocket systems and UAV systems will be determined independently of any external factors such as operational restrictions, limitations imposed by telemetry, data links or other external constraints.

c. For rocket systems, the ''range'' will be determined using the trajectory that maximizes ''range'', assuming ICAO standard atmosphere with zero wind.

d. For UAV systems, the ''range'' will be determined for a one-way distance using the most fuel-efficient flight profile (e.g. cruise speed and altitude), assuming ICAO standard atmosphere with zero wind.

Readable or readability. Readable and readability mean the quality of a group of letters or numerals being recognized as complete words or numbers.

''*Real-time Processing*''. (Cat 2, 4, and 6) The processing of data by a computer system providing a required level of service, as a function of available resources, within a guaranteed response time, regardless of the load of the system, when stimulated by an external event.

Reasons for Control. Reasons for Control are: Anti-Terrorism (AT), Chemical & Biological Weapons (CB), Chemical Weapons Convention (CW), Crime Control (CC), Encryption Items (EI), Firearms Convention (FC), Missile Technology (MT), National Security (NS), Nuclear Nonproliferation (NP), Regional Stability (RS), Short Supply (SS), Significant Items (SI), Surreptitious Listening (SL) and United Nations sanctions (UN). Items controlled within a particular ECCN may be controlled for more than one reason.

Recoverable commodities and software. As applied to encryption items, means any of the following:

(a) A stored data product containing a recovery feature that, when activated, allows recovery of the plaintext of encrypted data without the assistance of the end-user; or

(b) A product or system designed such that a network administrator or other authorized persons who are removed from the end-user can provide law enforcement access to plaintext without the knowledge or assistance of the end-user. This includes, for example, products or systems where plaintext exists and is accessible at intermediate points in a network or infrastructure system, enterprise-controlled recovery systems, and products which permit recovery of plaintext at the server where a system administrator controls or can provide recovery of plaintext across an enterprise.

NOTE TO THIS DEFINITION: ''Plaintext'' indicates that data that is initially received by or presented to the recoverable product before encryption takes place.

Reexport. See § 734.14 of the EAR.

Release. See § 734.15 of the EAR.

Repeatability. (Cat 7)—The closeness of agreement among repeated measurements of the same variable under the same operating conditions when changes in conditions or non-operating periods occur between measurements. (Reference: IEEE STD 528–2001 (one sigma standard deviation))

Repeatability. (MTCR Context only) (Cat 7)—According to IEEE Standard for Inertial Sensor Terminology 528–2001 in the Definitions section paragraph 2.214 titled repeatability (gyro, accelerometer) as follows: ''The closeness of agreement among repeated measurements of the same variable under the same operating conditions when changes in conditions or non-operating periods occur between measurements.''

Replacement license. An authorization by the Bureau of Industry and Security revising the information, conditions, or riders stated on a license issued by BIS. See § 750.7 of the EAR.

Required. (General Technology Note)—As applied to ''technology'' or ''software,'' refers to only that portion of ''technology'' or ''software'' which is peculiarly responsible for achieving or exceeding the controlled performance levels, characteristics or functions. Such ''required'' ''technology'' or ''software'' may be shared by different products. For example, assume product ''X'' is controlled on the CCL if it operates at or above 400 MHz and is not controlled if it operates below 400 MHz. If production technologies ''A,'' ''B,'' and ''C'' allow production at no more than 399 MHz, then technologies ''A,'' ''B,'' and ''C'' are not ''required'' to produce the controlled product ''X''. If technologies ''A,'' ''B,'' ''C,'' ''D,'' and

''E'' are used together, a manufacturer can produce product ''X'' that operates at or above 400 MHz. In this example, technologies ''D'' and ''E'' are peculiarly responsible for making the controlled product and are thus ''required'' technology under the General Technology Note. (See the General Technology Note.)

NOTE 1 TO THE DEFINITION OF REQUIRED: The ITAR and the EAR often divide within each set of regulations or between each set of regulations:

(a) Controls on parts, components, accessories, attachments, and software; and

(b) Controls on the end items, systems, equipment, or other items into which those parts, components, accessories, attachments, and software are to be installed or incorporated.

NOTE 2 TO THE DEFINITION OF REQUIRED: The references to ''characteristics'' and ''functions'' are not limited to entries on the CCL that use specific technical parameters to describe the scope of what is controlled. The ''characteristics'' and ''functions'' of an item listed are, absent a specific regulatory definition, a standard dictionary's definition of the item. For example, ECCN 9A610.a controls military aircraft specially designed for a military use that are not enumerated in USML paragraph VIII(a). No performance level is identified in the entry, but the control characteristic of the aircraft is that it is specially designed ''for military use.'' Thus, any technology, regardless of significance, peculiar to making an aircraft ''for military use'' as opposed to, for example, an aircraft controlled under ECCN 9A991.a, would be technical data ''required'' for an aircraft specially designed for military use thus controlled under ECCN 9E610.

NOTE 3 TO THE DEFINITION OF REQUIRED: Unclassified technology not specifically enumerated on the USML is ''subject to the EAR'' if it is ''*required*'' for the ''development,'' ''production,'' ''use,'' operation, installation, maintenance, repair, overhaul, or refurbishing (or other terms specified in ECCNs on the CCL that control ''technology'') of a commodity or software that is subject to the EAR. Thus, for example, if unclassified technology not specifically enumerated on the USML is ''required'' for the development or production of a 9A610.x aircraft component that is to be integrated or installed in a USML VIII(a) aircraft, then the ''technology'' is controlled under ECCN 9E610, not USML VIII(i). Conversely, technical data directly related to, for example, the development or production of a component subject to the ITAR does not become subject to the EAR merely because it is developed or produced with equipment subject to the EAR.

Return Without Action (RWA). An application may be RWA'd for one of the following reasons:

(a) The applicant has requested the application be returned;

(b) A License Exception applies;

(c) The items are not under Department of Commerce jurisdiction;

(d) Required documentation has not been submitted with the application; or

(e) The applicant cannot be reached after several attempts to request additional information necessary for processing of the application.

Robot. (Cat 2 and 8)—A manipulation mechanism, which may be of the continuous path or of the point-to-point variety, may use ''sensors'', and has all the following characteristics:

(a) Is multifunctional;

(b) Is capable of positioning or orienting material, parts, tools or special devices through variable movements in a three dimensional space;

(c) Incorporates three or more closed or open loop servo-devices that may include stepping motors; and

(d) Has ''user-accessible programmability'' by means of teach/playback method or by means of an electronic computer that may be a programmable logic controller, i.e., without mechanical intervention.

NOTE: This definition does not include the following devices:

(a) Manipulation mechanisms that are only manually/teleoperator controllable;

(b) Fixed sequence manipulation mechanisms that are automated moving devices, operating according to mechanically fixed programmed motions. The program is mechanically limited by fixed stops, such as pins or cams. The sequence of motions and the selection of paths or angles are not variable or changeable by mechanical, electronic or electrical means;

(c) Mechanically controlled variable sequence manipulation mechanisms that are automated moving devices, operating according to mechanically fixed programmed motions. The program is mechanically limited by fixed, but adjustable stops, such as pins or cams. The sequence of motions and the selection of paths or angles are variable within the fixed program pattern. Variations or modifications of the program pattern (e.g., changes of pins or exchanges of cams) in one or more motion axes are accomplished only through mechanical operations;

(d) Non-servo-controlled variable sequence manipulation mechanisms that are automated moving devices, operating according

to mechanically fixed programmed motions. The program is variable, but the sequence proceeds only by the binary signal from mechanically fixed electrical binary devices or adjustable stops;

(e) Stacker cranes defined as Cartesian coordinate manipulator systems manufactured as an integral part of a vertical array of storage bins and designed to access the contents of those bins for storage or retrieval.

Routed export transaction. A transaction where the foreign principal party in interest authorizes a U.S. forwarding or other agent to facilitate export of items from the United States.

Run-out. (out-of-true running) (Cat 2)—Radial displacement in one revolution of the main spindle measured in a plane perpendicular to the spindle axis at a point on the external or internal revolving surface to be tested (Ref.: ISO 230 Part 1–1986, paragraph 5.61).

SHPL. (Cat 6) is equivalent to ''Super High Power Laser'', see definition for ''super high power laser.''

SNEC. See Subgroup on Nuclear Export Coordination.

Sample rate. (Cat 3) For an Analog-to-Digital Converter (ADC) the maximum number of samples that are measured at the analog input over a period of one second, except for oversampling ADCs. For oversampling ADCs the ''sample rate'' is taken to be its output word rate. ''Sample rate'' may also be referred to as sampling rate, usually specified in Mega Samples Per Second (MSPS) or Giga Samples Per Second (GSPS), or conversion rate, usually specified in Hertz (Hz).

Satellite navigation system (Cat 5P2, 7)—A system consisting of ground stations, a constellation of satellites, and receivers, that enables receiver locations to be calculated on the basis of signals received from the satellites. It includes Global Navigation Satellite Systems (GNSS) and Regional Navigation Satellite Systems (RNSS).

Scale factor. (gyro or accelerometer) (Cat 7)—The ratio of change in output to a change in the input intended to be measured. Scale factor is generally evaluated as the slope of the straight line that can be fitted by the method of least squares to input-output data obtained by varying the input cyclically over the input range.

Schedule B numbers. The commodity numbers appearing in the current edition of the Bureau of the Census publication, Schedule B Statistical Classification of Domestic and Foreign Commodities Exported from the United States. (See part 758 of the EAR for information on use of Schedule B numbers.)

Shield. Chaired by the Department of State, the Shield primarily reviews applications involving items controlled for Chemical and Biological Weapons (CBW) reasons. The Shield also reviews applications involving items not controlled for CBW reasons, but destined for a country and/or end-use/end-user of concern. See § 750.4 of the EAR.

Signal analyzers. (Cat 3)—Apparatus capable of measuring and displaying basic properties of the single-frequency components of multi-frequency signals.

Signal processing. (Cat 3, 4, 5, and 6)—The processing of externally derived information-bearing signals by algorithms such as time compression, filtering, extraction, selection, correlation, convolution or transformations between domains (e.g., fast Fourier transform or Walsh transform).

Single shipment. All items moving at the same time from one exporter to one consignee or intermediate consignee on the same exporting carrier, even if these items will be forwarded to one or more ultimate consignees. Items being transported in this manner shall be treated as a single shipment even if the items represent more than one order or are in separate containers.

Software. (Cat: all)—A collection of one or more ''programs'' or ''microprograms'' fixed in any tangible medium of expression.

Source code (or source language). (Cat 1, 4, 5P2, 6, 7, and 9)—A convenient expression of one or more processes that may be turned by a programming system into equipment executable form (''object code'' (or object language)).

''Space-qualified''. (Cat 3, 6, and 7) Designed, manufactured, or qualified through successful testing, for operation at altitudes greater than 100 km above the surface of the Earth.

NOTE 1: A determination that a specific item is ''space-qualified'' by virtue of testing does not mean that other items in the same production run or model series are ''space-qualified'' if not individually tested.

NOTE 2: The terms 'designed' and 'manufactured' in this definition are synonymous with ''specially designed.'' Thus, for example, an item that is ''specially designed'' for a spacecraft is deemed to be 'designed' or 'manufactured' for operation at altitudes greater than 100 km and an item that is not ''specially designed'' for a spacecraft is not deemed to have been so 'designed' or 'manufactured.'

Spacecraft. (Cat 9)—Active and passive satellites and space probes.

Spacecraft bus. (Cat 9) Equipment that provides the support infrastructure of the ''spacecraft'' and location for the ''spacecraft payload''.

Spacecraft payload. (Cat 9) Equipment, attached to the ''spacecraft bus'', designed to perform a mission in space (*e.g.*, communications, observation, science).

Specially Designated National (SDN). Any person who is determined by the Secretary of the Treasury to be a specially designated national for any reason under regulations issued by the Office of Foreign Assets Control (see 31 CFR parts 500 through 590).

Specially Designated Terrorist (SDT). Any person who is determined by the Secretary of the Treasury to be a specially designated terrorist under notices or regulations issued by the Office of Foreign Assets Control (see 31 CFR chapter V).

Specially designed. When applying this definition, follow this sequential analysis set forth below. (For additional guidance on the order of review of ''specially designed,'' including how the review of the term relates to the larger CCL, see supplement no. 4 to Part 774 of the EAR—Commerce Control List Order of Review.)

(a) Except for items described in (b), an ''item'' is ''specially designed'' if it:

(1) As a result of ''development'' has properties peculiarly responsible for achieving or exceeding the performance levels, characteristics, or functions in the relevant ECCN or U.S. Munitions List (USML) paragraph; *or*

(2) Is a ''part,'' ''component,'' ''accessory,'' ''attachment,'' or ''software'' for use in or with a commodity or defense article 'enumerated' or otherwise described on the CCL or the USML.

(b) A ''part,'' ''component,'' ''accessory,'' ''attachment,'' or ''software'' that would be *controlled* by paragraph (a) is not ''specially designed'' if it:

(1) Has been identified to be in an ECCN paragraph that does not contain ''specially designed'' as a control parameter or as an EAR99 item in a commodity jurisdiction (CJ) determination or interagency-cleared commodity classification (CCATS) pursuant to §748.3(e);

(2) Is, regardless of 'form' or 'fit,' a fastener (e.g., screw, bolt, nut, nut plate, stud, insert, clip, rivet, pin), washer, spacer, insulator, grommet, bushing, spring, wire, solder;

(3) Has the same function, performance capabilities, and the same or 'equivalent' form and fit, as a commodity or software used in or with an item that:

(i) Is or was in ''production'' (*i.e.*, not in ''development''); *and*

(ii) Is either not 'enumerated' on the CCL or USML, or is described in an ECCN controlled only for Anti-Terrorism (AT) reasons;

(4) Was or is being developed with ''knowledge'' that it would be for use in or with commodities or software (i) described in an ECCN *and* (ii) also commodities or software either not 'enumerated' on the CCL or the USML (e.g., EAR99 commodities or software) or commodities or software described in an ECCN controlled only for Anti-Terrorism (AT) reasons;

(5) Was or is being developed as a general purpose commodity or software, i.e., with no ''knowledge'' for use in or with a particular commodity (e.g., an F/A–18 or HMMWV) or type of commodity (e.g., an aircraft or machine tool); *or*

(6) Was or is being developed with ''knowledge'' that it would be for use in or with commodities or software described (i) in an ECCN controlled for AT-only reasons and also EAR99 commodities or software; or (ii) exclusively for use in or with EAR99 commodities or software.

NOTE 1: 'Enumerated' refers to any item (i) on either the USML or CCL not controlled in a 'catch-all' paragraph and (ii) when on the CCL, controlled by an ECCN for more than Anti-Terrorism (AT) reasons only. An example of an 'enumerated' ECCN is 2A226, which controls valves with the following three characteristics: a ''nominal size'' of 5 mm or greater; having a bellows seal; *and* wholly

made of or lined with aluminum, aluminum alloy, nickel, or nickel alloy containing more than 60% nickel by weight. The CCL also contains notes excluding from control ''parts'' and ''components'' ''specially designed'' for uncontrolled items. Such uncontrolled items are merely 'described' and are not 'enumerated.' Note 2 to ECCN 1A002 is an example of items excluded from control based on being ''specially designed'' for a 'described' item. Commodities or software in an ECCN controlled only for AT reasons are other examples of items 'described' on the CCL. ECCN 2B996, which controls dimensional inspection or measuring systems or equipment not controlled by 2B006, is an example of a commodity 'described' in an ECCN controlled only for AT reasons. For purposes of ''specially designed,'' ECCNs 0B505.c, 0B999, 0D999, 1B999, 1C992, 1C995, 1C997, 1C999, 3A991, 4A994, 5A992 (except for .z), 5D992 (except for .z), 6A998 (except for .b), and 9A991 are treated as ECCNs controlled exclusively for AT reasons.

NOTE 2: A 'catch-all' paragraph is one that does not refer to specific types of ''parts,'' ''components,'' ''accessories,'' or ''attachments'' but rather controls non-specific ''parts,'' ''components,'' ''accessories,'' or ''attachments'' because they were ''specially designed'' for an enumerated item. For example, ECCN paragraph 9A610.x is a catch-all, because it controls ''parts,'' ''components,'' ''accessories,'' and ''attachments'' ''specially designed'' for military aircraft, but does not identify specific types of ''parts,'' ''components,'' ''accessories,'' or ''attachments'' within its control. Another example of a 'catch-all' is the heading of 7A102, which controls ''specially designed'' components for the gyros enumerated in 7A102, but does not identify the specific types of ''components'' within its control.

NOTE TO PARAGRAPH (a)(1): Items that as a result of ''development'' have properties peculiarly responsible for achieving or exceeding the performance levels, 'functions' or characteristics in a relevant ECCN paragraph may have properties shared by different products. For example, ECCN 1A007 controls equipment and devices, specially designed to initiate charges and devices containing energetic materials, by electrical means. An example of equipment not meeting the peculiarly responsible standard under paragraph (a)(1) is a garage door opener, that as a result of ''development'' has properties that enable the garage door opener to send an encoded signal to another piece of equipment to perform an action (i.e., the opening of a garage door). The garage door opener is not ''specially designed'' for purposes of 1A007 because although the garage door opener could be used to send a signal by electrical means to charges or devices containing energetic materials, the garage door opener does not have properties peculiarly responsible for achieving or exceeding the performance levels, 'functions' or characteristics in 1A007. For example, the garage door opener is designed to only perform at a limited range and the level of encoding is not as advanced as the encoding usually required in equipment and devices used to initiate charges and devices containing energetic materials, by electrical means. Conversely, another piece of equipment that, as a result of ''development,'' has the properties (e.g., sending a signal at a longer range, having signals with advanced encoding to prevent interference, and having signals that are specific to detonating blasting caps) needed for equipment used to initiate charges and devices containing energetic materials, would be peculiarly responsible because the equipment has a direct and proximate causal relationship that is central or special for achieving or exceeding the performance levels, 'functions' or characteristics identified in 1A007.

NOTE 1 TO PARAGRAPH (b)(3): Commodities in ''production'' that are subsequently subject to ''development'' activities, such as those that would result in enhancements or improvements only in the reliability or maintainability of the commodity (e.g., an increased mean time between failure (MTBF)), including those pertaining to quality improvements, cost reductions, or feature enhancements, remain in ''production.'' However, any new models or versions of such commodities developed from such efforts that change the basic performance or capability of the commodity are in ''development'' until and unless they enter into ''production.''

NOTE 2 TO PARAGRAPH (b)(3): With respect to a commodity, 'equivalent' means that its form has been modified solely for 'fit' purposes.

NOTE 3 TO PARAGRAPH (b)(3): The 'form' of a commodity is defined by its configuration (including the geometrically measured configuration), material, and material properties that uniquely characterize it. The 'fit' of a commodity is defined by its ability to physically interface or interconnect with or become an integral part of another item. The 'function' of the item is the action or actions it is designed to perform. 'Performance capability' is the measure of a commodity's effectiveness to perform a designated function in a given environment (e.g., measured in terms of speed, durability, reliability, pressure, accuracy, efficiency). For software, 'form' means the design, logic flow, and algorithms. 'Fit' means the ability to interface or connect with an item subject to the EAR. The 'function' means the action or actions it performs directly to an item subject to the EAR or as a stand-alone application. 'Performance capability' means the measure of software's effectiveness to perform a designated function.

NOTE TO PARAGRAPHS (b)(3) AND (b)(4): ECCNs controlled for AT-only reasons that use ''specially designed'' are eligible for paragraphs (b)(3) and (b)(4). However, the criteria for release under (b)(3) or (b)(4) must be met by another ECCN controlled for AT-only reasons or an EAR99 item in addition to the AT-only ECCN being reviewed for release from ''specially designed.'' For example, if a single gasket is used in ECCN 9A990 tractors (9A990 includes a control on ''specially designed'' ''parts'') and also pick-up trucks designated as EAR99 that are in ''production'', the single gasket would be released from ''specially designed'' on the basis of paragraph (b)(3). Or if the single gasket is or was used in 9A990 tractors and also 9A991.b aircraft (another AT-only controlled ECCN), that are in ''production,'' the gasket would be released from ''specially designed'' on the basis of paragraph (b)(3). Alternatively, if the single gasket is or was only used in ECCN 9A990 tractors that are in ''production,'' then paragraph (b)(3) would not be available. This same concept applies for paragraph (b)(4).

NOTE TO PARAGRAPHS (b)(4), (b)(5) AND (b)(6): For a commodity or software to be not ''specially designed'' on the basis of paragraphs (b)(4), (b)(5) *or* (b)(6), documents contemporaneous with its ''development,'' in their totality, must establish the elements of paragraphs (b)(4), (b)(5) *or* (b)(6). Such documents may include concept design information, marketing plans, declarations in patent applications, or contracts. Absent such documents, the ''commodity'' may not be excluded from being ''specially designed'' by paragraphs (b)(4), (b)(5) *or* (b)(6).

''Specific modulus''. (Cat 1)—Young's modulus in pascals, equivalent to N/m^2, divided by specific weight in N/m^3, measured at a temperature of (296 ±2) K ((23 ±2) °C) and a relative humidity of (50 ±5)%.

''Specific tensile strength''. (Cat 1)—Ultimate tensile strength in pascals, equivalent to N/m^2, divided by specific weight in N/m^3, measured at a temperature of (296 ±2) K ((23 ±2) °C) and relative humidity of (50 ±5)%.

Spectral efficiency. (Cat 5)—A figure of merit parametrized to characterize the efficiency of transmission system that uses complex modulation schemes such as QAM (quadrature amplitude modulation), Trellis coding, QSPK (Q-phased shift key), etc. It is defined as follows:

$$\text{Spectral efficiency} = \frac{\text{'' Digital transfer rate'' (bits/second)}}{\text{6 dB spectrum bandwidth (Hz).}}$$

Spinning mass gyros. (Cat 7) ''Spinning mass gyros'' are gyros which use a continually rotating mass to sense angular motion.

Spread spectrum. (Cat 5)—The technique whereby energy in a relatively narrow-band communication channel is spread over a much wider energy spectrum.

Spread spectrum radar. (Cat 6)—(see ''Radar spread spectrum'')

Stability (Cat 7) Standard deviation (1 sigma) of the variation of a particular parameter from its calibrated value measured under stable temperature conditions. This can be expressed as a function of time.

NOTE: For gyroscopes and accelerometers, ''stability'' can be estimated by determining the Allan variance noise-analysis value at the integration period (i.e., sample time) consistent with the stated measurement period, which may include extrapolating the Allan variance noise analysis beyond the instability point into the rate/acceleration random walk or rate/acceleration ramp regions to an integration period consistent with the stated measurement period (Reference: IEEE Std. 952–1997 [R2008] or IEEE Std 1293–1998 [R2008]).

Standards-related activity. See §734.10 of the EAR.

Steady state mode. (Cat 9) The term ''steady state mode'' defines engine operation conditions, where the engine parameters, such as thrust/power, rpm and others, have no appreciable fluctuations, when the ambient air temperature and pressure at the engine inlet are constant.

Stored program controlled. (Cat 2, 3, and 5)—A control using instructions stored in an electronic storage that a processor can execute in order to direct the performance of predetermined functions.

NOTE: Equipment may be ''stored program controlled'' whether the electronic storage is internal or external to the equipment.

Subgroup on Nuclear Export Coordination (SNEC). Chaired by the Department of State, the SNEC primarily reviews applications involving items controlled for nuclear nonproliferation (NP) reasons. The SNEC also reviews applications involving items not controlled for NP reasons, but destined for a country and/or end-use/end-user of NP concern.

Subject to the EAR. A term used in the EAR to describe those commodities, software, technology, and activities over which the Bureau of Industry and Security (BIS) exercises regulatory jurisdiction under the EAR (See §734.2(a) of the EAR).

Subject to the ITAR. A term used in the EAR to describe those commodities, software, technology (e.g., technical data) and defense services over which the U.S. Department of State, Directorate of Defense Trade Controls (DDTC) exercises regulatory jurisdiction under the International Traffic in Arms Regulations (ITAR) (see 22 CFR parts 120 through 130).

''*Sub-orbital craft*''. (Cat 9) A craft having an enclosure designed for the transport of people or cargo, which is designed to:

(1) Operate above the stratosphere;

(2) Perform a non-orbital trajectory; *and*

(3) Land back on Earth with the people or cargo intact.

Substrate. (Cat 3)—A sheet of base material with or without an interconnection pattern and on which or within which ''discrete components'' or integrated circuits or both can be located.

NOTE: ''Discrete component'': a separately packaged ''circuit element'' with its own external connections.

Substrate blanks. (Cat 3 and 6)—Monolithic compounds with dimensions suitable for the production of optical elements such as mirrors or optical windows.

Super High Power Laser. (SHPL) (Cat 6)—A ''laser'' capable of delivering (the total or any portion of) the output energy exceeding 1 kJ within 50 ms or having an average or CW power exceeding 20 kW.

Superalloy. (Cat 2 and 9) Nickel, cobalt, or iron base alloys having a stress rupture life greater than 1,000 hours at 400 MPa and an ultimate tensile strength greater than 850 MPa, at 922 K (649 °C) or higher.

Supercomputer. (734, 744) A computing ''system'' having a collective maximum theoretical compute capacity of 100 or more double-precision (64-bit) petaflops or 200 or more single-precision (32-bit) petaflops within a 41,600 ft^3 or smaller envelope.

NOTE 1 TO ''SUPERCOMPUTER'': The 41,600 ft^3 envelope corresponds, for example, to a 4x4x6.5 ft rack size and therefore 6,400 ft^2 of floor space. The envelope may include empty floor space between racks as well as adjacent floors for multi-floor systems.

NOTE 2 TO ''SUPERCOMPUTER'': Typically, a 'supercomputer' is a high-performance multi-rack system having thousands of closely coupled compute cores connected in parallel with networking technology and having a high peak power capacity requiring cooling elements. They are used for computationally intensive tasks including scientific and engineering work. Supercomputers may include shared memory, distributed memory, or a combination of both.

Superconductive. (Cat 1, 3, 5P1, 6, and 8)—Materials, i.e., metals, alloys, or compounds that can lose all electrical resistance, i.e., that can attain infinite electrical conductivity and carry very large electrical currents without Joule heating.

NOTE: The ''superconductive'' state of a material is individually characterized by a ''critical temperature'', a critical magnetic field that is a function of temperature, and a critical current density that is a function of both magnetic field and temperature.

Superplastic forming. (Cat 1 and 2)—A deformation process using heat for metals that are normally characterized by low elongation (less than 20%) at the breaking point as determined at room temperature by conventional tensile strength testing, in order to achieve elongations during processing that are at least 2 times those values.

Symmetric algorithm. (Cat 5, Part II) A cryptographic algorithm using an identical key for both encryption and decryption. A common use of ''symmetric algorithms'' is confidentiality of data.

System. This is any combination of ''end items,'' ''equipment,'' ''parts,'' ''components,'' ''accessories,'' ''attachments,'' firmware, or ''software''

that operate together to perform a function.

NOTE: The industrial standards established by INCOSE and NASA provide examples for when commodities and software operate together to perform a function as a system. References to these standards are included in this note to provide additional examples for when commodities or software operate together to perform a function as a system. See the INCOSE standards for what constitutes a system at (*http://g2sebok.incose.org/app/mss/asset.cfm?ID=INCOSE%20G2SEBOK%202.00&ST=F*), and in the (INCOSE SE Handbook v3.1 2007; ISO/IEC 15288:2008). Also see the NASA standards for examples of what constitutes a system in the (NASA SE Handbook SP–2007–6105 Rev 1).

Technology. *Technology* means:

Information necessary for the ''development,'' ''production,'' ''use,'' operation, installation, maintenance, repair, overhaul, or refurbishing (or other terms specified in ECCNs on the CCL that control ''technology'') of an item.

N.B.: Controlled ''technology'' is defined in the General Technology Note and in the Commerce Control List (supplement no. 1 to part 774 of the EAR).

NOTE 1 TO DEFINITION OF TECHNOLOGY: ''Technology'' may be in any tangible or intangible form, such as written or oral communications, blueprints, drawings, photographs, plans, diagrams, models, formulae, tables, engineering designs and specifications, computer-aided design files, manuals or documentation, electronic media or information revealed through visual inspection;

NOTE 2 TO DEFINITION OF TECHNOLOGY: The modification of the design of an existing item creates a new item and technology for the modified design is technology for the development or production of the new item.

Terminal interface equipment. (Cat 4)—Equipment at which information enters or leaves the telecommunication systems, e.g., telephone, data device, computer, facsimile device.

''*Three dimensional integrated circuit*''. (Cat 3) A collection of semiconductor dies or active device layers, integrated together, and having through semiconductor via connections passing completely through an interposer, substrate, die or layer to establish interconnections between the device layers. An interposer is an interface that enables electrical connections.

Tilting spindle. (Cat 2)—A tool-handling spindle that alters, during the machining process, the angular position of its center line with respect to any other axis.

Time constant. (Cat 6)—The time taken from the application of a light stimulus for the current increment to reach a value of 1–1/e times the final value (i.e., 63% of the final value).

''Tip shroud'' (Cat 9)—A stationary ring component (solid or segmented) attached to the inner surface of the engine turbine casing or a feature at the outer tip of the turbine blade, which primarily provides a gas seal between the stationary and rotating components.

Total control of flight. (Cat 7) means an automated control of ''aircraft'' state variables and flight path to meet mission objectives responding to real time changes in data regarding objectives, hazards or other ''aircraft.''

Total digital transfer rate. (Cat 5)—The number of bits, including line coding, overhead and so forth per unit time passing between corresponding equipment in a digital transmission system. (See also ''digital transfer rate''.)

Toxins. (Cat 1 and 2) means toxins in the form of deliberately isolated preparations or mixtures, no matter how produced, other than toxins present as contaminants of other materials such as pathological specimens, crops, foodstuffs or seed stocks of ''microorganisms.''

Transfer. A shipment, transmission, or release of items subject to the EAR either within the United States or outside the United States. For *In-country transfer/Transfer (in-country)*, see § 734.16 of the EAR.

NOTE TO DEFINITION OF TRANSFER: This definition of ''transfer'' does not apply to § 750.10 of the EAR or Supplement No. 8 to part 760 of the EAR. The term ''transfer'' may also be included on licenses issued by BIS. In that regard, the changes that can be made to a BIS license are the non-material changes described in § 750.7(c) of the EAR. Any other change to a BIS license without authorization is a violation of the EAR. See §§ 750.7(c) and 764.2(e) of the EAR.

Tunable. (Cat 6)—The ability of a ''laser'' to produce a continuous output

at all wavelengths over a range of several ''laser'' transitions. A line selectable ''laser'' produces discrete wavelengths within one ''laser'' transition and is not considered ''tunable''.

U.S. Person. (a) For purposes of §§ 732.3(j), 736.2(b)(7), 740.21(e)(1), 744.6, 744.10, 744.11, 744.12, 744.13, 744.14, and 745.2(a)(1) of the EAR, the term U.S. person includes:

(1) Any individual who is a citizen of the United States, a permanent resident alien of the United States, or a protected individual as defined by 8 U.S.C. 1324b(a)(3);

(2) Any juridical person organized under the laws of the United States or any jurisdiction within the United States, including foreign branches; and

(3) Any person in the United States.

(b) See also §§ 740.9, 740.14, and 740.21(f)(2) and parts 746 and 760 of the EAR for definitions of ''U.S. person'' that are specific to those sections and parts.

U.S. subsidiary. As applied to encryption items, means

(a) A foreign branch of a U.S. company; or

(b) A foreign subsidiary or entity of a U.S. entity in which:

(1) The U.S. entity beneficially owns or controls (whether directly or indirectly) 25 percent or more of the voting securities of the foreign subsidiary or entity, if no other persons owns or controls (whether directly or indirectly) an equal or larger percentage; or

(2) The foreign entity is operated by the U.S. entity pursuant to the provisions of an exclusive management contract; or

(3) A majority of the members of the board of directors of the foreign subsidiary or entity also are members of the comparable governing body of the U.S. entity; or

(4) The U.S. entity has the authority to appoint the majority of the members of the board of directors of the foreign subsidiary or entity; or

(5) The U.S. entity has the authority to appoint the chief operating officer of the foreign subsidiary or entity.

Ultimate consignee. The principal party in interest located abroad who receives the exported or reexported items. The ultimate consignee is not a forwarding agent or other intermediary, but may be the end-user.

Unidirectional positioning repeatability. (Cat 2) The smaller of values $R\uparrow$ and $R\downarrow$ (forward and backward), as defined by 3.21 of ISO 230–2:2014 or national equivalents, of an individual machine tool axis.

United Kingdom (or UK) airline. Any citizen of the United Kingdom who is authorized by the Government of the United Kingdom to engage in business as an airline. For purposes of this definition, a United Kingdom citizen is:

(1) A natural person who is a citizen of the United Kingdom; or

(2) A partnership of which each member is such an individual; or

(3) A United Kingdom firm incorporated or otherwise organized under the laws of the United Kingdom or any country or territory that comprises the United Kingdom, having a total foreign stock interest not greater than 40 percent, and having the Chairman or Acting Chairman and at least two-thirds of the Directors thereof United Kingdom citizens.

United States. Unless otherwise stated, the 50 States, including offshore areas within their jurisdiction pursuant to section 3 of the Submerged Lands Act (43 U.S.C. 1311), the District of Columbia, Puerto Rico, and all territories, dependencies, and possessions of the United States, including foreign trade zones established pursuant to 19 U.S.C. 81A–81U, and also including the outer continental shelf, as defined in section 2(a) of the Outer Continental Shelf Lands Act (43 U.S.C. 1331(a)).

United States airline. Any citizen of the United States who is authorized by the U.S. Government to engage in business as an airline. For purposes of this definition, a U.S. citizen is:

(a) An individual who is a citizen of the United States or one of its possessions; or

(b) A partnership of which each member is such an individual; or

(c) A corporation or association created or organized under the laws of the United States, or of any State, Territory, or possession of the United States, of which the president and two-thirds of the board of directors and other managing officers thereof are such individuals and in which at least

75 percent of the voting interest is owned or controlled by persons who are citizens of the United States or of one of its possessions.

''*Unmanned aerial vehicle'' (''UAV'')*. (Cat 9) Any ''aircraft'' capable of initiating flight and sustaining controlled flight and navigation without any human presence on board.

NOTE TO DEFINITION OF ''UNMANNED AERIAL VEHICLE'' (''UAV''): For the purposes of §744.3 of the EAR, unmanned air vehicles, which are the same as ''unmanned aerial vehicles,'' include, but are not limited to, cruise missiles, target drones and reconnaissance drones.

''Usable in'', ''usable for'', ''usable as'' or ''Capable of''. (MTCR context)—Equipment, parts, components, materials or ''software'' which are suitable for a particular purpose. There is no need for the equipment, parts, components, materials or ''software'' to have been configured, modified or specified for the particular purpose. For example, any military specification memory circuit would be ''capable of'' operation in a guidance system.

Use. (All categories and General Technology Note)—Operation, installation (including on-site installation), maintenance (checking), repair, overhaul and refurbishing.

NOTE: If an ECCN specifies one or more of the six elements of ''use'' in the heading or control text, only those elements specified are classified under that ECCN.

User-accessible programmability. (Cat 6)—The facility allowing a user to insert, modify, or replace ''programs'' by means other than:

(a) A physical change in wiring or interconnections; or

(b) The setting of function controls including entry of parameters.

Utilization facility. (a) As defined by 10 CFR 110.2 of the Nuclear Regulatory Commission Regulations, utilization facility means a nuclear reactor, other than one that is a production facility, any of the following major components of a nuclear reactor: Pressure vessels designed to contain the core of a nuclear reactor, other than one that is a production facility, and the following major components of a nuclear reactor:

(1) Primary coolant pumps;

(2) Fuel charging or discharging machines; and

(3) Control rods.

(b) Utilization facility does not include the steam turbine generator portion of a nuclear power plant.

Vacuum electronic devices (Cat 3) Electronic devices based on the interaction of an electron beam with an electromagnetic wave propagating in a vacuum circuit or interacting with radio-frequency vacuum cavity resonators. ''Vacuum electronic devices'' include klystrons, travelling-wave tubes, and their derivatives.

Vector Rate. (Cat 4)—See: ''Two dimensional Vector Rate''; ''Three dimensional Vector Rate''.

Vulnerability disclosure. (§740.22, Cat 4) means the process of identifying, reporting, or communicating a vulnerability to, or analyzing a vulnerability with, individuals or organizations responsible for conducting or coordinating remediation for the purpose of resolving the vulnerability.

You. Any person, including a natural person, including a citizen of the United States or any foreign country; any firm; any government, government agency, government department, or government commission; any labor union; any fraternal or social organization; and any other association or organization whether or not organized for profit.

[61 FR 12925, Mar. 25, 1996]

EDITORIAL NOTE: For FEDERAL REGISTER citations affecting §772.1, see the List of CFR Sections Affected, which appears in the Finding Aids section of the printed volume and at *www.govinfo.gov*.

PART 774—THE COMMERCE CONTROL LIST

Sec.

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AUTHORITY: 50 U.S.C. 4801–4852; 50 U.S.C. 4601 *et seq.;* 50 U.S.C. 1701 *et seq.;* 10 U.S.C. 8720; 10 U.S.C. 8730(e); 22 U.S.C. 287c, 22 U.S.C. 3201 *et seq.;* 22 U.S.C. 6004; 42 U.S.C. 2139a; 15 U.S.C. 1824; 50 U.S.C. 4305; 22 U.S.C. 7201 *et seq.;* 22 U.S.C. 7210; E.O. 13026, 61 FR 58767, 3 CFR, 1996 Comp., p. 228.

SOURCE: 61 FR 12937, Mar. 25, 1996, unless otherwise noted.

§ 774.1 Introduction.

(a) *Scope of the control list.* In this part, references to the EAR are references to 15 CFR chapter VII, subchapter C. The Bureau of Industry and Security (BIS) maintains the Commerce Control List (CCL) that includes ''items''—i.e., ''commodities,'' ''software,'' and ''technology''—subject to the authority of BIS. The CCL does not include items exclusively controlled for export by another department or agency of the U.S. Government, though in instances where other agencies administer controls over related items, entries in the CCL may contain a reference to such controls. In addition, those items ''subject to the EAR'' but not identified on the CCL are identified by the designator ''EAR99.'' See § 734.2(a) of the EAR for items that are ''subject to the EAR.'' EAR Part 738 contains an explanation of the organization of the CCL and its relationship to the Country Chart.

(b) *ECCN cross-references for items subject to exclusive jurisdiction of another agency.* (1) Prior to October 15, 2013, the CCL contained certain ECCNs that were only included as cross references to items subject to the export control regulations administered by the Nuclear Regulatory Commission.

(2) ECCNs formerly listed on the CCL that, as of October 15, 2013 were subject to the export licensing authority of the Nuclear Regulatory Commission at 10 CFR part 110 are: 0A001, 0B001, 0B002, 0B003, 0B004, 0B005, 0B006, 0C001, 0C002, 0C004, 0C005, 0C006, 0C201 and 1C012.

(3) The following multilateral export control regime reference is provided, as an additional point of historical reference: 0C201—INFCIRC 254 Part 1, 5.3.1(b).

NOTE TO PARAGRAPH (b): ECCNs 0D001 and 0E001 are ''subject to the ITAR'' (see 22 CFR parts 120 through 130). These ECCNs are retained on the CCL as cross references to the ITAR, although the former cross references to export licensing authority of the Nuclear Regulatory Commission (see 10 CFR part 110) for ECCN 0D001, and to the Department of Energy (see 10 CFR part 810) for 0E001 were removed from the Control(s) paragraph in the License Requirements section of these two ECCNs and added as a more general jurisdictional cross reference in a heading note added to these two ECCNs as of June 5, 2014.

(c) *Where to find the CCL?* The CCL is contained in supplement no. 1 to this part, and supplement no. 2 to this part contains the General Technology and Software Notes relevant to entries contained in the CCL.

(d) *Conventions related to the use of quotation marks on the CCL.* The use of double quotation marks on the CCL is intended to be an aid to alert you to terms used on the CCL that are defined in part 772 (Definitions of Terms), or for purposes of ECCNs, where a definition is provided in the ''related definitions'' paragraph in the License Requirements section of ECCNs or sometimes in Notes and Technical Notes for particular ECCNs and that definition is specific to that particular ECCN. In this sense the quotes are helpful both in the use of single and double quotes, but a good compliance practice is to familiarize yourself with the defined terms in part 772, and when reviewing a control parameter on the CCL that uses a term that is not in quotes to be aware it may be defined in part 772. It is also a useful compliance practice to review the ''Related Definitions'' paragraph and Notes and Technical Notes to determine if the term is defined for purposes of a particular ECCN.

(1) *Use of double quotes.* If a term on the CCL uses double quotes it means there is a defined term in part 772. However, the absence of double quotes does not mean that a term used on the CCL is not defined in part 772. Because the CCL includes many terms that are defined in part 772, BIS's practice is to use double quotes for certain key terms and to use double quotes when needed for consistency with multilateral export control regime based entries, such as many derived from control lists, in

particular for the Wassenaar Arrangement that also uses the double quotes convention. However, because of the large number of defined terms used on the CCL and a desire to avoid hindering readability by placing quotes around too many words used in particular ECCNs, BIS's practice is to not add double quotes around certain terms, such as items and commodities. This convention also applies to the use of double quotes within the Definition of Terms section under part 772.

(2) *Use of single quotes.* The CCL also includes a convention regarding the use of single quotes. Single quotes on the CCL identify a term as a defined term in the context of a particular ECCN. This convention also applies to the use of single quotes within the Definition of Terms section under part 772.

(e) *Chemicals identified by Chemical Abstracts Service (CAS) number.* In some instances chemicals are listed by name and CAS number. The list applies to chemicals of the same structural formula (including hydrates) regardless of name or CAS number. CAS numbers are shown to assist in identifying a particular chemical or mixture, irrespective of nomenclature. CAS numbers cannot be used as unique identifiers because some forms of the listed chemical have different CAS numbers, and mixtures containing a listed chemical may also have different CAS numbers.

[78 FR 61903, Oct. 4, 2013, as amended at 79 FR 32627, June 5, 2014; 81 FR 64679, Sept. 20, 2016]

§ 774.2 [Reserved]

SUPPLEMENT NO. 1 TO PART 774—THE COMMERCE CONTROL LIST

CATEGORY 0—NUCLEAR MATERIALS, FACILITIES, AND EQUIPMENT, FIREARMS, AMMUNITION [AND MISCELLANEOUS ITEMS]

A. ''END ITEMS,'' ''EQUIPMENT,'' ''ACCESSORIES,'' ''ATTACHMENTS,'' ''PARTS,'' ''COMPONENTS,'' AND ''SYSTEMS''

0A002 Power generating or propulsion equipment "specially designed" for use with space, marine or mobile "nuclear reactors". (These items are "subject to the ITAR." See 22 CFR parts 120 through 130.)

0A501 Firearms (except 0A502 shotguns, 0A506 semi-automatic rifles, 0A507 semi-automatic pistols, and 0A508 semi-automatic shotguns) and related commodities (except semi-automatic related commodities enumerated or otherwise described in Eccn 0A509 for Eccns 0A506, 0A507, or 0A508) as follows (see List of Items controlled).

LICENSE REQUIREMENTS

Reason for Control: NS, RS, FC, UN, AT

Control(s)	Country chart (see Supp. No. 1 to part 738)
NS applies to entire entry except 0A501.y.	NS Column 1.
RS applies to entire entry except 0A501.y.	RS Column 1.
FC applies to entire entry except 0A501.y.	FC Column 1.
UN applies to entire entry	See § 746.1 of the EAR for UN controls.
AT applies to entire entry	AT Column 1.

License Requirement Note: In addition to using the Commerce Country Chart to determine license requirements, a license is required for exports and reexports of ECCN 0A501.y.7 firearms to the People's Republic of China.

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

LVS: $500 for 0A501.c, .d, and .x.

$500 for 0A501.c, .d, .e, and .x if the ultimate destination is Canada.

GBS: N/A

SPECIAL CONDITIONS FOR STA

License Exception STA may not be used for ECCN 0A501.a, .b, .c, .d, or .e, to any of the destinations listed in Country Group A:5 or A:6 (See supplement no.1 to part 740 of the EAR). License Exception STA may not be used for any item in this entry to any of the destinations listed in Country Group A:6 (See Supplement No.1 to part 740 of the EAR).

LIST OF ITEMS CONTROLLED

Related Controls: (1) See USML Category I for firearms that are fully automatic, and certain related parts, components, accessories, and attachments (including magazines with a capacity of greater than 50 rounds). (2) See ECCN 0A506 for semi-automatic rifles. (3) See ECCN 0A507 for semi-automatic pistols. (4) See ECCN 0A508 for semi-automatic shotguns and ECCN 0A502 for certain ''parts'' and ''components'' for semi-automatic shotguns that are not controlled by 0A509.a or .c. (5) See ECCN 0A509 for enumerated or otherwise described ''parts,'' ''components,'' devices, ''accessories,'' and ''attachments'' for ECCNs 0A506, 0A507, and 0A508. (6) See .d, .x, and .y of this entry for other ''parts,'' ''components,'' ''accessories,'' and ''attachments'' ''specially designed'' for 0A506 and 0A507, or 0A508. (7) See ECCN 0A502 for non-automatic shotguns and their ''parts'' and ''components'' that are subject to the EAR and for certain ''parts'' and ''components'' for semi-automatic shotguns that are not

controlled by 0A509.a or .c. (8) See ECCN 0A504 and USML Category XII for controls on optical sighting devices.

Related Definitions: N/A.

Items:

a. Non-automatic and non-semi-automatic firearms equal to .50 caliber (12.7 mm) or less.

Note 1 to paragraph 0A501.a: 'Combination pistols' are controlled under ECCN 0A501.a. A 'combination pistol' (a.k.a., a combination gun) has at least one rifled barrel and at least one smoothbore barrel (generally a shotgun style barrel).

Note 2 to paragraph 0A501.a: Semi-automatic firearms equal to .50 caliber (12.7 mm) or less *are controlled under ECCNs 0A506 and 0A507.*

Technical Note to 0A501.a: Firearms described in 0A501.a include those chambered for the .50 BMG cartridge.

b. Non-automatic and non-semi-automatic rifles, carbines, revolvers or pistols with a caliber greater than .50 inches (12.7 mm) but less than or equal to .72 inches (18.0 mm).

c. The following types of ''parts'' and ''components'' if ''specially designed'' for a commodity controlled by paragraph .a or .b of this entry or ECCNs 0A506 or 0A507, or USML Category I (unless otherwise enumerated or elsewhere specified on the USML or controlled under ECCN 0A509): Barrels, cylinders, barrel extensions, mounting blocks (trunnions), bolts, bolt carriers, operating rods, gas pistons, trigger housings, triggers, hammers/striker, sears, disconnectors, pistol grips that contain fire control ''parts'' or ''components'' (*e.g.*, triggers, hammers/striker, sears, disconnectors) and buttstocks that contain fire control ''parts'' or ''components.''

Technical Note to 0A501.c: Barrel blanks that have reached a stage in manufacturing in which they are either chambered or rifled are controlled by 0A501.c.

d. Detachable magazines with a capacity of 17 to 50 rounds ''specially designed'' for a commodity controlled by paragraph .a or .b of this entry or controlled by ECCNs 0A506 or 0A507.

Note 3 to paragraph 0A501.d Magazines with a capacity of 16 rounds or less are controlled under 0A501.x; for magazines with a capacity greater than 50 rounds, see USML Category I. Magazines that hold only blank ammunition controlled under 0A505.d are controlled under 0A501.d or 0A501.x, depending on the magazine's capacity.

e. Receivers (frames) and ''complete breech mechanisms,'' including castings, forgings, stampings, or machined items thereof, ''specially designed'' for a commodity controlled by paragraph .a or .b of this entry.

Note 4 to 0A501.e: Frames (receivers) under 0A501.e refers to any ''part'' or ''component'' of the firearm that has or is customarily marked with a serial number when required by law. This paragraph 0A501.e is synonymous with a ''part'' or ''component'' that is regulated by the Bureau of Alcohol, Tobacco, Firearms and Explosives (see 18 U.S.C. 921(a)(3); 27 CFR parts 447, 478, and 479,) as a firearm.

Note 5 to 0A501.e: Frames (receivers) ''specially designed'' for semi-automatic firearms are controlled under ECCN 0A509.b or .c.

f. through w. [Reserved]

x. ''Parts'' and ''components'' that are ''specially designed'' for a commodity classified under paragraphs .a through .c of this entry, a commodity classified under ECCNs 0A506 or 0A507, or the USML and not elsewhere specified on the USML or CCL or controlled under ECCN 0A509.

y. Specific ''parts,'' ''components,'' ''accessories'' and ''attachments'' ''specially designed'' for a commodity subject to control in this ECCN, ECCNs 0A506, 0A507, or common to a defense article in USML Category I and not elsewhere specified in the USML or CCL as follows, and ''parts,'' ''components,'' ''accessories,'' and ''attachments'' ''specially designed'' therefor.

y.1. Stocks (including adjustable, collapsible, blades and braces), grips, handguards, or forends, that do not contain any fire control ''parts'' or ''components'' (*e.g.*, triggers, hammers/striker, sears, disconnectors);

y.2 through y.5. [Reserved]

y.6. Bayonets; and

y.7. Firearms manufactured from 1890 to 1898 and reproductions thereof.

Technical Note 1 to 0A501: ECCN 0A501 includes ''parts'' and ''components'' that are not ''subject to the ITAR'' even though they are common to firearms described in ECCN 0A501 and to those firearms ''subject to the ITAR.''

Technical Note 2 to 0A501: A receiver with any other controlled ''part'' or ''component'' (e.g., a barrel (0A501.c), or trigger guard (0A501.x), or stock (0A501.y.1)) is still controlled under 0A501.e.

Technical Note 3 to 0A501: Blank firing adapters, which are attachments to semi-automatic and automatic firearms used in conjunction with blank cartridges for safety and functional reasons and used for firearm training purposes by police, military, sporting shooters, as well as in the movie industry, are designated as EAR99.

Note 6 to 0A501: Antique firearms (i.e., those manufactured before 1890) and reproductions thereof, muzzle loading and black powder firearms except those designs based on centerfire weapons of a post 1937 design, BB guns, pellet rifles, paint ball, and all other air rifles are EAR99 commodities.

Note 7 to 0A501: Muzzle loading and black powder firearms with a caliber less than 20 mm that were manufactured post 1937 that are used for hunting or sporting purposes that were not ''specially designed'' for military use and are not described on the USML nor controlled as shotguns under ECCN 0A502 are EAR99 commodities.

Note 8 to 0A501: Scope mounts or accessory rails, iron sights, sling swivels, and butt plates

or recoil pads that are subject to the EAR are designated as EAR99. These commodities have been determined to no longer warrant being ''specially designed'' for purposes of ECCN 0A501.

Note 9 to 0A501: A kit, including a replacement or repair kit, of firearms ''parts'' or ''components'' customarily sold and exported together takes on the classification of the most restrictive ''part'' or ''component'' that is included in the kit. For example, a kit containing 0A501.y and .x ''parts,'' is controlled as a 0A501.x kit because the .x ''part'' is the most restrictive ''part'' included in the kit. A complete 0A501 firearm disassembled in a kit form is controlled as a firearm under 0A501.a, .b, or .y.7.

0A502 Shotguns; shotguns "parts" and "components," consisting of complete trigger mechanisms; magazines and magazine extension tubes; "complete breech mechanisms;" except: semi-automatic shotguns controlled under Eccn 0A508; certain "parts," components," devices, "accessories," and "attachments" for semi-automatic shotguns controlled under Eccn 0A509; equipment used to slaughter domestic animals or used exclusively to treat or tranquilize animals; and arms designed solely for signal, flare, or saluting use.

LICENSE REQUIREMENTS

Reason for Control: RS, FC, CC, UN, AT, NS

Control(s)	Country chart (see Supp. No. 1 to part 738)
NS applies to shotguns with a barrel length less than 18 inches (45.72 cm).	NS Column 1.
RS applies to shotguns with a barrel length less than 18 inches (45.72 cm).	RS Column 1.
FC applies to entire entry	FC Column 1.
CC applies to shotguns with a barrel length less than 24 in. (60.96 cm) and shotgun ''components'' controlled by this entry regardless of end user.	CC Column 1.
CC applies to shotguns with a barrel length greater than or equal to 24 in. (60.96 cm), regardless of end user.	CC Column 2.
CC applies to shotguns with a barrel length greater than or equal to 24 in. (60.96 cm) if for sale or resale to police or law enforcement.	CC Column 3.
UN applies to entire entry	See §746.1(b) of the EAR for UN controls.
AT applies to shotguns with a barrel length less than 18 inches (45.72 cm).	AT Column 1.

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

LVS: $500 for 0A502 shotgun ''parts'' and ''components,'' consisting of complete trigger mechanisms; magazines and magazine extension tubes. $500 for 0A502 shotgun ''parts'' and ''components,'' consisting of complete trigger mechanisms; magazines and magazine extension tubes, ''complete breech mechanisms'' if the ultimate destination is Canada.

GBS: N/A

SPECIAL CONDITIONS FOR STA

License Exception STA may not be used for any shotguns with barrel length less than 18 inches controlled in 0A502, to any of the destinations listed in Country Group A:5 or A:6 (See supplement no.1 to part 740 of the EAR).

LIST OF ITEMS CONTROLLED

Related Controls: (1) See USML Category I for shotguns that are fully automatic. (2) See ECCN 0A508 for semi-automatic shotguns. (3) See ECCN 0A509 for enumerated or otherwise described ''parts,'' ''components,'' devices, ''accessories,'' and ''attachments'' for ECCN 0A508. (4) See 0A501.d, .x, and .y for other ''parts,'' ''components,'' ''accessories,'' and ''attachments'' ''specially designed'' for 0A508. (5) See ECCNs 0A501 for non-semi-automatic firearms, 0A506 for semi-automatic rifles, and 0A507 for semi-automatic pistols.

Related Definitions: N/A.

Items: The list of items controlled is contained in the ECCN heading.

Note 1 to 0A502: Shotguns made in or before 1898 are considered antique shotguns and designated as EAR99.

Technical Note: Non-automatic and non-semi-automatic shot pistols or shotguns that have had the shoulder stock removed and a pistol grip attached are controlled by ECCN 0A502. Non-automatic and non-semi-automatic slug guns are also controlled under ECCN 0A502.

0A503 Discharge type arms; non-lethal or less-lethal grenades and projectiles, and "specially designed" "parts" and "components" of those projectiles; and devices to administer electric shock, for example, stun guns, shock batons, shock shields, electric cattle prods, immobilization guns and projectiles; except equipment used to slaughter domestic animals or used exclusively to treat or tranquilize animals, and except arms designed solely for signal, flare, or saluting use; and "specially designed" "parts" and "components," n.e.s.

LICENSE REQUIREMENTS

Reason for Control: CC, UN

Control(s)	Country Chart (See Supp. No. 1 to part 738)
CC applies to entire entry	A license is required for ALL destinations, except Canada, regardless of end use. Accordingly, a column specific to this control does not appear on the Commerce Country Chart. (See part 742 of the EAR for additional information)
UN applies to entire entry	See §746.1(b) of the EAR for UN controls

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

LVS: N/A

GBS: N/A

LIST OF ITEMS CONTROLLED

Related Controls: Law enforcement restraint devices that administer an electric shock are controlled under ECCN 0A982. Electronic devices that monitor and report a person's location to enforce restrictions on movement for law enforcement or penal reasons are controlled under ECCN 3A981.

Related Definitions: N/A

Items: The list of items controlled is contained in the ECCN heading.

0A504 Optical sighting devices for firearms (including shotguns controlled by 0A502); and "components" as follows (see List of Items Controlled).

LICENSE REQUIREMENTS

Reason for Control: FC, RS, CC, UN

Control(s)	Country chart (see Supp. No. 1 to part 738)
RS applies to paragraph .i	RS Column 1.
FC applies to paragraphs .a, .b, .c, .d, .e, .g, and .i of this entry.	FC Column 1.
CC applies to entire entry	CC Column 1.
UN applies to entire entry	See §746.1(b) of the EAR for UN controls.

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

LVS: $500 for 0A504.g.

GBS: N/A

LIST OF ITEMS CONTROLLED

Related Controls: (1) See USML Category XII(c) for sighting devices using second generation image intensifier tubes having luminous sensitivity greater than 350 μA/lm, or third generation or higher image intensifier tubes, that are ''subject to the ITAR.'' (2) See USML Category XII(b) for laser aiming or laser illumination systems ''subject to the ITAR.'' (3) Section 744.9 of the EAR imposes a license requirement on certain commodities described in 0A504 if being exported, reexported, or transferred (in-country) for use by a military end user or for incorporation into an item controlled by ECCN 0A919.

Related Definitions: N/A

Items:

a. Telescopic sights.

b. Holographic sights.

c. Reflex or ''red dot'' sights.

d. Reticle sights.

e. Other sighting devices that contain optical elements.

f. Laser aiming devices or laser illuminators ''specially designed'' for use on firearms, and having an operational wavelength exceeding 400 nm but not exceeding 710 nm.

Note 1 to 0A504.f: 0A504.f does not control laser boresighting devices that must be placed in the bore or chamber to provide a reference for aligning the firearms sights.

g. Lenses, other optical elements and adjustment mechanisms for articles in paragraphs .a, .b, .c, .d, .e, or .i.

h. [Reserved]

i. Riflescopes that were not ''subject to the EAR'' as of March 8, 2020 and are ''specially designed'' for use in firearms that are ''subject to the ITAR.''

Note 2 to paragraph i: For purpose of the application of ''specially designed'' for the riflescopes controlled under 0A504.i, paragraph (a)(1) of the definition of ''specially designed'' in §772.1 of the EAR is what is used to determine whether the riflescope is ''specially designed.''

0A505 Ammunition as follows (see List of Items Controlled).

LICENSE REQUIREMENTS

Reason for Control: NS, RS, FC, CC, UN, AT

Control(s)	Country chart (see Supp. No. 1 to part 738)
NS applies to 0A505.a and .x	NS Column 1.
RS applies to 0A505.a and .x	RS Column 1.
FC applies to entire entry except 0A505.d.	FC Column 1.
CC applies to 0A505.b	CC Column 1.
UN applies to entire entry	See §746.1 of the EAR for UN controls.
AT applies to 0A505.a, .d, and .x.	AT Column 1.
AT applies to 0A505.c	A license is required for items controlled by paragraph .c of this entry to North Korea for anti-terrorism reasons. The Commerce Country Chart is not designed to determine AT licensing requirements for this entry. See §742.19 of the EAR for additional information.

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

LVS: $500 for items in 0A505.x, except $3,000 for items in 0A505.x that, immediately prior to March 9, 2020, were classified under

0A018.b. (*i.e.*, ''Specially designed'' components and parts for ammunition, except cartridge cases, powder bags, bullets, jackets, cores, shells, projectiles, boosters, fuses and components, primers, and other detonating devices and ammunition belting and linking machines (all of which are ''subject to the ITAR''). (See 22 CFR parts 120 through 130)).

GBS: N/A

SPECIAL CONDITIONS FOR STA

License Exception STA may not be used for ECCN 0A505, to any of the destinations listed in Country Group A:6 (See supplement no.1 to part 740 of the EAR).

LIST OF ITEMS CONTROLLED

Related Controls: (1) See USML Category III for ammunition for modern heavy weapons such as howitzers, artillery, cannon, mortars and recoilless rifles as well as inherently military ammunition types such as ammunition preassembled into links or belts, caseless ammunition, tracer ammunition, ammunition with a depleted uranium projectile or a projectile with a hardened tip or core and ammunition with an explosive projectile. (2) Percussion caps, and lead balls and bullets, for use with muzzle-loading firearms are EAR99 items. (3) See USML Category III for shotgun projectiles that are flechettes, incendiary, tracer, or explosive.

Related Definitions: 'Marking rounds' are nonlethal, typically used for training purposes, and contain a dye or paint in a capsule that is not a chemical irritant.

Items:

a. Ammunition for firearms controlled by ECCNs 0A501, 0A506, or 0A507 or USML Category I and not enumerated in paragraph .b, .c, or .d of this entry or described in USML Category III.

b. Buckshot (No. 4 .24'' diameter and larger, any material) shotgun shells and shotgun shells that contain only buckshot, or are for the dispersion of chemical irritants.

c. Shotgun shells (including less than lethal rounds) that do not contain buckshot; and ''specially designed'' ''parts'' and ''components'' of shotgun shells.

d. Blank ammunition for firearms controlled by ECCNs 0A501, 0A502, 0A506, 0A507, or 0A508 and not described in USML Category III.

Technical Note to 0A505.d: Includes 'marking rounds' that have paint/dye as the projectile.

e. through w. [Reserved]

x. ''Parts'' and ''components'' that are ''specially designed'' for a commodity subject to control in this ECCN or a defense article in USML Category III and not elsewhere specified on the USML or the CCL.

Note 1 to 0A505.x: The controls on ''parts'' and ''components'' in this entry include Berdan and boxer primers, metallic cartridge cases, and standard metallic projectiles such as full metal jacket, lead core, copper projectiles, and frangible projectiles.

Note 2 to 0A505: Metal shot smaller than No. 4 Buckshot, empty and unprimed shotgun shells, shotgun wads, smokeless gunpowder, 'dummy rounds' and 'drill rounds' (unless linked or belted), not incorporating a lethal or non-lethal projectile(s) are designated EAR99. A 'dummy round' or 'drill round' is a round that is completely inert, (i.e., contains no primer, propellant, or explosive charge). It is typically used to check weapon function and for crew training.

Note 3 to 0A505: Shotgun shells that contain two or more balls/shot larger than .24-inch are controlled under 0A505.b.

0A506 Semi-Automatic Rifles as follows (see List of Items Controlled).

LICENSE REQUIREMENTS

Reason for Control: NS, RS, FC, UN, AT

Control(s)	Country chart (See Supp. No. 1 to part 738)
NS applies to entire entry	NS Column 1.
RS applies to entire entry	RS Column 1.
FC applies to entire entry	FC Column 1.
UN applies to entire entry	See §746.1 of the EAR for UN controls.
AT applies to entire entry	AT Column 1.

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

LVS: N/A

GBS: N/A

SPECIAL CONDITIONS FOR STA

License Exception STA may not be used for ECCN 0A506, to any of the destinations listed in Country Group A:5 or A:6 (See supplement no.1 to part 740 of the EAR).

LIST OF ITEMS CONTROLLED

Related Controls: (1) See USML Category I for firearms that are fully automatic, and magazines with a capacity of greater than 50 rounds. (2) See ECCN 0A507 for semi-automatic pistols, excluding pistols built with, *e.g.*, AR- or AK-style receivers (frames), which are controlled under ECCN 0A506. (3) See ECCN 0A508 for semi-automatic shotguns and ECCN 0A502 for certain ''parts'' and ''components'' for semi-automatic shotguns that are not controlled by 0A509.a or .c. (4) See ECCN 0A509 for enumerated or otherwise described ''parts,'' ''components,'' devices, ''accessories,'' and ''attachments'' for ECCNs 0A506, 0A507, and 0A508. (5) See 0A501.c, .d, .x, and .y for other ''parts,'' ''components,'' ''accessories,'' and ''attachments'' ''specially designed'' for 0A506 and 0A507, or 0A508. (6) See ECCN 0A501 for non-semi-automatic firearms (except 0A502 shotguns) and related commodities that are subject to the EAR. (7) See ECCN 0A502 for non-automatic shotguns and their ''parts'' and ''components'' that are subject to the EAR and certain ''parts'' and ''components'' for

semi-automatic shotguns that are not controlled by 0A509.a or .c. (8) See ECCN 0A504 and USML Category XII for controls on optical sighting devices.

Related Definitions: N/A

Items:

a. Semi-automatic centerfire (non-rimfire) rifles equal to .50 caliber (12.7 mm) or less.

b. Semi-automatic rimfire rifles equal to .50 caliber (12.7 mm) or less.

Note 1 to 0A506.a and .b: ''Parts'' and ''components'' that are ''specially designed'' for a commodity classified under .a or .b of this entry, except those controlled under ECCN 0A509, are controlled under ECCN 0A501.c, .d, .x, or .y.

Technical Note 1 to 0A506: Firearms described in 0A506 include those chambered for the .50 BMG cartridge.

Technical Note 2 to 0A506: Firearms described in 0A506 include pistols built with, e.g., AR- or AK-style receivers (frames).

0A507 Semi-Automatic Pistols as follows (see List of Items Controlled).

LICENSE REQUIREMENTS

Reason for Control: NS, RS, FC, UN, AT

Control(s)	Country chart (see Supp. No. 1 to part 738)
NS applies to entire entry	NS Column 1.
RS applies to entire entry	RS Column 1.
FC applies to entire entry	FC Column 1.
UN applies to entire entry	See §746.1 of the EAR for UN controls.
AT applies to entire entry	AT Column 1.

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

LVS: N/A

GBS: N/A

SPECIAL CONDITIONS FOR STA

License Exception STA may not be used for ECCN 0A507, to any of the destinations listed in Country Group A:5 or A:6 (See supplement no.1 to part 740 of the EAR).

LIST OF ITEMS CONTROLLED

Related Controls: (1) See USML Category I for firearms that are fully automatic, and magazines with a capacity of greater than 50 rounds. (2) See ECCN 0A506 for semi-automatic rifles. (3) See ECCN 0A508 for semi-automatic shotguns and ECCN 0A502 for certain ''parts'' and ''components'' for semi-automatic shotguns that are not controlled by 0A509.a or .c. (4) See ECCN 0A509 for enumerated or otherwise described ''parts,'' ''components,'' devices, ''accessories,'' and ''attachments'' for ECCNs 0A506, 0A507, and 0A508. (5) See ECCN 0A501.c, .d, .x, and .y for other ''parts,'' ''components,'' ''accessories,'' and ''attachments'' ''specially designed'' for 0A506 and 0A507, or 0A508. (6) See ECCN 0A501 for non-semi-automatic firearms (except 0A502 shotguns) and related commodities that are subject to the EAR. (7) See ECCN 0A502 for non-automatic shotguns and their ''parts'' and ''components'' that are subject to the EAR and certain ''parts'' and ''components'' for semi-automatic shotguns that are not controlled by 0A509.a or .c. (8) See ECCN 0A504 and USML Category XII for controls on optical sighting devices.

Related Definitions: N/A

Items:

a. Semi-automatic centerfire (non-rimfire) pistols equal to .50 caliber (12.7 mm) or less.

b. Semi-automatic rimfire pistols equal to .50 caliber (12.7 mm) or less.

Note 1 to 0A507.a and .b: ''Parts'' and ''components'' that are ''specially designed'' for a commodity classified under .a or .b of this entry, except those controlled under ECCN 0A509, are controlled under ECCN 0A501.c, .d, .x, or .y.

Note 2 to 0A507: Firearms, including pistols, built with, e.g., AR- or AK-style receivers (frames) are controlled under ECCN 0A506.

Technical Note to 0A507: Firearms described in 0A507 includes those chambered for the .50 BMG cartridge, including revolvers, or that may be developed to fire .50 BMG cartridges.

0A508 Semi-Automatic Shotguns as follows (see List of Items Controlled).

LICENSE REQUIREMENTS

Reason for Control: NS, RS, FC, CC, UN, AT

Control(s)	Country chart (see Supp. No. 1 to part 738)
NS applies to semi-automatic shotguns with a barrel length less than 18 inches (45.72 cm).	NS Column 1.
RS applies to semi-automatic shotguns with a barrel length less than 18 inches (45.72 cm).	RS Column 1.
FC applies to entire entry	FC Column 1.
CC applies to shotguns with a barrel length less than 24 in. (60.96 cm) and shotgun ''components'' controlled by this entry regardless of end user.	CC Column 1.
CC applies to shotguns with a barrel length greater than or equal to 24 in. (60.96 cm), regardless of end user.	CC Column 2.
CC applies to shotguns with a barrel length greater than or equal to 24 in. (60.96 cm) if for sale or resale to police or law enforcement.	CC Column 3.
UN applies to entire entry	See §746.1 of the EAR for UN controls.
AT applies to semi-automatic shotguns with a barrel length less than 18 inches (45.72 cm).	AT Column 1.

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

LVS: N/A

GBS: N/A

SPECIAL CONDITIONS FOR STA

License Exception STA may not be used for any shotguns with barrel length less than 18 inches controlled in 0A508, to any of the destinations listed in Country Group A:5 or A:6 (See supplement no.1 to part 740 of the EAR).

LIST OF ITEMS CONTROLLED

Related Controls: (1) See USML Category I for shotguns that are fully automatic. (2) See ECCN 0A502 for non-semi-automatic shotguns. (3) See ECCN 0A509 for enumerated or otherwise described ''parts,'' ''components,'' devices, ''accessories,'' and ''attachments'' for ECCN 0A508. (4) See 0A501.d, .x, and .y for other ''parts,'' ''components,'' ''accessories,'' and ''attachments'' ''specially designed'' for 0A508. (5) See ECCNs 0A501 for non-semi-automatic firearms, 0A506 for semi-automatic rifles, and 0A507 for semi-automatic pistols.

Related Definitions: N/A

Items:

a. Semi-automatic centerfire (non-rimfire) shotguns.

b. Semi-automatic rimfire shotguns.

0A509 Certain "parts," "components," devices, "accessories," and "attachments" for items controlled under ECCNs 0A506, 0A507, and 0A508 as follows (see List of Items Controlled).

LICENSE REQUIREMENTS

Reason for Control: NS, RS, FC, CC, UN, AT

Control(s)	Country chart (see Supp. No. 1 to part 738)
NS applies to entire entry except 0A509.a for items for ECCN 0A502 or ECCN 0A508, and 0A509.d.	NS Column 1.
RS applies to entire entry except 0A509.a for items for ECCN 0A502 or ECCN 0A508, and 0A509.d.	RS Column 1.
FC applies to entire entry	FC Column 1.
CC applies to 0A509.a for items for ECCN 0A502 or ECCN 0A508, and 0A509.d.	CC Column 1.
UN applies to entire entry	See §746.1 of the EAR for UN controls.
AT applies to entire entry except 0A509.a for items for ECCN 0A502 or ECCN 0A508, and 0A509.d.	AT Column 1.

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

LVS: $500 for 0A509.a, $500 for 0A509.b, .c, and .d if the ultimate destination is Canada

GBS: N/A

SPECIAL CONDITIONS FOR STA

License Exception STA may not be used for ECCN 0A509, except for 0A509.a for items for ECCN 0A502 or ECCN 0A508, and 0A509.d, to any of the destinations listed in Country Group A:5 or A:6 (See supplement no.1 to part 740 of the EAR).

LIST OF ITEMS CONTROLLED

Related Controls: (1) See USML Category I for firearms that are fully automatic, and magazines with a capacity of greater than 50 rounds. (2) See ECCN 0A506 for semi-automatic rifles. (3) See ECCN 0A507 for semi-automatic pistols. (4) See ECCN 0A508 for semi-automatic shotguns and ECCN 0A502 for certain ''parts'' and ''components'' for semi-automatic shotguns that are not controlled by .a or .c of this entry. (5) See ECCN 0A501.c, .d, .x, and .y for other ''parts,'' ''components,'' ''accessories,'' and ''attachments'' ''specially designed'' for 0A506 and 0A507, or 0A508. (6) See ECCN 0A501 for non-semi-automatic firearms (except 0A502 shotguns) and related commodities that are subject to the EAR. (7) See ECCN 0A502 for non-automatic shotguns and their ''parts'' and ''components'' that are subject to the EAR and certain ''parts'' and ''components'' for semi-automatic shotguns that are not controlled by .a or .d of this entry. (8) See ECCN 0A504 and USML Category XII for controls on optical sighting devices. (9) See USML Category I for similar items.

Related Definitions: N/A

Items:

a. Any ''part,'' ''component,'' device, ''attachment,'' or ''accessory'' not elsewhere specified on the USML that is designed or functions to convert a non-semi-automatic firearm controlled by 0A501 or 0A502 to semi-automatic or to accelerate the rate of fire of a semi-automatic firearm controlled by 0A506, 0A507, or 0A508.

b. Receivers (frames), including castings, forgings, stampings, or machined items thereof, ''specially designed'' for an item controlled by ECCN 0A506.

c. Receivers (frames), including castings, forgings, stampings, or machined items thereof, ''specially designed'' for an item controlled by ECCN 0A507.

d. Receivers (frames) and ''specially designed'' ''complete breech mechanisms'' for a commodity controlled by ECCN 0A508.

Note 1 to 0A509.b and .c: Receivers (frames) under 0A509.b and .c refers to any ''part'' or ''component'' of the firearm that has or is customarily marked with a serial number when required by law. Paragraph 0A509.b and .c are synonymous with a ''part'' or ''component'' that is regulated by the Bureau of Alcohol, Tobacco, Firearms and Explosives (see 18 U.S.C. 921(a)(3); 27 CFR parts 447, 478, and 479,) as a firearm. For 0A509.c, receivers (frames) includes chassis ''components'' that serve as the legal firearm (i.e., with modern pistols, the chassis itself is the serialized firearm).

0A521 Any commodity subject to the EAR that is not listed elsewhere in the CCL, but which is controlled for export because it provides at least a significant military or intelligence advantage to the

United States or for foreign policy reasons.

0A521 commodities are subject to RS1 controls with no license exception eligibility other than License Exception GOV for U.S. Government personnel and agencies under §740.11(b)(2)(ii) of the EAR, or an item-specific license exception identified in Supplement No. 5 to part 774 particular to an item covered under ECCN 0A521. The list of commodities determined to be classified under ECCN 0A521 controls is published in Supplement No. 5 to part 774. The license requirements and licensing policy relating to ECCN 0A521 are set forth in §742.6(a)(8) of the EAR.

0A602 Guns and Armament as follows (see List of Items Controlled).

LICENSE REQUIREMENTS

Reason for Control: NS, RS, UN, AT

Control(s)	Country chart (see Supp. No. 1 to part 738)
NS applies to entire entry	NS Column 1
RS applies to entire entry	RS Column 1
UN applies to entire entry	See §746.1 of the EAR for UN controls
AT applies to entire entry	AT Column 1

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

LVS: $500

GBS: N/A

SPECIAL CONDITIONS FOR STA

STA: Paragraph (c)(2) of License Exception STA (§740.20(c)(2) of the EAR) may not be used for any item in 0A602.

LIST OF ITEMS CONTROLLED

Related Controls: (1) Modern heavy weapons such as howitzers, artillery, cannon, mortars, and recoilless rifles are ''subject to the ITAR.'' (2) See ECCN 0A919 for foreign-made ''military commodities'' that incorporate more than a *de minimis* amount of U.S.-origin ''600 series'' items. (3) See ECCN 0A606 for engines that are ''specially designed'' for a self-propelled gun or howitzer subject to control under paragraph .a of this ECCN or USML Category VII.

Related Definitions: N/A

Items:

a. Guns and armament manufactured between 1890 and 1919.

b. Military flame throwers with an effective range less than 20 meters.

c. through w. [Reserved]

x. ''Parts'' and ''components'' that are ''specially designed'' for a commodity subject to control in paragraphs .a or .b of this ECCN or a defense article in USML Category II and not elsewhere specified on the USML or the CCL.

Note 1 to 0A602.x: Engines that are ''specially designed'' for a self-propelled gun or howitzer subject to control under paragraph .a of this ECCN or a defense article in USML Category VII are controlled under ECCN 0A606.x.

Note 2 to 0A602: ''Parts,'' ''components,'' ''accessories,'' and ''attachments'' specified in USML subcategory II(j) are subject to the controls of that paragraph.

Note 3 to 0A602: Black powder guns and armament manufactured in or prior to 1890 and replicas thereof designed for use with black powder propellants are designated EAR99.

0A604 Commodities related to military explosive devices and charges (see List of Items Controlled).

LICENSE REQUIREMENTS

Reason for Control: NS, RS, AT, UN

Control(s)	Country Chart (See Supp. No. 1 to part 738)
NS applies to entire entry	NS Column 1
RS applies to entire entry	RS Column 1
AT applies to entire entry	AT Column 1
UN applies to entire entry	See §746.1(b) for UN controls

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

LVS: N/A

GBS: N/A

SPECIAL CONDITIONS FOR STA

STA: Paragraph (c)(2) of License Exception STA (§740.20(c)(2) of the EAR) may not be used for any item in this ECCN 0A604.

LIST OF ITEMS CONTROLLED

Related Controls: (1) Torpedoes, bombs, and mines are ''subject to the ITAR'' (see 22 CFR §121.1, USML Category IV). (2) Smoke bombs, non-irritant smoke flares, canisters, grenades and charges, and other pyrotechnical articles having both military and commercial applications are controlled by ECCN 1A984. (3) Certain explosive detonator firing sets, electrically driven explosive detonators, and detonators and multipoint initiation systems are controlled by ECCN 1A007 or ECCN 3A232. (4) See ECCN 0A919 for foreign-made ''military commodities'' that incorporate more than a *de minimis* amount of U.S.-origin ''600 series'' controlled content.

Related Definitions: N/A

Items: a. Demolition blocks, and detonators designed, modified, or adapted therefor.

b. Military explosive excavating devices.

Note to 0A604.a and .b: This entry does not control the detonators and other items described in ECCN 1A007 or ECCN 3A232.

c. Smoke hand grenades and stun hand grenades (e.g., ''flashbangs'') not controlled by ECCN 1A984.

d. through w. [Reserved]

x. ''Parts,'' ''components,'' ''accessories,'' and ''attachments'' that are ''specially designed'' for a commodity subject to control in paragraphs .a through .c of this ECCN, or for a defense article controlled under USML

Category IV, and not specified elsewhere on the USML.

Note to 0A604.x: ''Parts,'' ''components,'' ''accessories,'' and ''attachments'' specified in USML Category IV(h) are subject to the controls of that paragraph

0A606 Ground vehicles and related commodities, as follows (see List of Items Controlled).

LICENSE REQUIREMENTS

Reason for Control: NS, RS, AT, UN

Control(s)	Country Chart (See Supp. No. 1 to part 738)
NS applies to entire entry, except 0A606.b and .y.	NS Column 1
NS applies to 0A606.b	NS Column 2
RS applies to entire entry, except 0A606.b and .y.	RS Column 1
RS applies to 0A606.b	RS Column 2
RS applies to 0A606.y	China, Russia, or Venezuela (see §742.6(a)(7))
AT applies to entire entry	AT Column 1
UN applies to entire entry, except 0A606.y.	See §746.1(b) for UN controls

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

LVS: $1500

GBS: N/A

SPECIAL CONDITIONS FOR STA

STA: (1) Paragraph (c)(1) of License Exception STA (§740.20(c)(1) of the EAR) may not be used for any item in 0A606.a, unless determined by BIS to be eligible for License Exception STA in accordance with §740.20(g) (License Exception STA eligibility requests for 9x515 and ''600 series'' items). (2) Paragraph (c)(2) of License Exception STA (§740.20(c)(2) of the EAR) may not be used for any item in 0A606.

LIST OF ITEMS CONTROLLED

Related Controls: (1) The ground vehicles, other articles, technical data (including software) and services described in 22 CFR part 121, Category VII are subject to the jurisdiction of the International Traffic in Arms Regulations. (2) See ECCN 0A919 for foreign-made ''military commodities'' that incorporate more than a *de minimis* amount of U.S.-origin ''600 series'' controlled content.

Related Definitions: N/A

Items:

a. Ground vehicles, whether manned or unmanned, ''specially designed'' for a military use and not enumerated or otherwise described in USML Category VII.

Note 1 to paragraph a: For purposes of paragraph a, ''ground vehicles'' include (i) tanks and armored vehicles manufactured prior to 1956 that have not been modified since 1955 and that do not contain a functional weapon or a weapon capable of becoming functional through repair; (ii) military railway trains except those that are armed or are ''specially designed'' to launch missiles; (iii) unarmored military recovery and other support vehicles; (iv) unarmored, unarmed vehicles with mounts or hard points for firearms of .50 caliber or less; and (v) trailers ''specially designed'' for use with other ground vehicles enumerated in USML Category VII or ECCN 0A606.a, and not separately enumerated or otherwise described in USML Category VII. For purposes of this note, the term ''modified'' does not include incorporation of safety features required by law, cosmetic changes (e.g., different paint or repositioning of bolt holes) or addition of ''parts'' or ''components'' available prior to 1956.

Note 2 to paragraph a: A ground vehicle's being ''specially designed'' for military use for purposes of determining controls under paragraph .a. entails a structural, electrical or mechanical feature involving one or more ''components'' that are ''specially designed'' for military use. Such ''components'' include:

a. Pneumatic tire casings of a kind ''specially designed'' to be bullet-proof;

b. Armored protection of vital ''parts'' (e.g., fuel tanks or vehicle cabs);

c. Special reinforcements or mountings for weapons;

d. Black-out lighting.

b. Other ground vehicles, ''parts'' and ''components,'' as follows:

b.1. Unarmed vehicles that are derived from civilian vehicles and that have all of the following:

b.1.a. Manufactured or fitted with materials or ''components'' other than reactive or electromagnetic armor to provide ballistic protection equal to or better than level III (National Institute of Justice standard 0108.01, September 1985) or ''equivalent standards'';

b.1.b. A transmission to provide drive to both front and rear wheels simultaneously, including those for vehicles having additional wheels for load bearing purposes whether driven or not;

b.1.c. Gross vehicle weight rating (GVWR) greater than 4,500 kg; *and*

b.1.d. Designed or modified for off-road use.

b.2. ''Parts'' and ''components'' having all of the following:

b.2.a. ''Specially designed'' for vehicles specified in paragraph .b.1 of this entry; *and*

b.2.b. Providing ballistic protection equal to or better than level III (National Institute of Justice standard 0108.01, September 1985) or ''equivalent standards''.

Note 1 to paragraph b: Ground vehicles otherwise controlled by 0A606.b.1 that contain reactive or electromagnetic armor are subject to the controls of USML Category VII.

Note 2 to paragraph b: ECCN 0A606.b.1 does not control civilian vehicles ''specially designed'' for transporting money or valuables.

Note 3 to paragraph b: ''Unarmed'' means not having installed weapons, installed mountings

for weapons, or special reinforcements for mounts for weapons.

c. Air-cooled diesel engines and engine blocks for armored vehicles that weigh more than 40 tons.

d. Fully automatic continuously variable transmissions for tracked combat vehicles.

e. Deep water fording kits ''specially designed'' for ground vehicles controlled by ECCN 0A606.a or USML Category VII.

f. Self-launching bridge ''components'' not enumerated in USML Category VII(g) ''specially designed'' for deployment by ground vehicles enumerated in USML Category VII or this ECCN.

g. through w. [Reserved]

x. ''Parts,'' ''components,'' ''accessories,'' and ''attachments'' that are ''specially designed'' for a commodity enumerated or otherwise described in ECCN 0A606 (other than 0A606.b or 0A606.y) or a defense article enumerated in USML Category VII and not elsewhere specified on the USML or in 0A606.y.

Note 1: Forgings, castings, and other unfinished products, such as extrusions and machined bodies, that have reached a stage in manufacture where they are clearly identifiable by mechanical properties, material composition, geometry, or function as commodities controlled by ECCN 0A606.x are controlled by ECCN 0A606.x.

Note 2: ''Parts,'' ''components,'' ''accessories'' and ''attachments'' enumerated in USML paragraph VII(g) are subject to the controls of that paragraph. ''Parts,'' ''components,'' ''accessories'' and ''attachments'' described in ECCN 0A606.y are subject to the controls of that paragraph.

y. Specific ''parts,'' ''components,'' ''accessories,'' and ''attachments'' ''specially designed'' for a commodity enumerated or otherwise described in this ECCN (other than ECCN 0A606.b) or for a defense article in USML Category VII and not elsewhere specified on the USML or the CCL, as follows, and ''parts,'' ''components,'' ''accessories,'' and ''attachments'' ''specially designed'' therefor:

y.1. Brake discs, rotors, drums, calipers, cylinders, pads, shoes, lines, hoses, vacuum boosters, and parts therefor;

y.2. Alternators and generators;

y.3. Axles;

y.4. Batteries;

y.5. Bearings (*e.g.*, ball, roller, wheel);

y.6. Cables, cable assembles, and connectors;

y.7. Cooling system hoses;

y.8. Hydraulic, fuel, oil, and air filters, not controlled by ECCN 1A004;

y.9. Gaskets and o-rings;

y.10. Hydraulic system hoses, fittings, couplings, adapters, and valves;

y.11. Latches and hinges;

y.12. Lighting systems, fuses, and ''components;''

y.13. Pneumatic hoses, fittings, adapters, couplings, and valves;

y.14. Seats, seat assemblies, seat supports, and harnesses;

y.15 Tires, except run flat; and

y.16 Windows, except those for armored vehicles.

0A614 Military training "equipment," as follows (see List of Items Controlled).

LICENSE REQUIREMENTS

Reason for Control: NS, RS, AT, UN

Control(s)	Country Chart (See Supp. No. 1 to part 738)
NS applies to entire entry	NS Column 1
RS applies to entire entry	RS Column 1
AT applies to entire entry	AT Column 1
UN applies to entire entry	See §746.1(b) for UN controls

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

LVS: $1500

GBS: N/A

SPECIAL CONDITIONS FOR STA

STA: Paragraph (c)(2) of License Exception STA (§740.20(c)(2)) of the EAR may not be used for any item in 0A614.

LIST OF ITEMS CONTROLLED

Related Controls: (1) Defense articles that are enumerated or otherwise described in USML Category IX and ''technical data'' (including ''software'') directly related thereto are ''subject to the ITAR''. (2) See ECCN 0A919 for foreign-made ''military commodities'' that incorporate more than a *de minimis* of US-origin ''600 series'' items. (3) ''Parts,'' ''components,'' ''accessories'' and ''attachments'' that are common to a simulator controlled by ECCN 0A614.a and to a simulated system or an end item that is controlled on the USML or elsewhere on the CCL are controlled under the same USML Category or ECCN as the ''parts,'' ''components,'' ''accessories'' and ''attachments'' of the simulated system or end item.

Related Definitions: N/A

Items: a. ''Equipment'' ''specially designed'' for military training that is not enumerated or otherwise described in USML Category IX.

Note 1 to 0A614: This entry includes operational flight trainers, radar target trainers, flight simulators for aircraft classified under ECCN 9A610.a, human-rated centrifuges, radar trainers for radars classified under ECCN 3A611, instrument flight trainers for military aircraft, navigation trainers for military items, target equipment, armament trainers, military pilotless aircraft trainers, mobile training units and training ''equipment'' for ground military operations.

Note 2 to 0A614: This entry does not apply to ''equipment'' ''specially designed'' for training in the use of hunting or sporting weapons.

b. through w. [Reserved]

x. ''Parts,'' ''components,'' ''accessories'' ''attachments'' that are ''specially designed'' for a commodity controlled by this entry or an article enumerated or otherwise described in USML Category IX, and not specified elsewhere on the USML.

0A617 Miscellaneous "Equipment," Materials, and Related Commodities (See List of Items Controlled).

LICENSE REQUIREMENTS

Reason for Control: NS, RS, AT, UN

Control(s)	Country chart (see Supp. No. 1 to part 738)
NS applies to entire entry, except 0A617.y.	NS Column 1
RS applies to entire entry, except 0A617.y.	RS Column 1
RS applies to 0A617.y	China, Russia, or Venezuela (see §742.6(a)(7))
AT applies to entire entry	AT Column 1
UN applies to entire entry, except 0A617.y.	See §764.1(b) for UN controls

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

LVS: $1500

GBS: N/A

SPECIAL CONDITIONS FOR STA

STA: Paragraph (c)(2) of License Exception STA (§740.20(c)(2) of the EAR) may not be used for any item in 0A617.

LIST OF ITEMS CONTROLLED

Related Controls: (1) Defense articles, such as materials made from classified information, that are controlled by USML Category XIII, and technical data (including software) directly related thereto, are subject to the ITAR. (2) See ECCN 0A919 for foreign-made ''military commodities'' that incorporate more than a *de minimis* amount of U.S.-origin ''600 series'' controlled content. (3) For controls on self-contained diving and underwater swimming apparatus and related commodities, see ECCN 8A620.f. (4) For controls on robots, robot controllers, and robot end-effectors, see USML Category VII and ECCNs 0A606 and 2B007. (5) ''Libraries,'' *i.e.*, parametric technical databases, ''specially designed'' for military use with equipment controlled by the USML or a ''600 series'' ECCN are controlled by the technical data and technology controls pertaining to such items. (6) For controls on nuclear power generating equipment or propulsion equipment, including ''nuclear reactors,'' ''specially designed'' for military use, and ''parts'' and ''components'' ''specially designed'' therefor, see USML Categories VI, XIII, XV, and XX. (7) Simulators ''specially designed'' for military ''nuclear reactors'' are controlled by USML Category IX(b). (8) See USML Categories X, XI and XII for ''laser'' protection equipment (*e.g.*, eye and sensor protection) ''specially designed'' for military use. (9) ''Fuel cells'' ''specially designed'' for a defense article on the USML or a commodity controlled by a ''600 series'' ECCN are controlled according to the corresponding ''600 series'' ECCN for such end items. (10) See USML Category XV for controls on fuel cells ''specially designed'' for satellite or spacecraft.

Related Definitions: N/A

Items:

a. [Reserved]

b. Concealment and deception equipment ''specially designed'' for military application, including special paints, decoys, smoke or obscuration equipment and simulators, and ''parts,'' ''components,'' ''accessories,'' and ''attachments'' ''specially designed'' therefor, not controlled by USML Category XIII.

c. Ferries, bridges not described in ECCN 0A606 or USML Category VII, and pontoons, ''specially designed'' for military use.

d. Test models ''specially designed'' for the ''development'' of defense articles controlled by USML Categories IV, VI, VII and VIII.

e. [Reserved]

f. ''Metal embrittlement agents.''

g. through x. [Reserved]

y. Other commodities as follows, and ''parts,'' ''components,'' ''accessories,'' and ''attachments'' ''specially designed'' therefore:

y.1. Construction equipment ''specially designed'' for military use, including such equipment ''specially designed'' for transport in aircraft controlled by USML VIII(a) or ECCN 9A610.a.

y.2. ''Parts,'' ''components,'' ''accessories,'' and ''attachments'' ''specially designed'' for commodities in paragraph .y.1 of this entry, including crew protection kits used as protective cabs.

y.3. ISO intermodal containers or demountable vehicle bodies (*i.e.*, swap bodies), n.e.s., ''specially designed'' or 'modified' for shipping or packing defense articles or items controlled by a ''600 series'' ECCN.

Technical Note: For the purpose of 0A617.y.3, 'modified' means any structural, electrical, mechanical, or other change that provides a non-military item with military capabilities equivalent to an item which is ''specially designed'' for military use.

y.4. Field generators ''specially designed'' for military use.

y.5. Power controlled searchlights and control units therefor, ''specially designed'' for military use, and ''equipment'' mounting such units.

0A919 "Military commodities" located and produced outside the United States as follows (see list of items controlled)

LICENSE REQUIREMENTS

Reasons for Control: RS, AT

Control(s)	Country Chart (see Supp. No. 1 to part 738)
RS applies to entire entry	RS Column 1, See §742.6(a)(3) for license requirements.
AT applies to entire entry	AT Column 1.

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

LVS: N/A

GBS: N/A

LIST OF ITEMS CONTROLLED

Related Controls: (1) ''Military commodities'' are subject to the export licensing jurisdiction of the Department of State if they incorporate items that are subject to the International Traffic in Arms Regulations (ITAR) (22 CFR parts 120–130). (2) ''Military commodities'' described in this paragraph are subject to the export licensing jurisdiction of the Department of State if such commodities are described on the U.S. Munitions List (22 CFR part 121) and are in the United States. (3) The furnishing of assistance (including training) to foreign persons, whether in the United States or abroad, in the design, development, engineering, manufacture, production, assembly, testing, repair, maintenance, modification, operation, demilitarization, destruction, processing, or use of defense articles that are subject to the ITAR; or the furnishing to foreign persons of any technical data controlled under 22 CFR 121.1 whether in the United States or abroad are under the licensing jurisdiction of the Department of State. (4) Brokering activities (as defined in 22 CFR 129) of ''military commodities'' that are subject to the ITAR are under the licensing jurisdiction of the Department of State.

Related Definitions: ''Military commodity'' or ''military commodities'' means an article, material or supply that is described on the U.S. Munitions List (22 CFR part 121) or on the Munitions List that is published by the Wassenaar Arrangement on Export Controls for Conventional Arms and Dual-Use Goods and Technologies (*i.e.*, the Wassenaar Arrangement Munitions List (WAML)), but does not include software, technology, any item listed in any ECCN for which the last three numerals are 018, or any item in the ''600 series.''

Items:

a. ''Military commodities'' produced and located outside the United States that are not subject to the International Traffic in Arms Regulations (22 CFR parts 120–130) and having any of the following characteristics:

a.1. Incorporate more than a *de minimis* amount of U.S.-origin controlled content classified under ECCNs 6A002, 6A003, or 6A993.a (having a maximum frame rate equal to or less than 9 Hz and thus meeting the criterion of Note 3.a to 6A003.b.4);

a.2. Incorporate more than a *de minimis* amount of U.S.-origin ''600 series'' controlled content (see §734.4 of the EAR); *or*

a.3. Are direct products of U.S.-origin ''600 series'' technology or software (see §734.9(d) of the EAR).

b. [Reserved]

0A977 Water cannon systems for riot or crowd control, and "parts" and "components" "specially designed" therefor.

LICENSE REQUIREMENTS

Reason for Control: CC 1

Control(s)	Country chart (see Supp. No. 1 to part 738)
CC applies to entire entry	CC Column 1.

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

LVS: N/A

GBS: N/A

SPECIAL CONDITIONS FOR STA

STA: License Exception STA may not be used for 0A977.

LIST OF ITEMS CONTROLLED

Related Controls: N/A

Related Definitions: N/A

Items: The list of items controlled is contained in the ECCN heading.

Note: 0A977 water cannon systems include, for example: vehicles or fixed stations equipped with remotely operated water cannon that are designed to protect the operator from an outside riot with features such as armor, shatter resistant windows, metal screens, bull-bars, or run-flat tires. Components ''specially designed'' for water cannons may include, for example: deck gun water nozzles, pumps, reservoirs, cameras, and lights that are hardened or shielded against projectiles, elevating masts for those items, and teleoperation systems for those items.

0A978 Law enforcement striking weapons, including saps, police batons, side handle batons, tonfas, sjamboks, and whips.

LICENSE REQUIREMENTS

Reason for Control: CC

Control(s)	Country Chart (See Supp. No. 1 to part 738)
CC applies to entire entry	CC Column 1

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

LVS: N/A

GBS: N/A

LIST OF ITEMS CONTROLLED

Related Controls: N/A

Related Definitions: N/A

Items: The list of items controlled is contained in the ECCN heading.

0A979 Police helmets and shields; and "specially designed" "components," n.e.s.

LICENSE REQUIREMENTS
Reason for Control: CC

Control(s)	Country Chart (See Supp. No. 1 to part 738)
CC applies to entire entry	CC Column 1

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)
LVS: N/A
GBS: N/A
LIST OF ITEMS CONTROLLED
Related Controls: N/A
Related Definitions: N/A
Items: The list of items controlled is contained in the ECCN heading.

0A980 Horses by sea.
LICENSE REQUIREMENTS
Reason for Control: SS
Control(s): SS applies to entire entry. For licensing requirements (and possible License Exceptions) proceed directly to part 754 of the EAR. The Commerce Country Chart is not designed to determine licensing requirements for items controlled for SS reasons
LIST OF ITEMS CONTROLLED
Related Controls: N/A
Related Definitions: N/A
Items: The list of items controlled is contained in the ECCN heading.

0A981 Equipment designed for the execution of human beings as follows (see List of Items Controlled).
LICENSE REQUIREMENTS
Reason for Control: CC
Control(s): CC applies to entire entry. A license is required for ALL destinations regardless of end-use. Accordingly, a column specific to this control does not appear on the Commerce Country Chart. (See §742.7 of the EAR for additional information.)
LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)
LVS: N/A
GBS: N/A
LIST OF ITEMS CONTROLLED
Related Controls: N/A
Related Definitions: N/A
Items: a. Gallows and guillotines.

b. Electric chairs for the purpose of executing human beings.

c. Air tight vaults designed for the execution of human beings by the administration of a lethal gas or substance.

d. Automatic drug injection systems designed for the execution of human beings by administration of a lethal substance.

0A982 Law enforcement restraint devices, including leg irons, shackles, and handcuffs; straight jackets; stun cuffs; shock belts; shock sleeves; multipoint restraint devices such as restraint chairs; and "specially designed" "parts," "components" and "accessories," n.e.s.
LICENSE REQUIREMENTS
Reason for Control: CC
Control(s): CC applies to entire entry. A license is required for ALL destinations, except Canada, regardless of end-use. Accordingly, a column specific to this control does not appear on the Commerce Country Chart. (See part 742 of the EAR for additional information.)
LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)
LVS: N/A
GBS: N/A
LIST OF ITEMS CONTROLLED
*Related Controls:*Thumbcuffs and fingercuffs are classified under ECCN 0A983, ''specially designed'' implements of torture. Restraint devices that electronically monitor or report the location of confined persons for law enforcement or penal reasons are controlled under ECCN 3A981.
Related Definitions: N/A
Items: The list of items controlled is contained in the ECCN heading.

Note to ECCN 0A982. This ECCN applies to restraint devices used in law enforcement activities. It does not apply to medical devices that are equipped to restrain patient movement during medical procedures. It does not apply to devices that confine memory impaired patients to appropriate medical facilities. It does not apply to safety equipment such as safety belts or child automobile safety seats.

0A983 "Specially designed" implements of torture, including thumbscrews, thumbcuffs, fingercuffs, spiked batons, and "specially designed" "parts," "components" and "accessories," n.e.s.
LICENSE REQUIREMENTS
Reason for Control: CC
Control(s): CC applies to entire entry. A license is required for ALL destinations, regardless of end-use. Accordingly, a column specific to this control does not appear on the Commerce Country Chart. (See part 742 of the EAR for additional information.)
LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)
LVS: N/A
GBS: N/A
LIST OF ITEMS CONTROLLED
Related Controls: N/A
Related Definitions: N/A
Items: The list of items controlled is contained in the ECCN heading.

Note to ECCN 0A983. In this ECCN, ''torture'' has the meaning set forth in Section 2340(1) of Title 18, United States Code.

0A998 Oil and gas exploration equipment, software, and data, as follows (see List of Items Controlled).

LICENSE REQUIREMENTS

Reason for Control: Foreign policy

Control(s)	Country chart
Russian industry sector sanction applies to entire entry.	See §746.8 for specific license requirements and license review policy.

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

LVS: N/A

GBS: N/A

LIST OF ITEMS CONTROLLED

Related Controls: N/A

Related Definitions: N/A

Items:

a. Oil and gas exploration data, *e.g.*, seismic analysis data.

b. Hydraulic fracturing items, as follows:

b.1. Hydraulic fracturing design and analysis software and data.

b.2. Hydraulic fracturing 'proppant,' 'fracking fluid,' and chemical additives therefor.

Technical Note: A 'proppant' is a solid material, typically treated sand or man-made ceramic materials, designed to keep an induced hydraulic fracture open, during or following a fracturing treatment. It is added to a 'fracking fluid' which may vary in composition depending on the type of fracturing used, and can be gel, foam or slickwater-based.

b.3. High pressure pumps.

0A999 Specific Processing Equipment, as Follows (See List of Items Controlled).

LICENSE REQUIREMENTS

Reason for Control: AT

Control(s):

Country Chart. AT applies to entire entry. A license is required for items controlled by this entry to North Korea for anti-terrorism reasons. The Commerce Country Chart is not designed to determine AT licensing requirements for this entry. See §742.19 of the EAR for additional information.

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

LVS: N/A

GBS: N/A

LIST OF ITEMS CONTROLLED

Related Controls: N/A

Related Definitions: N/A

Items: a. Ring Magnets;

b. Reserved.

B. ''TEST'', ''INSPECTION'' AND ''PRODUCTION EQUIPMENT''

0B501 Test, inspection, and production "equipment" and related commodities for the "development" or "production" of commodities enumerated or otherwise described in ECCNs 0A501, 0A506, 0A507, or 0A509 or USML Category I as follows (see List of Items Controlled).

LICENSE REQUIREMENTS

Reason for Control: NS, RS, UN, AT

Control(s)	Country chart (see Supp. No. 1 to part 738)
NS applies to entire entry except equipment for ECCN 0A501.y.	NS Column 1
RS applies to entire entry except equipment for ECCN 0A501.y.	RS Column 1
UN applies to entire entry	See §746.1 of the EAR for UN controls
AT applies to entire entry	AT Column 1

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

LVS: $3000

GBS: N/A

SPECIAL CONDITIONS FOR STA

STA: Paragraph (c)(2) of License Exception STA (§740.20(c)(2) of the EAR) may not be used to ship any item in this entry.

LIST OF ITEMS CONTROLLED

Related Controls: N/A

Related Definitions: N/A

Items:

a. Small arms chambering machines.

b. Small arms deep hole drilling machines and drills therefor.

c. Small arms rifling machines.

d. Small arms boring/reaming machines.

e. Production equipment (including dies, fixtures, and other tooling) ''specially designed'' for the ''production'' of the items controlled in 0A501.a through .x., 0A506, 0A507, 0A509, or USML Category I.

0B505 Test, inspection, and production "equipment" and related commodities "specially designed" for the "development" or "production" of commodities enumerated or otherwise described in ECCN 0A505 or USML Category III, except equipment for the hand loading of cartridges and shotgun shells, as follows (see List of Items Controlled).

LICENSE REQUIREMENTS

Reason for Control: NS, RS, UN, AT

Control(s)	Country chart (see Supp. No. 1 to part 738)
NS applies to paragraphs .a and .x.	NS Column 1
RS applies to paragraphs .a and .x.	RS Column 1
UN applies to entire entry	See §746.1 of the EAR for UN controls
AT applies to paragraphs .a, .d, and .x.	AT Column 1

Control(s)	Country chart (see Supp. No. 1 to part 738)
AT applies to paragraph .c	A license is required for export or reexport of these items to North Korea for anti-terrorism reasons

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

LVS: $3000

GBS: N/A

SPECIAL CONDITIONS FOR STA

STA: Paragraph (c)(2) of License Exception STA (§740.20(c)(2) of the EAR) may not be used for any item in 0B505.

LIST OF ITEMS CONTROLLED

Related Controls: N/A

Related Definitions: N/A

Items:

a. Production equipment (including tooling, templates, jigs, mandrels, molds, dies, fixtures, alignment mechanisms, and test equipment), not enumerated in USML Category III that are ''specially designed'' for the ''production'' of commodities controlled by ECCN 0A505.a or .x or USML Category III.

b. Equipment ''specially designed'' for the ''production'' of commodities in ECCN 0A505.b.

c. Equipment ''specially designed'' for the ''production'' of commodities in ECCN 0A505.c.

d. Equipment ''specially designed'' for the ''production'' of commodities in ECCN 0A505.d.

e. through .w [Reserved]

x. ''Parts'' and ''components'' ''specially designed'' for a commodity subject to control in paragraph .a of this entry.

0B521 Any commodity subject to the EAR that is not listed elsewhere in the CCL, but which is controlled for export because it provides at least a significant military or intelligence advantage to the United States or for foreign policy reasons.

0B521 commodities are subject to RS1 controls with no license exception eligibility other than License Exception GOV for U.S. Government personnel and agencies under §740.11(b)(2)(ii) of the EAR, or an item-specific license exception identified in Supplement No. 5 to part 774 particular to an item covered under ECCN 0B521. The list of commodities determined to be classified under ECCN 0B521 controls is published in Supplement No. 5 to part 774. The license requirements and licensing policy relating to ECCN 0B521 are set forth in §742.6(a)(8) of the EAR.

0B602 Test, inspection, and production "equipment" and related commodities "specially designed" for the "development" or "production" of commodities enumerated or otherwise described in ECCN 0A602 or USML Category II as follows (see List of Items Controlled).

LICENSE REQUIREMENTS

Reason for Control: NS, RS, UN, AT

Control(s)	Country chart (see Supp. No. 1 to part 738)
NS applies to entire entry	NS Column 1
RS applies to entire entry	RS Column 1
UN applies to entire entry	See §746.1 of the EAR for UN controls
AT applies to entire entry	AT Column 1

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

LVS: $3000

GBS: N/A

SPECIAL CONDITIONS FOR STA

STA: Paragraph (c)(2) of License Exception STA (§740.20(c)(2) of the EAR) may not be used for any item in 0B602.

LIST OF ITEMS CONTROLLED

Related Controls: N/A

Related Definitions: N/A

Items:

a. The following commodities if ''specially designed'' for the ''development'' or ''production'' of commodities enumerated in ECCN 0A602.a or USML Category II:

a.1. Gun barrel rifling and broaching machines and tools therefor;

a.2. Gun barrel rifling machines;

a.3. Gun barrel trepanning machines;

a.4. Gun boring and turning machines;

a.5. Gun honing machines of 6 feet (183 cm) stroke or more;

a.6. Gun jump screw lathes;

a.7. Gun rifling machines; and

a.8. Barrel straightening presses.

b. Jigs and fixtures and other metal-working implements or accessories of the kinds exclusively designed for use in the manufacture of items in ECCN 0A602 or USML Category II.

c. Other tooling and equipment, ''specially designed'' for the ''production'' of items in ECCN 0A602 or USML Category II.

d. Test and evaluation equipment and test models, including diagnostic instrumentation and physical test models, ''specially designed'' for items in ECCN 0A602 or USML Category II.

0B604 Test, inspection, and production "equipment" and related commodities "specially designed" for the "development," "production," repair, overhaul, or refurbishing of commodities in ECCN 0A604 or related defense articles in USML Category IV (see List of Items Controlled).

LICENSE REQUIREMENTS

Reason for Control: NS, RS, AT, UN

Control(s)	Country Chart (See Supp. No. 1 to part 738)
NS applies to entire entry	NS Column 1
RS applies to entire entry	RS Column 1
AT applies to entire entry	AT Column 1
UN applies to entire entry	See §746.1(b) for UN controls

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

LVS: $1500

GBS: N/A

SPECIAL CONDITIONS FOR STA

STA: Paragraph (c)(2) of License Exception STA (§740.20(c)(2) of the EAR) may not be used for any item in this ECCN 0B604.

LIST OF ITEMS CONTROLLED

Related Controls: (1) See ECCN 9B604, which controls test, inspection, and production ''equipment'' and related commodities ''specially designed'' for the ''development'' or ''production'' of commodities in ECCN 9A604 or related defense articles in USML Category IV. (2) See ECCN 0A919 for foreign-made ''military commodities'' that incorporate more than a *de minimis* amount of US-origin ''600 series'' controlled content.

Related Definitions: N/A

Items: a. Test, inspection, and other production ''equipment'' that are ''specially designed'' for the ''development,'' ''production,'' repair, overhaul, or refurbishing of commodities controlled by ECCN 0A604 or for bombs, torpedoes, depth charges, mines and hand grenades, and parts, components, accessories and attachments therefor, controlled under USML Category IV.

b. through w. [Reserved]

x. ''Parts,'' ''components,'' ''accessories,'' and ''attachments'' that are ''specially designed'' for a commodity subject to control in paragraph .a of this ECCN.

0B606 Test, inspection, and production "equipment" and related commodities, not enumerated on the USML, "specially designed" for the "development," "production," repair, overhaul, or refurbishing of commodities enumerated or otherwise described in ECCN 0A606 or USML Category VII (see List of Items Controlled).

LICENSE REQUIREMENTS

Reason for Control: NS, RS, AT, UN

Control(s)	Country Chart (See Supp. No. 1 to part 738)
NS applies to entire entry	NS Column 1
RS applies to entire entry	RS Column 1
AT applies to entire entry	AT Column 1
UN applies to entire entry	See §746.1(b) for UN controls

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

LVS: $1500

GBS: N/A

SPECIAL CONDITIONS FOR STA

STA: Paragraph (c)(2) of License Exception STA (§740.20(c)(2) of the EAR) may not be used for any item in 0B606.

LIST OF ITEMS CONTROLLED

Related Controls: (1) Ground vehicles, other articles, technical data (including software) and services described in 22 CFR part 121, Category VII are subject to the jurisdiction of the International Traffic in Arms Regulations. (2) See ECCN 0A919 for foreign-made ''military commodities'' that incorporate more than a *de minimis* amount of U.S.-origin ''600 series'' controlled content.

Related Definitions: N/A

Items: a. Test, inspection, and production ''equipment'' ''specially designed'' for the ''development,'' ''production,'' repair, overhaul, or refurbishing of commodities enumerated or otherwise described in ECCN 0A606 (except for 0A606.b or 0A606.y) or in USML Category VII, and ''parts,'' ''components,'' ''accessories,'' and ''attachments'' ''specially designed'' therefor.

Note 1: ECCN 0B606 includes (i) armor plate drilling machines, other than radial drilling machines, (ii) armor plate planing machines, (iii) armor plate quenching presses; and (iv) tank turret bearing grinding machines.

b. Environmental test facilities ''specially designed'' for the certification, qualification, or testing of commodities enumerated or otherwise described in ECCN 0A606 (except for 0A606.b or 0A606.y) or in USML Category VII, and ''equipment'' ''specially designed'' therefor.

0B614 Test, inspection, and production "equipment" for military training "equipment" and "specially designed" "parts," "components," "accessories" and "attachments" therefor, as follows (see List of Items Controlled).

LICENSE REQUIREMENTS

Reason for Control: NS, RS, AT, UN

Control(s)	Country Chart (See Supp. No. 1 to part 738)
NS applies to entire entry	NS Column 1
RS applies to entire entry	RS Column 1
AT applies to entire entry	AT Column 1
UN applies to entire entry	See §746.1(b) for UN controls

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

LVS: $1500

GBS: N/A

SPECIAL CONDITIONS FOR STA

STA: Paragraph (c)(2) of License Exception STA (§740.20(c)(2) of the EAR) may not be used for any item in 0B614.

LIST OF ITEMS CONTROLLED

Related Controls: See ECCN 0A919 for foreign-made ''military commodities'' that incorporate more than a *de minimis* amount of US-origin ''600 series'' controlled content.

Related Definitions: N/A

Items: a. Test, inspection, and other production ''equipment'' ''specially designed'' for the ''development,'' ''production,'' repair, overhaul, or refurbishing of commodities controlled by ECCN 0A614 or articles enumerated or otherwise described in USML Category IX.

b. through .w [Reserved]

x. ''Parts,'' ''components,'' ''accessories'' and ''attachments'' that are ''specially designed'' for a commodity controlled by ECCN 0B614.

0B617 Test, inspection, and production "equipment" and related commodities "specially designed" for the "development," "production," repair, overhaul, or refurbishing of commodities enumerated or otherwise described in ECCN 0A617 or USML Category XIII, and "parts," "components," "accessories," and "attachments" "specially designed" therefor (see List of Items Controlled).

LICENSE REQUIREMENTS

Reason for Control: NS, RS, AT, UN

Control(s)	Country Chart (See Supp. No. 1 to part 738)
NS applies to entire entry	NS Column 1
RS applies to entire entry	RS Column 1
AT applies to entire entry	AT Column 1
UN applies to entire entry	See §746.1(b) for UN controls

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

LVS: $1500

GBS: N/A

SPECIAL CONDITIONS FOR STA

STA: Paragraph (c)(2) of License Exception STA (§740.20(c)(2) of the EAR) may not be used for any item in 0B617.

LIST OF ITEMS CONTROLLED

Related Controls: See ECCN 0A919 for foreign-made ''military commodities'' that incorporate more than a *de minimis* amount of U.S.-origin ''600 series'' controlled content.

Related Definitions: N/A

Items: a. Test, inspection, and production ''equipment'' not controlled by USML Category XIII(k) ''specially designed'' for the ''production,'' ''development,'' repair, overhaul, or refurbishing of commodities enumerated or otherwise described in ECCN 0A617, (except for 0A617.y) or USML Category XIII, and ''parts,'' ''components,'' ''accessories,'' and ''attachments'' ''specially designed'' therefor.

b. [Reserved]

Note: Field engineer equipment ''specially designed'' for use in a combat zone, identified in the Wassenaar Arrangement Munitions List 17.d, and mobile repair shops ''specially designed'' or modified to service military equipment, identified in Wassenaar Arrangement Munitions List 17.j, are controlled by 0B617 to the extent that the items are not included in USML Category XIII(k).

0B999 Specific Processing Equipment, as Follows (See List of Items Controlled).

LICENSE REQUIREMENTS

Reason for Control: AT, RS

Control(s)	Country Chart (See Supp. No. 1 to part 738)
AT applies to entire entry.	A license is required for items controlled by this entry to North Korea for anti-terrorism reasons. The Commerce Country Chart is not designed to determine AT license requirements for this entry. See §742.19 of the EAR for additional information.
RS applies to entire entry.	A license is required for items controlled by this entry for export or reexport to Iraq or transfer within Iraq for regional stability reasons. The Commerce Country Chart is not designed to determine RS license requirements for this entry. See §§742.6 and 746.3 of the EAR for additional information.

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

LVS: N/A

GBS: N/A

LIST OF ITEMS CONTROLLED

Related Controls: N/A

Related Definitions: N/A

Items: a. Hot cells;

b. Glove boxes suitable for use with radioactive materials.

C. ''MATERIALS''

0C521 Any material subject to the EAR that is not listed elsewhere in the CCL, but which is controlled for export because it provides at least a significant military or intelligence advantage to the United States or for foreign policy reasons.

0C521 materials are subject to RS1 controls with no license exception eligibility other than License Exception GOV for U.S. Government personnel and agencies under §740.11(b)(2)(ii) of the EAR, or an item-specific license exception identified in Supplement No. 5 to part 774 particular to an item

covered under ECCN 0C521. The list of materials determined to be classified under ECCN 0C521 controls is published in Supplement No. 5 to part 774. The license requirements and licensing policy relating to ECCN 0C521 are set forth in §742.6(a)(8) of the EAR.

0C606 Materials "specially designed" for commodities controlled by ECCN 0A606 not elsewhere specified in the USML (see List of Items Controlled).

LICENSE REQUIREMENTS

Reason for Control: NS, RS, AT, UN

Control(s)	Country Chart (See Supp. No. 1 to part 738)
NS applies to entire entry	NS Column 1
RS applies to entire entry	RS Column 1
AT applies to entire entry	AT Column 1
UN applies to entire entry	See §746.1(b) for UN controls

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

LVS: $1500

GBS: N/A

SPECIAL CONDITIONS FOR STA

STA: Paragraph (c)(2) of License Exception STA (§740.20(c)(2) of the EAR) may not be used for any item in 0C606.

LIST OF ITEMS CONTROLLED

Related Controls: (1) Materials that are subject to the jurisdiction of the ITAR are described in USML Category XIII. (2) See ECCN 0A919 for foreign-made ''military commodities'' that incorporate more than a *de minimis* amount of U.S.-origin ''600 series'' controlled content.

Related Definitions: N/A

Items: Materials ''specially designed'' for commodities enumerated or otherwise described in ECCN 0A606 (other than 0A606.b or 0A606.y) or USML Category VII, not elsewhere specified in the USML or the CCL.

Note: Materials ''specially designed'' for both ground vehicles enumerated or otherwise described in USML Category VII and ground vehicles enumerated or otherwise described in ECCN 0A606 are subject to the controls of this ECCN unless identified in USML Category VII(g) as being subject to the controls of that paragraph.

0C617 Miscellaneous Materials "Specially Designed" for Military Use (see List of Items Controlled).

LICENSE REQUIREMENTS

Reason for Control: NS, RS, AT, UN

Control(s)	Country Chart (See Supp. No. 1 to part 738)
NS applies to entire entry	NS Column 1
RS applies to entire entry	RS Column 1
AT applies to entire entry	AT Column 1
UN applies to entire entry	See §746.1(b) for UN controls

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

LVS: $1500

GBS: N/A

SPECIAL CONDITIONS FOR STA

STA: Paragraph (c)(2) of License Exception STA (§740.20(c)(2) of the EAR) may not be used for any item in 0C617.

LIST OF ITEMS CONTROLLED

Related Controls: (1) For controls on other signature suppression materials, see USML Category XIII and ECCNs 1C001 and 1C101. (2) See ECCN 0A919 for foreign-made ''military commodities'' that incorporate more than a *de minimis* amount of U.S.-origin ''600 series'' controlled content.

Related Definitions: N/A

Items: a. Materials, coatings and treatments for signature suppression, ''specially designed'' for military use to reduce detectability or observability and that are not controlled by USML Category XIII or ECCNs 1C001 or 1C101.

b. [Reserved]

D. ''SOFTWARE''

0D001 "Software" "specially designed" or modified for the "development," "production," or "use" of commodities described in 0A002. (These items are "subject to the ITAR." See 22 CFR parts 120 through 130.)

Heading Note: Certain ''software'' for the ''development,'' ''production,'' or ''use'' of nuclear related commodities is subject to the export licensing authority of the Nuclear Regulatory Commission (see 10 CFR part 110).

LICENSE REQUIREMENTS

Control(s): ''Software'' for items described in 0A002 is ''subject to the ITAR'' (see 22 CFR parts 120 through 130).

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

TSR: N/A

LIST OF ITEMS CONTROLLED

Related Controls: N/A

Related Definitions: N/A

Items: The List of Items Controlled is contained in the ECCN heading.

0D501 "Software" "specially designed" for the "development," "production," operation, or maintenance of commodities controlled by 0A501, 0A506, 0A507, 0A509 or 0B501.

LICENSE REQUIREMENTS

Reason for Control: NS, RS, UN, AT

Control(s)	Country chart (see Supp. No. 1 to part 738)
NS applies to entire entry except ''software'' for commodities in ECCN 0A501.y or equipment in ECCN 0B501 for commodities in ECCN 0A501.y.	NS Column 1.
RS applies to entire entry except ''software'' for commodities in ECCN 0A501.y or equipment in ECCN 0B501 for commodities in ECCN 0A501.y.	RS Column 1.
UN applies to entire entry	See §746.1 of the EAR for UN controls.
AT applies to entire entry	AT Column 1.

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

TSR: N/A

SPECIAL CONDITIONS FOR STA

License Exception STA may not be used for any ''software'' in ECCN 0D501, to any of the destinations listed in Country Group A:6 (See supplement no.1 to part 740 of the EAR).

LIST OF ITEMS CONTROLLED

Related Controls: See USML Category I for ''software'' directly related to articles described in USML Category I.

Related Definitions: N/A

Items: The list of items controlled is contained in this ECCN heading.

0D505 "Software" "specially designed" for the "development," "production," operation, or maintenance of commodities controlled by 0A505 or 0B505.

LICENSE REQUIREMENTS

Reason for Control: NS, RS, UN, AT

Control(s)	Country chart (see Supp. No. 1 to part 738)
NS applies to ''software'' for commodities in ECCN 0A505.a and .x and equipment in ECCN 0B505.a .and .x.	NS Column 1.
RS applies to ''software'' for commodities in ECCN 0A505.a and .x and equipment in ECCN 0B505.a and .x.	RS Column 1.
UN applies to entire entry	See §746.1 of the EAR for UN controls.
AT applies to ''software'' for commodities in ECCN 0A505.a, .d, or .x and equipment in ECCN 0B505.a, .d, or .x.	AT Column 1.

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

TSR: N/A

SPECIAL CONDITIONS FOR STA

License Exception STA may not be used for any ''software'' in ECCN 0D505, to any of the destinations listed in Country Group A:6 (See supplement no.1 to part 740 of the EAR).

LIST OF ITEMS CONTROLLED

Related Controls: See USML Category III for ''software'' directly related to articles described in USML Category III.

Related Definitions: N/A

Items: The list of items controlled is contained in this ECCN heading.

0D521 Any software subject to the EAR that is not listed elsewhere in the CCL, but which is controlled for export because it provides at least a significant military or intelligence advantage to the United States or for foreign policy reasons.

0D521 software is subject to RS1 controls with no license exception eligibility other than License Exception GOV for U.S. Government personnel and agencies under §740.11(b)(2)(ii) of the EAR, or an item-specific license exception identified in Supplement No. 5 to part 774 particular to an item covered under ECCN 0D521. The list of software determined to be classified under ECCN 0D521 controls is published in Supplement No. 5 to part 774. The license requirements and licensing policy relating to ECCN 0D521 are set forth in §742.6(a)(8) of the EAR.

0D602 "Software" "specially designed" for the "development," "production," operation or maintenance of commodities controlled by 0A602 or 0B602 as follows (see List of Items Controlled).

LICENSE REQUIREMENTS

Reason for Control: NS, RS, UN, AT

Control(s)	Country chart (see Supp. No. 1 to part 738)
NS applies to entire entry	NS Column 1
RS applies to entire entry	RS Column 1
UN applies to entire entry	See §746.1 of the EAR for UN controls
AT applies to entire entry	AT Column 1

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

TSR: N/A

SPECIAL CONDITIONS FOR STA

STA: Paragraph (c)(2) of License Exception STA (§740.20(c)(2) of the EAR) may not be used for any item in 0D602.

LIST OF ITEMS CONTROLLED

Related Controls: (1) ''Software'' required for and directly related to articles enumerated in USML Category II is ''subject to the ITAR''. (2) See ECCN 0A919 for foreign-made ''military commodities'' that incorporate more than a *de minimis* amount of U.S.-origin ''600 series'' items.

Related Definitions: N/A

Items: ''Software'' ''specially designed'' for the ''development,'' ''production,'' operation,

or maintenance of commodities controlled by ECCN 0A602 and ECCN 0B602.

0D604 "Software" "specially designed" for the "development," "production," operation, or maintenance of commodities controlled by ECCN 0A604 or 0B604 (see List of Items Controlled).

LICENSE REQUIREMENTS

Reason for Control: NS, RS, AT, UN

Control(s)	Country chart (See Supp. No. 1 to part 738)
NS applies to entire entry	NS Column 1
RS applies to entire entry	RS Column 1
AT applies to entire entry	AT Column 1
UN applies to entire entry	See §746.1(b) for UN controls

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

TSR: N/A

SPECIAL CONDITIONS FOR STA

STA: Paragraph (c)(2) of License Exception STA (§740.20(c)(2) of the EAR) may not be used for any item in this ECCN 0D604.

LIST OF ITEMS CONTROLLED

Related Controls: (1) ''Software'' directly related to articles enumerated in USML Category IV is controlled under USML Category IV(i). (2) See ECCN 0A919 for foreign-made ''military commodities'' that incorporate more than a *de minimis* amount of U.S.-origin ''600 series'' controlled content.

Related Definitions: N/A

Items: a. ''Software'' ''specially designed'' for the ''development,'' ''production,'' operation, or maintenance of commodities controlled by ECCN 0A604 or 0B604.

b. [Reserved]

0D606 "Software" "specially designed" for the "development," "production," operation, or maintenance of ground vehicles and related commodities controlled by 0A606, 0B606, or 0C606 (see List of Items Controlled).

LICENSE REQUIREMENTS

Reason for Control: NS, RS, AT, UN

Control(s)	Country chart (see Supp. No. 1 to part 738)
NS applies to entire entry, except 0D606.y.	NS Column 1.
RS applies to entire entry, except 0D606.y.	RS Column 1.
RS applies to 0D606.y	China, Russia, or Venezuela (see §742.6(a)(7)).
AT applies to entire entry	AT Column 1.
UN applies to entire entry, except 0D606.y.	See §746.1(b) for UN controls.

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

TSR: N/A

SPECIAL CONDITIONS FOR STA

STA: Paragraph (c)(2) of License Exception STA (§740.20(c)(2) of the EAR) may not be used for any software in 0D606.

LIST OF ITEMS CONTROLLED

Related Controls: (1) Software directly related to articles enumerated or otherwise described in USML Category VII are subject to the controls of USML paragraph VII(h). (2) See ECCN 0A919 for foreign made ''military commodities'' that incorporate more than a de minimis amount of U.S.-origin ''600 series'' controlled content.

Related Definitions: N/A

Items:

a. ''Software'' ''specially designed'' for the ''development,'' ''production,'' operation, or maintenance of commodities controlled by ECCNs 0A606 (except for ECCNs 0A606.b or 0A606.y), 0B606, or 0C606.

b. through x. [Reserved]

y. ''Specific software'' ''specially designed'' for the ''production,'' ''development,'' operation, or maintenance of commodities described in ECCN 0A606.y.

0D614 "Software" related to military training "equipment," as follows (see List of Items Controlled).

LICENSE REQUIREMENTS

Reason for Control: NS, RS, AT, UN

ONTROL(S)

Control(s)	Country chart (See Supp. No. 1 to part 738)
NS applies to entire entry	NS Column 1
RS applies to entire entry	RS Column 1
AT applies to entire entry	AT Column 1
UN applies to entire entry	See §746.1(b) for UN controls

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

TSR: N/A

SPECIAL CONDITIONS FOR STA

STA: Paragraph (c)(2) of License Exception STA (§740.20(c)(2) of the EAR) may not be used for any ''software'' in 0D614.

LIST OF ITEMS CONTROLLED

Related Controls: (1) ''Software'' directly related to articles enumerated in USML Category IX is subject to the control of USML paragraph IX(e). (2) See ECCN 0A919 for foreign made ''military commodities'' that incorporate more than a *de minimis* amount of US-origin ''600 series'' items.

Related Definitions: N/A

Items: a. ''Software'' ''specially designed'' for the ''development,'' ''production,'' operation, or maintenance of commodities controlled by ECCNs 0A614 or 0B614.

b. [Reserved]

0D617 "Software" "specially designed" for the "development," "production," operation, or maintenance of commodities

controlled by 0A617, "equipment" controlled by 0B617, or materials controlled by 0C617 (see List of Items Controlled).

LICENSE REQUIREMENTS

Reason for Control: NS, RS, AT, UN

Control(s)	Country chart (see Supp. No. 1 to part 738)
NS applies to entire entry, except 0D617.y.	NS Column 1.
RS applies to entire entry, except 0D617.y.	RS Column 1.
RS applies to 0D617.y	China, Russia, or Venezuela (see § 742.6(a)(7)).
AT applies to entire entry	AT Column 1.
UN applies to entire entry, except 0D617.y.	See § 746.1(b) for UN controls.

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

TSR: N/A

SPECIAL CONDITIONS FOR STA

STA: Paragraph (c)(2) of License Exception STA (§ 740.20(c)(2) of the EAR) may not be used for any ''software'' in 0D617.

LIST OF ITEMS CONTROLLED

Related Controls: (1) ''Software'' directly related to articles controlled by USML Category XIII is subject to the control of USML paragraph XIII(l). (2) See ECCN 0A919 for foreign-made ''military commodities'' that incorporate more than a *de minimis* amount of U.S.-origin ''600 series'' controlled content.

Related Definitions: N/A

Items:

a. ''Software'' (other than ''software'' controlled in paragraph .y of this entry) ''specially designed'' for the ''development,'' ''production,'' operation or maintenance of commodities controlled by ECCNs 0A617 (except 0A617.y), 0B617, or 0C617.

b. to x. [Reserved].

y. Specific ''software'' ''specially designed'' for the ''production,'' ''development,'' operation or maintenance of commodities controlled by ECCN 0A617.y.

0D977 "Software" "specially designed" for the "development," "production" or "use" of commodities controlled by 0A977.

LICENSE REQUIREMENTS

Reason for Control: CC1

Control(s)	Country chart (see Supp. No. 1 to part 738)
CC applies to entire entry	CC Column 1.

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

LVS: N/A

GBS: N/A

SPECIAL CONDITIONS FOR STA

STA: License Exception STA may not be used for 0D977.

LIST OF ITEMS CONTROLLED

Related Controls: N/A

Related Definitions: N/A

Items: The list of items controlled is contained in the ECCN heading.

0D999 Specific Software, as Follows (See List of Items Controlled).

LICENSE REQUIREMENTS

Reason for Control: AT, RS

Control(s)	Country Chart (See Supp. No. 1 to part 738)
AT applies to entire entry	A license is required for items controlled by this entry to North Korea for anti-terrorism reasons. The Commerce Country Chart is not designed to determine AT license requirements for this entry. See § 742.19 of the EAR for additional information.
RS applies to entire entry.	A license is required for items controlled by this entry for export or reexport to Iraq or transfer within Iraq for regional stability reasons. The Commerce Country Chart is not designed to determine RS license requirements for this entry. See §§ 742.6 and 746.3 of the EAR for additional information.

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

TSR: N/A

LIST OF ITEMS CONTROLLED

Related Controls: N/A

Related Definitions: N/A

Items: a. Software for neutronic calculations/modeling;

b. Software for radiation transport calculations/modeling;

c. Software for hydrodynamic calculations/modeling.

E. ''TECHNOLOGY''

0E001 "Technology," according to the Nuclear Technology Note, for the "development," "production," or "use" of items described in 0A002, or 0D001.

Heading Note: ''Technology'' for certain items subject to the export licensing authority of the Nuclear Regulatory Commission (see 10 CFR part 110) is subject to the export licensing authority of the Department of Energy (see 10 CFR part 810).

LICENSE REQUIREMENTS

Reason for Control:

Control(s): ''Technology'' for items described in 0A002 and 0D001 (applies to ''software'' in 0D001 for items described in 0A002 only) is subject to the export licensing authority

of the U.S. Department of State, Directorate of Defense Trade Controls (see 22 CFR part 121).

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

TSR: N/A

List of Items Controlled

Related Controls: N/A

Related Definitions: N/A

Items: The List of Items Controlled is contained in the ECCN heading.

0E501 "Technology" "required" for the "development," "production," operation, installation, maintenance, repair, or overhaul of commodities controlled by 0A501, 0A506, 0A507, 0A509, or 0B501 as follows (see List of Items Controlled).

LICENSE REQUIREMENTS

Reason for Control: NS, RS, UN, AT

Control(s)	Country chart (see Supp. No. 1 to part 738)
NS applies to entire entry	NS Column 1.
RS applies to entire entry	RS Column 1.
UN applies to entire entry	See §746.1 of the EAR for UN controls.
AT applies to entire entry	AT Column 1.

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

TSR: N/A

SPECIAL CONDITIONS FOR STA

License Exception STA may not be used for any ''technology'' in ECCN 0E501, to any of the destinations listed in Country Group A:6 (See supplement no.1 to part 740 of the EAR).

LIST OF ITEMS CONTROLLED

Related Controls: See USML Category I for technical data directly related to articles described in USML Category I.

Related Definitions: N/A

Items:

a. ''Technology'' ''required'' for the ''development'' or ''production'' of commodities controlled by ECCN 0A501 (other than 0A501.y), 0A506, 0A507, 0A509, or 0B501.

b. ''Technology'' ''required'' for the operation, installation, maintenance, repair, or overhaul of commodities controlled by ECCN 0A501 (other than 0A501.y), 0A506, 0A507, 0A509, or 0B501.

0E502 "Technology" "required" for the "development" or "production" of commodities controlled by 0A502, 0A508, or 0A509.a or .d.

LICENSE REQUIREMENTS

Reason for Control: CC, UN

Control(s)	Country chart (see Supp. No. 1 to part 738)
CC applies to entire entry	CC Column 1.
UN applies to entire entry	See §746.1 of the EAR for UN controls.

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

TSR: N/A

LIST OF ITEMS CONTROLLED

Related Controls: See USML Category I for technical data directly related to articles described in USML Category I.

Related Definitions: N/A

Items: The list of items controlled is contained in the ECCN heading.

0E504 "Technology" "required" for the "development" or "production" of commodities controlled by 0A504 that incorporate a focal plane array or image intensifier tube.

LICENSE REQUIREMENTS

Reason for Control: RS, UN, AT

Control(s)	Country chart (see Supp. No. 1 to part 738)
RS applies to entire entry	RS Column 1.
UN applies to entire entry	See §746.1(b) of the EAR for UN controls.
AT applies to entire entry	AT Column 1.

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

TSR: N/A

SPECIAL CONDITIONS FOR STA

License Exception STA may not be used for ''technology'' in ECCN 0E504, to any of the destinations listed in Country Group A:5 or A:6 (See supplement no.1 to part 740 of the EAR).

LIST OF ITEMS CONTROLLED

Related Controls: N/A

Related Definitions: N/A

Items: The list of items controlled is contained in the ECCN heading.

0E505 "Technology" "required" for the "development," "production," operation, installation, maintenance, repair, overhaul, or refurbishing of commodities controlled by 0A505.

LICENSE REQUIREMENTS

Reason for Control: NS, RS, UN, CC, AT

Control(s)	Country chart (see Supp. No. 1 to part 738)
NS applies to "technology" for "development," "production," operation, installation, maintenance, repair, overhaul, or refurbishing commodities in 0A505.a and .x; for "equipment" for those commodities in 0B505; and for "software" for that "equipment" and those commodities in 0D505.	NS Column 1.
RS applies to "technology" for "development," "production," operation, installation, maintenance, repair, overhaul, or refurbishing commodities in 0A505.a and .x; for "equipment" for those commodities in 0B505 and for "software" for those commodities and that equipment in 0D505.	RS Column 1.
UN applies to entire entry	See §746.1 of the EAR for UN controls.
CC applies to "technology" for the "development" or "production" of commodities in 0A505.b.	CC Column 1.
AT applies to "technology" for "development," "production," operation, installation, maintenance, repair, overhaul, or refurbishing commodities in 0A505.a, .d, and .x.	AT Column 1.

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

TSR: N/A

SPECIAL CONDITIONS FOR STA

License Exception STA may not be used for any ''technology'' in ECCN 0E505, to any of the destinations listed in Country Group A:6 (See supplement no.1 to part 740 of the EAR).

LIST OF ITEMS CONTROLLED

Related Controls: See USML Category III for technical data directly related to articles described in USML Category III.

Related Definitions: N/A

Items: The list of items controlled is contained in this ECCN heading.

0E521 Any technology subject to the EAR that is not listed elsewhere in the CCL, but which is controlled for export because it provides at least a significant military or intelligence advantage to the United States or for foreign policy reasons.

0E521 technology is subject to RS1 controls with no license exception eligibility other than License Exception GOV for U.S. Government personnel and agencies under §740.11(b)(2)(ii) of the EAR, or an item-specific license exception identified in Supplement No. 5 to part 774 particular to an item covered under ECCN 0E521. The list of technologies determined to be classified under ECCN 0E521 controls is published in Supplement No. 5 to part 774. The license requirements and licensing policy relating to ECCN 0E521 are set forth in §742.6(a)(8) of the EAR.

0E602 "Technology" "required" for the "development," "production," operation, installation, maintenance, repair, overhaul, or refurbishing of commodities controlled by 0A602 or 0B602, or "software" controlled by 0D602 as follows (see List of Items Controlled).

LICENSE REQUIREMENTS

Reason for Control: NS, RS, UN, AT

Control(s)	Country chart (see Supp. No. 1 to part 738)
NS applies to entire entry	NS Column 1
RS applies to entire entry	RS Column 1
UN applies to entire entry	See §746.1 of the EAR for UN controls
AT applies to entire entry	AT Column 1

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

TSR: N/A

SPECIAL CONDITIONS FOR STA

STA: Paragraph (c)(2) of License Exception STA (§740.20(c)(2) of the EAR) may not be used for any item in 0E602.

LIST OF ITEMS CONTROLLED

Related Controls: Technical data directly related to articles enumerated in USML Category II are ''subject to the ITAR.''

Related Definitions: N/A

Items: ''Technology'' ''required'' for the ''development,'' ''production,'' operation, installation, maintenance, repair, or overhaul of commodities controlled by ECCN 0A602 or 0B602, or ''software'' controlled by ECCN 0D602.

0E604 "Technology" "required" for the "development," "production," operation, installation, maintenance, repair, overhaul, or refurbishing of commodities controlled by ECCN 0A604 or 0B604, or "software" controlled by ECCN 0D604 (see List of Items Controlled).

LICENSE REQUIREMENTS

Reason for Control: NS, RS, AT, UN

Control(s)	Country chart (See Supp. No. 1 to part 738)
NS applies to entire entry	NS Column 1
RS applies to entire entry	RS Column 1
AT applies to entire entry	AT Column 1
UN applies to entire entry	See §746.1(b) for UN controls

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

TSR: N/A

SPECIAL CONDITIONS FOR STA

STA: Paragraph (c)(2) of License Exception STA (§740.20(c)(2) of the EAR) may not be used for any item in this ECCN 0E604.

LIST OF ITEMS CONTROLLED

Related Controls: Technical data directly related to articles enumerated in USML Category IV are controlled under USML Category IV(i).

Related Definitions: N/A

Items: a. ''Technology'' ''required'' for the ''development,'' ''production,'' operation, installation, maintenance, repair, overhaul, or refurbishing of commodities controlled by ECCN 0A604 or 0B604, or ''software'' controlled by ECCN 0D604.

b. [Reserved]

0E606 "Technology" "required" for the "development," "production," operation, installation, maintenance, repair, overhaul, or refurbushing of ground vehicles and related commodities in 0A606, 0B606, 0C606, or software in 0D606 (see List of Items Controlled).

LICENSE REQUIREMENTS

Reason for Control: NS, RS, AT, UN

Control(s)	Country chart (see Supp. No. 1 to part 738)
NS applies to entire entry, except 0E606.y.	NS Column 1.
RS applies to entire entry, except 0E606.y.	RS Column 1.
RS applies to 0E606.y	China, Russia, or Venezuela (see §742.6(a)(7)).
AT applies to entire entry	AT Column 1.
UN applies to entire entry, except 0E606.y.	See §746.1(b) for UN controls.

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

TSR: N/A

SPECIAL CONDITIONS FOR STA

STA: Paragraph (c)(2) of License Exception STA (§740.20(c)(2) of the EAR) may not be used for any technology in 0D606.

LIST OF ITEMS CONTROLLED

Related Controls: Technical data directly related to articles enumerated in USML Category VII are subject to the controls of USML paragraph VII(h).

Related Definitions: N/A

Items:

a. ''Technology'' ''required'' for the ''development,'' ''production,'' operation, installation, maintenance, repair, overhaul, or refurbishing of commodities enumerated or otherwise described in ECCN 0A606 (except for ECCNs 0A606.b or 0A606.y), 0B606, or 0C606.

b. through x. [Reserved]

y. Specific ''technology'' ''required'' for the ''development,'' ''production,'' operation, installation, maintenance, repair, overhaul or refurbishing of commodities or software in ECCN 0A606.y or 0D606.y.

0E614 "Technology," as follows (see List of Items Controlled).

LICENSE REQUIREMENTS

Reason for Control: NS, RS, AT, UN

Control(s)	Country chart (See Supp. No. 1 to part 738)
NS applies to entire entry	NS Column 1
RS applies to entire entry	RS Column 1
AT applies to entire entry	AT Column 1
UN applies to entire entry	See §746.1(b) for UN controls

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

TSR: N/A

SPECIAL CONDITIONS FOR STA

STA: Paragraph (c)(2) of License Exception STA (§740.20(c)(2) of the EAR) may not be used for any technology in 0E614.

LIST OF ITEMS CONTROLLED

Related Controls: ''Technical data'' directly related to articles enumerated in USML Category IX is subject to the control of USML paragraph IX(e).

Related Definitions: N/A

Items: a. ''Technology'' ''required'' for the ''development,'' ''production,'' operation, installation, maintenance, repair, overhaul, or refurbishing of commodities or ''software'' controlled by ECCNs 0A614, 0B614, or 0D614.

b. [Reserved]

0E617 "Technology" "required" for the "development," "production," operation, installation, maintenance, repair, overhaul, or refurbishing of commodities controlled by ECCN 0A617, "equipment" controlled by 0B617, or materials controlled by 0C617, or "software" controlled by ECCN 0D617 (see List of Items Controlled).

LICENSE REQUIREMENTS

Reason for Control: NS, RS, AT, UN

Control(s)	Country chart (see Supp. No. 1 to part 738)
NS applies to entire entry, except 0E617.y.	NS Column 1.
RS applies to entire entry, except 0E617.y.	RS Column 1.
RS applies to 0E617.y	China, Russia, or Venezuela (see §742.6(a)(7)).
AT applies to entire entry	AT Column 1.
UN applies to entire entry, except 0E617.y.	See §746.1(b) for UN controls.

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

TSR: N/A

SPECIAL CONDITIONS FOR STA

STA: Paragraph (c)(2) of License Exception STA (§740.20(c)(2) of the EAR) may not be used for any technology in 0E617.

LIST OF ITEMS CONTROLLED

Related Controls: Technical data directly related to articles controlled by USML Category XIII are subject to the control of USML paragraph XIII(l).
Related Definitions: N/A
Items:

a. ''Technology'' (other than ''technology'' controlled by paragraph .y of this entry) ''required'' for the ''development,'' ''production,'' operation, installation, maintenance, repair, overhaul, or refurbishing of commodities or ''software'' controlled by ECCN 0A617 (except 0A617.y), 0B617, 0C617, or 0D617 (except 0D617.y).

b. through x. [Reserved].

y. Specific ''technology'' ''required'' for the ''production,'' ''development,'' operation, installation, maintenance, repair, overhaul, or refurbishing of commodities controlled by ECCN 0A617.y or ''software'' controlled by 0D617.y.

0E977 "Technology" "required" for the "development" or "production" of commodities controlled by 0A977.

LICENSE REQUIREMENTS
Reason for Control: CC1

Control(s)	Country chart (see Supp. No. 1 to part 738)
CC applies to entire entry	CC Column 1.

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)
LVS: N/A
GBS: N/A
SPECIAL CONDITIONS FOR STA
STA: License Exception STA may not be used for 0E977.
LIST OF ITEMS CONTROLLED
Related Controls: N/A
Related Definitions: N/A
Items: The list of items controlled is contained in the ECCN heading.

0E982 "Technology" exclusively for the "development" or "production" of equipment controlled by 0A982 or 0A503.

LICENSE REQUIREMENTS
Reason for Control: CC

Control(s)
CC applies to ''technology'' for items controlled by 0A982 or 0A503. A license is required for ALL destinations, except Canada, regardless of end use. Accordingly, a column specific to this control does not appear on the Commerce Country Chart. (See part 742 of the EAR for additional information.)

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)
TSR: N/A
LIST OF ITEMS CONTROLLED
Related Controls: N/A
Related Definitions: N/A
Items:
The list of items controlled is contained in the ECCN heading.

EAR99 Items subject to the EAR that are not elsewhere specified in this CCL Category or in any other category in the CCL are designated by the number EAR99.

CATEGORY 1—SPECIAL MATERIALS AND RELATED EQUIPMENT, CHEMICALS, ''MICROORGANISMS,'' AND ''TOXINS''

Note: The Food and Drug Administration (FDA) and the Drug Enforcement Administration (DEA) may control exports of items subject to the EAR and on the Commerce Control List. BIS provides cross references to these other agency controls for convenience only. Therefore, please consult relevant FDA and DEA regulations for guidance related to the item you wish to export and do not rely solely on the EAR for information about other agency export control requirements. See Supplement No. 3 to part 730 (Other U.S. Government Departments and Agencies with Export Control Responsibilities) for more information.

A. ''END ITEMS'', ''EQUIPMENT'', ''ACCESSORIES'', ''ATTACHMENTS'', ''PARTS'', ''COMPONENTS''AND ''SYSTEMS''

1A001 "Parts" and "components" made from fluorinated compounds, as follows (see List of Items Controlled).

LICENSE REQUIREMENTS
Reason for Control: NS, AT

Control(s)	Country Chart (See Supp. No. 1 to part 738)
NS applies to entire entry	NS Column 2
AT applies to entire entry	AT Column 1

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)
LVS: $5000
GBS: N/A
LIST OF ITEMS CONTROLLED
Related Controls: (1) Items ''specially designed'' or modified for missiles or for items on the U.S. Munitions List are ''subject to the ITAR'' (see 22 CFR parts 120 through 130, including USML Category XXI).
Related Definitions: N/A
Items: a. Seals, gaskets, sealants or fuel bladders, ''specially designed'' for ''aircraft'' or aerospace use, made from more than 50% by weight of any of the materials controlled by 1C009.b or 1C009.c;

b. [Reserved]

1A002 "Composite" structures or laminates, as follows (see List of Items Controlled).

LICENSE REQUIREMENTS
Reason for Control: NS, NP, AT

Control(s)	Country Chart (See Supp. No. 1 to part 738)
NS applies to entire entry	NS Column 2
NP applies to 1A002.b.1 in the form of tubes with an inside diameter between 75 mm and 400 mm.	NP Column 1
AT applies to entire entry	AT Column 1

REPORTING REQUIREMENTS

See §743.1 of the EAR for reporting requirements for exports under License Exceptions, and Validated End-User authorizations.

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

LVS: $1,500; N/A for NP; N/A for ''composite'' structures or laminates controlled by 1A002.a, having an organic ''matrix'' and made from materials controlled by 1C010.c or 1C010.d.

GBS: N/A

SPECIAL CONDITIONS FOR STA

STA: License Exception STA may not be used to ship any item in this entry to any of the destinations listed in Country Group A:6 (See Supplement No. 1 to part 740 of the EAR).

LIST OF ITEMS CONTROLLED

Related Controls: (1) See ECCNs 1E001 (''development'' and ''production'') and 1E201 (''use'') for technology for items controlled by this entry. (2) Also see ECCNs 1A202, 1C010, 1C210, 9A010, and 9A110. (3) ''Composite'' structures ''specially designed'' for missile applications (including ''specially designed'' subsystems, ''parts,'' and ''components'') are controlled by ECCN 9A110. (4) ''Composite'' structures or laminates ''specially designed'' or prepared for use in separating uranium isotopes are subject to the export licensing authority of the Nuclear Regulatory Commission (see 10 CFR part 110).

Related Definitions: N/A

Items:

a. Made from any of the following:

a.1. An organic ''matrix'' and ''fibrous or filamentary materials'' specified by 1C010.c or 1C010.d; *or*

a.2. Prepregs or preforms specified by 1C010.e;

b. Made from a metal or carbon ''matrix'', and any of the following:

b.1. Carbon ''fibrous or filamentary materials'' having all of the following:

b.1.a. A ''specific modulus'' exceeding 10.15 x 10^6 m; *and*

b.1.b. A ''specific tensile strength'' exceeding 17.7 x 10^4 m; *or*

b.2. Materials controlled by 1C010.c.

Note 1: 1A002 does not control ''composite'' structures or laminates made from epoxy resin impregnated carbon ''fibrous or filamentary materials'', for the repair of ''civil aircraft'' structures or laminates, having all of the following:

a. An area not exceeding 1 m^2;

b. A length not exceeding 2.5 m; and

c. A width exceeding 15 mm.

Note 2: 1A002 does not control semi-finished items, ''specially designed'' for civilian applications as follows:

a. Sporting goods;

b. Automotive industry;

c. Machine tool industry;

d. Medical applications.

Note 3: 1A002.b.1 does not apply to semi-finished items containing a maximum of two dimensions of interwoven filaments and ''specially designed'' for applications as follows:

a. Metal heat-treatment furnaces for tempering metals;

b. Silicon boule production equipment.

Note 4: 1A002 does not apply to finished items ''specially designed'' for a specific application.

Note 5: 1A002.b.1 does not apply to mechanically chopped, milled, or cut carbon ''fibrous or filamentary materials'' 25.0 mm or less in length.

1A003 Manufactures of non-"fusible" aromatic polyimides in film, sheet, tape or ribbon form having any of the following (see List of Items Controlled).

LICENSE REQUIREMENTS

Reason for Control: NS, AT

Control(s)	Country Chart (See Supp. No. 1 to part 738)
NS applies to entire entry	NS Column 2
AT applies to entire entry	AT Column 1

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

LVS: $200

GBS: N/A

LIST OF ITEMS CONTROLLED

Related Controls: This entry does not control manufactures when coated or laminated with copper and designed for the production of electronic printed circuit boards. For ''fusible'' aromatic polyimides in any form, see 1C008.a.3.

Related Definitions: N/A

Items: a. A thickness exceeding 0.254 mm; or

b. Coated or laminated with carbon, graphite, metals or magnetic substances.

1A004 Protective and detection equipment and "components", not "specially designed" for military use, as follows (see List of Items Controlled).

LICENSE REQUIREMENTS

Reason for Control: NS, CB, RS, AT

Control(s)	Country chart (see Supp. No. 1 to part 738)
NS applies to entire entry	NS Column 2
CB applies to chemical detection systems and dedicated detectors therefor, in 1A004.c, that also have the technical characteristic.	CB Column 2

Control(s)	Country chart (see Supp. No. 1 to part 738)
RS apply to 1A004.d	RS Column 2
AT applies to entire entry	AT Column 1

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

LVS: N/A

GBS: Yes for 1A004.a, .b, and .c.2.

LIST OF ITEMS CONTROLLED

Related Controls: (1) See ECCNs 1A995, 2B351, and 2B352. (2) See ECCN 1D003 for ''software'' ''specially designed'' or modified to enable equipment to perform the functions of equipment controlled under section 1A004.c (Nuclear, biological, and chemical (NBC) detection systems). (3) See ECCN 1E002.*g* for control libraries (parametric technical databases) ''specially designed'' or modified to enable equipment to perform the functions of equipment controlled under 1A004.c (Nuclear, biological, and chemical (NBC) detection systems). (4) Chemical and biological protective and detection equipment specifically designed, developed, modified, configured, or adapted for military applications is ''subject to the ITAR'' (see 22 CFR parts 120 through 130, including USML Category XIV(f)), as is commercial equipment that incorporates ''parts'' or ''components'' controlled under that category except for domestic preparedness devices for individual protection that integrate ''components'' and ''parts'' identified in USML Category XIV(f)(4) when such ''parts'' or ''components'' are: Integral to the device; inseparable from the device; and incapable of replacement without compromising the effectiveness of the device, in which case the equipment is subject to the export licensing jurisdiction of the Department of Commerce under ECCN 1A004. (5) This entry does not control radionuclides incorporated in equipment listed in this entry—such materials are subject to the licensing jurisdiction of the Nuclear Regulatory Commission (See 10 CFR part 110).

Related Definitions: (1) 'Biological agents' means: pathogens or toxins, selected or modified (such as altering purity, shelf life, virulence, dissemination characteristics, or resistance to UV radiation) to produce casualties in humans or animals, degrade equipment or damage crops or the environment. (2) 'Riot control agents' are substances which, under the expected conditions of use for riot control purposes, produce rapidly in humans sensory irritation or disabling physical effects which disappear within a short time following termination of exposure. (Tear gases are a subset of 'riot control agents.')

Items:

a. Full face masks, filter canisters and decontamination equipment therefor, designed or modified for defense against any of the following, and ''specially designed'' ''components'' therefor:

Note: 1A004.a includes Powered Air Purifying Respirators (PAPR) that are designed or modified for defense against agents or materials, listed in 1A004.a.

Technical Notes: For the purposes of 1A004.a:

1. Full face masks are also known as gas masks.

2. Filter canisters include filter cartridges.

a.1. 'Biological agents';

a.2. 'Radioactive materials';

a.3. Chemical warfare (CW) agents; *or*

a.4. 'Riot control agents', as follows:

a.4.a. α-Bromobenzeneacetonitrile, (Bromobenzyl cyanide) (CA) (CAS 5798–79–8);

a.4.b. [(2-chlorophenyl) methylene] propanedinitrile, (o-Chlorobenzylidenemalononitrile) (CS) (CAS 2698–41–1);

a.4.c. 2-Chloro-1-phenylethanone, Phenylacyl chloride (ω-chloroacetophenone) (CN) (CAS 532–27–4);

a.4.d. Dibenz-(b,f)-1,4-oxazephine, (CR) (CAS 257–07–8);

a.4.e. 10-Chloro-5, 10-dihydrophenarsazine, (Phenarsazine chloride), (Adamsite), (DM) (CAS 578–94–9);

a.4.f. N-Nonanoylmorpholine, (MPA) (CAS 5299–64–9);

b. Protective suits, gloves and shoes, ''specially designed'' or modified for defense against any of the following:

b.1. 'Biological agents';

b.2. 'Radioactive materials'; *or*

b.3. Chemical warfare (CW) agents;

c. Detection systems, ''specially designed'' or modified for detection or identification of any of the following, and ''specially designed'' ''components'' therefor:

c.1. 'Biological agents';

c.2. 'Radioactive materials'; *or*

c.3. Chemical warfare (CW) agents;

d. Electronic equipment designed for automatically detecting or identifying the presence of ''explosives'' (as listed in the annex at the end of Category 1) residues and utilizing 'trace detection' techniques (*e.g.*, surface acoustic wave, ion mobility spectrometry, differential mobility spectrometry, mass spectrometry).

Technical Note: For the purposes of 1A004.d, 'trace detection' is defined as the capability to detect less than 1 ppm vapor, or 1 mg solid or liquid.

Note 1: 1A004.d does not apply to equipment ''specially designed'' for laboratory use.

Note 2: 1A004.d does not apply to non-contact walk-through security portals.

Note: 1A004 does not control: a. Personal radiation monitoring dosimeters;

b. Occupational health or safety equipment limited by design or function to protect against

hazards specific to residential safety or civil industries, including:

1. Mining;

2. Quarrying;

3. Agriculture;

4. Pharmaceutical;

5. Medical;

6. Veterinary;

7. Environmental;

8. Waste management;

9. Food industry.

Technical Notes: 1. 1A004 includes equipment, ''components'' that have been 'identified,' successfully tested to national standards or otherwise proven effective, for the detection of or defense against 'radioactive materials' 'biological agents,' chemical warfare agents, 'simulants' or ''riot control agents,'' even if such equipment or ''components'' are used in civil industries such as mining, quarrying, agriculture, pharmaceuticals, medical, veterinary, environmental, waste management, or the food industry.

2. 'Simulant': A substance or material that is used in place of toxic agent (chemical or biological) in training, research, testing or evaluation.

3. For the purposes of 1A004, 'radioactive materials' are those selected or modified to increase their effectiveness in producing casualties in humans or animals, degrading equipment or damaging crops or the environment.

1A005 Body armor and "specially designed" "components" therefor, as follows (see List of Items Controlled).

LICENSE REQUIREMENTS

Reason for Control: NS, UN, AT

Control(s)	Country Chart (See Supp. No. 1 to part 738)
NS applies to entire entry	NS Column 2
UN applies to entire entry	See §746.1(b) for UN controls
AT applies to entire entry	AT Column 1

License Requirements Notes: 1. Soft body armor not manufactured to military standards or specifications must provide ballistic protection equal to or less than NIJ level III (NIJ 0101.06, July 2008) to be controlled under 1A005.a. 2. For purposes of 1A005.a, military standards and specifications include, at a minimum, specifications for fragmentation protection.

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

LVS: N/A

GBS: Yes, except UN

LIST OF ITEMS CONTROLLED

Related Controls: (1) Bulletproof and bullet resistant vests (body armor) providing NIJ Type IV protection or greater are ''subject to the ITAR'' (see 22 CFR 121.1 Category X(a)). (2) Soft body armor and protective garments manufactured to military standards or specifications that provide protection equal to or less than NIJ level III or ''equivalent standards'' are classified under ECCN 1A613.d.1. (3) Hard armor plates providing NIJ level III or ''equivalent standard'' ballistic protection are classified under ECCN 1A613.d.2. (4) Police helmets and shields are classified under ECCN 0A979. (5) Other personal protective ''equipment'' ''specially designed'' for military applications not controlled by the USML or elsewhere in the CCL is classified under ECCN 1A613.e. (6) For ''fibrous or filamentary materials'' used in the manufacture of body armor, see ECCN 1C010.

Related Definitions: N/A

Items:

a. Soft body armor not manufactured to military standards or specifications, or to their equivalents, and ''specially designed'' ''components'' therefor;

b. Hard body armor plates that provide ballistic protection less than NIJ level III (NIJ 0101.06, July 2008) or ''equivalent standards''.

Notes to ECCN 1A005: 1. This entry does not control body armor when accompanying its user for the user's own personal protection.

2. This entry does not control body armor designed to provide frontal protection only from both fragment and blast from non-military explosive devices.

3. This entry does not apply to body armor designed to provide protection only from knife, spike, needle or blunt trauma.

1A006 Equipment, "specially designed" or modified for the disposal of Improvised Explosive Devices (IEDs), as follows (see List of Items Controlled), and "specially designed" "components" and "accessories" therefor.

LICENSE REQUIREMENTS

Reason for Control: NS, AT

Control(s)	Country chart (see supp. No. 1 to part 738)
NS applies to entire entry	NS Column 2
AT applies to entire entry	AT Column 1

License Requirement Note: 1A006 does not apply to equipment when accompanying its operator.

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

LVS: N/A

GBS: N/A

LIST OF ITEMS CONTROLLED

Related Controls: Equipment ''specially designed'' for military use for the disposal of IEDs is ''subject to the ITAR'' (see 22 CFR parts 120 through 130, including USML Category IV).

Related Definitions: N/A

Items:

a. Remotely operated vehicles;

b. 'Disruptors'.

Technical Note: For the purposes of 1A006.b 'disruptors' are devices ''specially designed'' for the purpose of preventing the operation of an explosive device by projecting a liquid, solid or frangible projectile.

Note: 1A006 does not apply to equipment when accompanying its operator.

1A007 Equipment and devices, "specially designed" to initiate charges and devices containing "energetic materials," by electrical means, as follows (see List of Items Controlled).

LICENSE REQUIREMENTS

Reason for Control: NS, NP, AT

Control(s)	Country chart (see supp. No. 1 to part 738)
NS applies to entire entry	NS Column 2
NP applies to 1A007.b, as well as 1A007.a when the detonator firing set meets or exceeds the parameters of 3A229.	NP Column 1
AT applies to entire entry	AT Column 1

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

LVS: N/A

GBS: N/A

LIST OF ITEMS CONTROLLED

Related Controls: High explosives and related equipment ''specially designed'' for military use are ''subject to the ITAR'' (see 22 CFR parts 120 through 130). This entry does not control detonators using only primary explosives, such as lead azide. See also ECCNs 0A604, 3A229, and 3A232. See 1E001 for ''development'' and ''production'' technology controls, and 1E201 for ''use'' technology controls.

Related Definitions: N/A

Items:

a. Explosive detonator firing sets designed to drive explosive detonators specified by 1A007.b;

b. Electrically driven explosive detonators as follows:

b.1. Exploding bridge (EB);

b.2. Exploding bridge wire (EBW);

b.3. Slapper;

b.4. Exploding foil initiators (EFI).

Technical Notes: 1. The word initiator or igniter is sometimes used in place of the word detonator.

2. For the purposes of 1A007.b, the detonators of concern all utilize a small electrical conductor (bridge, bridge wire, or foil) that explosively vaporizes when a fast, high-current electrical pulse is passed through it. In non slapper types, the exploding conductor starts a chemical detonation in a contacting high explosive material such as PETN (pentaerythritoltetranitrate). In slapper detonators, the explosive vaporization of the electrical conductor drives a flyer or slapper across a gap, and the impact of the slapper on an explosive starts a chemical detonation. The slapper in some designs is driven by magnetic force. The term exploding foil detonator may refer to either an EB or a slapper-type detonator.

1A008 Charges, devices and "components", as follows (see List of Items Controlled).

LICENSE REQUIREMENTS

Reason for Control: NS, UN, AT

Control(s)	Country chart (see supp. No. 1 to part 738)
NS applies to entire entry	NS Column 2
AT applies to entire entry	AT Column 1
UN applies to entire entry	See §746.1(b) for UN controls.

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

LVS: $3,000 for .a through .c; $6,000 for .d.

GBS: N/A

LIST OF ITEMS CONTROLLED

Related Controls: (1) All of the following are ''subject to the ITAR'' (see 22 CFR parts 120 through 130):

a. High explosives and related equipment ''specially designed'' for military use;

b. Explosive devices or charges in this entry that utilize USML controlled energetic materials (See 22 CFR 121.1 Category V), if they have been specifically designed, developed, configured, adapted, or modified for a military application;

c. Shaped charges that have all of the following a uniform shaped conical liner with an included angle of 90 degrees or less, more than 2.0 kg of controlled materials, and a diameter exceeding 4.5 inches;

d. Detonating cord containing greater than 0.1 kg per meter (470 grains per foot) of controlled materials;

e. Cutters and severing tools containing greater than 10 kg of controlled materials;

f. With the exception of cutters and severing tools, devices or charges controlled by this entry where the USML controlled materials can be easily extracted without destroying the device or charge; *and*

g. Individual USML controlled energetic materials in this entry, even when compounded with other materials, when not incorporated into explosive devices or charges controlled by this entry or 1C992.

(2) See also ECCNs 1C011, 1C018, 1C111, 1C239, *and* 1C608 for additional controlled energetic materials. See ECCN *1E001* for the ''development'' or ''production'' ''technology'' for the commodities controlled by ECCN 1A008, but not for explosives or commodities that are ''subject to the ITAR'' (see 22 CFR parts 120 through 130).

Related Definitions: N/A

Items:

a. 'Shaped charges' having all of the following:

a.1. Net Explosive Quantity (NEQ) greater than 90 g; *and*

a.2. Outer casing diameter equal to or greater than 75 mm;

b. Linear shaped cutting charges having all of the following, and ''specially designed'' ''components'' therefor:

b.1. An explosive load greater than 40 g/m; *and*

b.2. A width of 10 mm or more;

c. Detonating cord with explosive core load greater than 64 g/m;

d. Cutters, not specified by 1A008.b, and severing tools, having a NEQ greater than 3.5 kg.

Technical Note: For the purposes of 1A008.a, 'shaped charges' are explosive charges shaped to focus the effects of the explosive blast.

Note: The only charges and devices specified in 1A008 are those containing ''explosives'' (see list of explosives in the Annex at the end of Category 1) and mixtures thereof.

1A101 Devices for reduced observables such as radar reflectivity, ultraviolet/infrared signatures and acoustic signatures, for applications usable in rockets, missiles, or unmanned aerial vehicles capable of achieving a "range" equal to or greater than 300 km or their complete subsystems.

LICENSE REQUIREMENTS

Reason for Control: MT, AT

Control(s)	Country Chart (See Supp. No. 1 to part 738)
MT applies to entire entry	MT Column 1
AT applies to entire entry	AT Column 1

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

LVS: N/A

GBS: N/A

LIST OF ITEMS CONTROLLED

Related Controls: (1) See also *1C101*. (2) For commodities that meet the definition of defense articles under 22 CFR 120.3 of the International Traffic in Arms Regulations (ITAR), describes similar commodities ''subject to the ITAR'' (See 22 CFR parts 120 through 130, including USML Category XIII).

Related Definitions: N/A

Items: The list of items controlled is contained in the ECCN heading.

1A102 Resaturated pyrolized carbon-carbon "parts" and "components" designed for rockets, missiles, or unmanned aerial vehicles capable of achieving a "range" equal to or greater than 300 km. (These items are "subject to the ITAR." See 22 CFR parts 120 through 130.)

1A202 Composite structures, other than those controlled by 1A002, in the form of tubes and having both of the following characteristics (see List of Items Controlled).

LICENSE REQUIREMENTS

Reason for Control: NP, AT

Control(s)	Country Chart (See Supp. No. 1 to part 738)
NP applies to entire entry	NP Column 1
AT applies to entire entry	AT Column 1

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

LVS: N/A

GBS: N/A

LIST OF ITEMS CONTROLLED

Related Controls: (1) See ECCNs 1E201 (''use'') and 1E202 (''development'' and ''production'') for technology for items controlled by this entry. (2) Also see ECCNs 1A002, 1C010, 1C210, 9A010, and 9A110. (3) ''Composite'' structures ''specially designed'' or prepared for use in separating uranium isotopes are subject to the export licensing authority of the Nuclear Regulatory Commission (see 10 CFR part 110).

Related Definitions: N/A

Items: a. An inside diameter of between 75 mm and 400 mm; *and*

b. Made with any of the ''fibrous or filamentary materials'' specified in 1C010.a or .b or 1C210.a or with carbon prepreg materials specified in 1C210.c.

1A225 Platinized catalysts "specially designed" or prepared for promoting the hydrogen isotope exchange reaction between hydrogen and water for the recovery of tritium from heavy water or for the production of heavy water.

LICENSE REQUIREMENTS

Reason for Control: NP, AT

Control(s)	Country Chart (See Supp. No. 1 to part 738)
NP applies to entire entry	NP Column 1
AT applies to entire entry	AT Column 1

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

LVS: N/A

GBS: N/A

LIST OF ITEMS CONTROLLED

Related Controls: (1) See ECCNs 1E201 (''use'') and 1E202 (''development'' and ''production'') for technology for items controlled by this entry. (2) Equipment ''specially designed'' or prepared for the production of heavy water is subject to the export licensing authority of the Nuclear Regulatory Commission (see 10 CFR part 110).

Related Definitions: N/A

Items: The list of items controlled is contained in the ECCN heading.

1A226 Specialized packings, which may be used in separating heavy water from ordinary water, having both of the following characteristics (see List of Items Controlled).

LICENSE REQUIREMENTS

Reason for Control: NP, AT

Control(s)	Country Chart (See Supp. No. 1 to part 738)
NP applies to entire entry	NP Column 1
AT applies to entire entry	AT Column 1

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

LVS: N/A

GBS: N/A

LIST OF ITEMS CONTROLLED

Related Controls: (1) See ECCNs 1E201 (''use'') and 1E202 (''development'' and ''production'') for technology for items controlled by this entry. (2) Equipment ''specially designed'' or prepared for the production of heavy water is subject to the export licensing authority of the Nuclear Regulatory Commission (see 10 CFR part 110).

Related Definitions: N/A

Items: a. Made of phosphor bronze mesh chemically treated to improve wettability; *and*

b. Designed to be used in vacuum distillation towers.

1A227 High-density (lead glass or other) radiation shielding windows, having all of the following characteristics (see List of Items Controlled), and "specially designed" frames therefor.

LICENSE REQUIREMENTS

Reason for Control: NP, AT

Control(s)	Country Chart (See Supp. No. 1 to part 738)
NP applies to entire entry	NP Column 1
AT applies to entire entry	AT Column 1

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

LVS: N/A

GBS: N/A

LIST OF ITEMS CONTROLLED

Related Controls: (1) See ECCNs 1E201 (''use'') and 1E202 (''development'' and ''production'') for technology for items controlled by this entry. (2) Equipment ''specially designed'' or prepared for nuclear reactors and reprocessing facilities is subject to the export licensing authority of the Nuclear Regulatory Commission (see 10 CFR part 110).

Related Definitions: In 1A227.a, the term ''cold area'' means the viewing area of the window exposed to the lowest level of radiation in the design application.

Items: a. A ''cold area'' greater than 0.09 m^2;

b. A density greater than 3 g/cm^3; and

c. A thickness of 100 mm or greater.

1A231 Target assemblies and components for the production of tritium as follows (See List of Items Controlled):

LICENSE REQUIREMENTS

Reason for Control: NP, AT

Control(s)	Country chart (see supplement No. 1 to part 738)
NP applies to entire entry	NP Column 1
AT applies to entire entry	AT Column 1

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

LVS: N/A

GBS: N/A

LIST OF ITEMS CONTROLLED

*Related Controls:*See ECCNs 1E001 (''production'') and 1E201 (''use'') for technology for items controlled by this entry.

Related Definitions: N/A

Items: a. Target assemblies made of or containing lithium enriched in the lithium-6 isotope ''specially designed'' for the ''production'' of tritium through irradiation, including insertion in a nuclear reactor;

b. Components ''specially designed'' for the target assemblies specified in item a.

Technical Note to ECCN 1A231.b.: Components ''specially designed'' for target assemblies for the ''production'' of tritium may include lithium pellets, tritium getters, and specially-coated cladding.

1A290 Depleted uranium (any uranium containing less than 0.711% of the isotope U–235) in shipments of more than 1,000 kilograms in the form of shielding contained in X-ray units, radiographic exposure or teletherapy devices, radioactive thermoelectric generators, or packaging for the transportation of radioactive materials.

LICENSE REQUIREMENTS

Reason for Control: NP, AT

Control(s)	Country Chart (See Supp. No. 1 to part 738)
NP applies to entire entry	NP Column 2
AT applies to entire entry	AT Column 1

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

LVS: N/A

GBS: N/A

LIST OF ITEMS CONTROLLED

Related Controls: (1) This entry does not control depleted uranium in fabricated forms for use in munitions. See 22 CFR part 121 for depleted uranium ''subject to the ITAR. (2) Depleted uranium that is not fabricated for use in munitions or fabricated into commodities solely to take advantage of

its high density (e.g., aircraft, ship, or other counterweights) or in the forms listed in this entry are subject to the export licensing authority of the Nuclear Regulatory Commission. (See 10 CFR part 110.) (3) ''Natural uranium'' or ''depleted uranium'' or thorium in the form of metal, alloy, chemical compound or concentrate and any other material containing one or more of the foregoing are subject to the export licensing authority of the Nuclear Regulatory Commission (see 10 CFR part 110).

Related Definitions: N/A

Items: The list of items controlled is contained in the ECCN heading.

1A607 Military dissemination "equipment" for riot control agents, military detection and protection "equipment" for toxicological agents (including chemical, biological, and riot control agents), and related commodities (see List of Items Controlled).

LICENSE REQUIREMENTS

Reason for Control: NS, RS, AT, UN

Control(s)	Country chart (see Supp. No. 1 to Part 738)
NS applies to entire entry	NS Column 1.
RS applies to entire entry	RS Column 1.
AT applies to entire entry	AT Column 1.
UN applies to entire entry	See §746.1(b) for UN controls.

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

LVS: N/A

GBS: N/A

Special Conditions for STA

STA: Paragraph (c)(2) of License Exception STA (§740.20(c)(2) of the EAR) may not be used for any item in 1A607.

LIST OF ITEMS CONTROLLED

Related Controls: (1) Vaccines identified in ECCN 1C991 are not controlled by this ECCN. (2) See 22 CFR 121.1 (USML), Category XIV(h), for vaccines that are subject to the ITAR. (3) Protection and detection equipment and related items identified in ECCN 1A004, 1A995, or 2B351 are not controlled by this ECCN. (4) See 22 CFR 121.1 (USML), Category XIV(f), for dissemination, detection and protection equipment that is subject to the ITAR. (5) See ECCN 0A919 for ''military commodities'' located and produced outside the United States that incorporate more than a *de minimis* amount of US-origin ''600 series'' controlled content.

Related Definitions: N/A

Items: a. through d. [Reserved]

e. ''Equipment'' ''specially designed'' for military use and for the dissemination of any of the riot control agents controlled in ECCN 1C607.a.

f. Protection ''equipment'' (including air conditioning units, protective coatings, and protective clothing):

f.1. Not controlled by USML Category XIV(f); *and*

f.2. ''Specially designed'' for military use and for defense against:

f.2.1. Materials specified by USML Category XIV (a) or (b); *or*

f.2.2. Riot control agents controlled in 1C607.a.

g. Decontamination ''equipment'':

g.1. Not controlled by USML Category XIV(f); *and*

g.2. ''Specially designed'' for military use and for decontamination of objects contaminated with materials controlled by USML Category XIV(a) or (b).

h. ''Equipment'':

h.1. Not controlled by USML Category XIV(f); *and*

h.2. ''Specially designed'' for military use and for the detection or identification of:

h.2.1. Materials specified by USML Category XIV(a) or (b); *or*

h.2.2. Riot control agents controlled by ECCN 1C607.a.

i. [Reserved]

j. ''Equipment'' ''specially designed'' to:

j.1. Interface with a detector, shelter, vehicle, vessel, or aircraft controlled by the USML or a ''600 series'' ECCN; *and*

j.2. Collect and process samples of articles controlled in USML Category XIV(a) or (b).

k. Medical countermeasures that are ''specially designed'' for military use (including pre- and post-treatments, antidotes, and medical diagnostics) and ''specially designed'' to counter chemical agents controlled by the USML Category XIV(a).

Note: Examples of ''equipment'' controlled by this entry are barrier and non-barrier creams and filled autoinjectors (e.g., combopens where one injector contains 2–PAM and the other atropine) if ''specially designed'' to counter such agents.

l. through w. [Reserved]

x. ''Parts,'' ''components,'' ''accessories,'' and ''attachments'' that are ''specially designed'' for a commodity controlled by ECCN 1A607.e, .f, .g, .h, or .j or for a defense article controlled by USML Category XIV(f) and that are not enumerated or otherwise described elsewhere in the USML.

1A613 Armored and protective "equipment" and related commodities, as follows (see List of Items Controlled).

LICENSE REQUIREMENTS

Reason for Control: NS, RS, AT, UN

Control(s)	Country chart (see Supp. No. 1 to part 738)
NS applies to entire entry except 1A613.y.	NS Column 1.
RS applies to entire entry except 1A613.y.	RS Column 1.

Control(s)	Country chart (see Supp. No. 1 to part 738)
RS applies 1A613.y	China, Russia, or Venezuela (see § 742.6(a)(7)).
AT applies to entire entry	AT Column 1.
UN applies to entire entry, except 1A613.y.	See § 746.1(b) for UN controls.

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

LVS: $1500

GBS: N/A

SPECIAL CONDITIONS FOR STA

STA: Paragraph (c)(2) of License Exception STA (§740.20(c)(2) of the EAR) may not be used for any item in 1A613.

LIST OF ITEMS CONTROLLED

Related Controls: (1) Defense articles, such as materials made from classified information, that are controlled by USML Category X or XIII of the ITAR, and technical data (including software) directly related thereto, are ''subject to the ITAR.'' (2) See ECCN 0A919 for foreign-made ''military commodities'' that incorporate more than a de minimis amount of US-origin ''600 series'' controlled content. (3) See ECCN 9A610.g for anti-gravity suits (''G-suits'') and pressure suits capable of operating at altitudes higher than 55,000 feet above sea level. (4) For other military helmet ''components'' or ''accessories'' not specified in 1A613.c, see the relevant ECCN in the CCL or USML Entry.

Related Definitions: References to ''NIJ Type'' protection are to the National Institute of Justice Classification guide at NIJ Standard 0101.06, Ballistic Resistance of Body Armor, and NIJ Standard 0108.01, Ballistic Resistant Protective Materials.

Items:

a. Metallic or non-metallic armored plate ''specially designed'' for military use and not controlled by the USML.

Note to paragraph a: For controls on body armor plates, see ECCN 1A613.d.2 and USML Category X(a)(1).

b. Shelters ''specially designed'' to:

b.1. Provide ballistic protection for military systems; *or*

b.2. Protect against nuclear, biological, or chemical contamination.

c. Military helmets (other than helmets controlled under 1A613.y.1) providing less than NIJ Type IV or ''equivalent standards'' protection.

Note 1: See ECCN 0A979 for controls on police helmets.

Note 2: See USML Category X(a)(5) and (a)(6) for controls on other military helmets.

Note 3: 1A613.c does not apply to helmets that meet all the following:

a. Were first manufactured before 1970; and

b. Are neither designed or modified to accept, nor equipped with items specified by the U.S. Munitions List (22 CFR 121) or another ''600 series'' ECCN.

d. Body armor and protective garments, as follows:

d.1. Soft body armor and protective garments manufactured to military standards or specifications, or to their equivalents, that provide ballistic protection equal to or less than NIJ level III (NIJ 0101.06, July 2008) or ''equivalent standards''; *or*

Note: For 1A613.d.1, military standards or specifications include, at a minimum, specifications for fragmentation protection.

d.2. Hard body armor plates that provide ballistic protection equal to NIJ level III (NIJ 0101.06, July 2008) or ''equivalent standards''.

Note: See ECCN 1A005 for controls on soft body armor not manufactured to military standards or specifications and hard body armor plates providing less than NIJ level III or ''equivalent standards'' protection. For body armor providing NIJ Type IV protection or greater, see USML Category X(a)(1).

e. Atmospheric diving suits ''specially designed'' for rescue operations for submarines controlled by the USML or the CCL.

f. Other personal protective ''equipment'' ''specially designed'' for military applications not controlled by the USML, not elsewhere controlled on the CCL.

g. to w. [Reserved]

x. ''Parts,'' ''components,'' ''accessories,'' and ''attachments'' that are ''specially designed'' for a commodity controlled by ECCN 1A613 (except for 1A613.y) or an article enumerated in USML Category X, and not controlled elsewhere in the USML.

Note: 1A613.x includes forgings, castings, and other unfinished products, such as extrusions and machined bodies, that have reached a stage in manufacturing where they are clearly identifiable by mechanical properties, material composition, geometry, or function as commodities specified in ECCN 1A613.x.

y. Other commodities as follows:

y.1 Conventional military steel helmets.

Note: 1A613.y.1 does not apply to helmets that meet all the following:

a. Were first manufactured before 1970; and

b. Are neither designed or modified to accept, nor equipped with items specified by the U.S. Munitions List (22 CFR 121) or another ''600 series'' ECCN.

N.B. to paragraph y.1: For other military helmet ''components'' or ''accessories,'' see the relevant ECCN in the CCL or USML Entry.

y.2 [Reserved]

1A984 Chemical agents, including tear gas formulation containing 1 percent or less of orthochlorobenzalmalononitrile (CS), or 1 percent or less of chloroacetophenone (CN), except in individual containers with a net weight of 20 grams or less; liquid pepper except when packaged in individual containers with a

net weight of 3 ounces (85.05 grams) or less; smoke bombs; non-irritant smoke flares, canisters, grenades and charges; and other pyrotechnic articles having dual military and commercial use, and "parts" and "components" "specially designed" therefor, n.e.s.

LICENSE REQUIREMENTS

Reason for Control: CC

Control(s)	Country chart (see supp. No. 1 to part 738)
CC applies to entire entry	CC Column 1

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

LVS: N/A

GBS: N/A

LIST OF ITEMS CONTROLLED

Related Controls: N/A

Related Definitions: N/A

Items:

The list of items controlled is contained in the ECCN heading.

1A985 Fingerprinting powders, dyes, and inks.

LICENSE REQUIREMENTS

Reason for Control: CC

Control(s)	Country Chart (See Supp. No. 1 to part 738)
CC applies to entire entry	CC Column 1

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

LVS: N/A

GBS: N/A

LIST OF ITEMS CONTROLLED

Related Controls: See 3A981.

Related Definitions: N/A

Items: The list of items controlled is contained in the ECCN heading.

1A995 Protective and detection equipment not "specially designed" for military use and not controlled by ECCN 1A004 or ECCN 2B351, as follows (see List of Items Controlled), and "parts" and "components" not "specially designed" for military use and not controlled by ECCN 1A004 or ECCN 2B351 therefor.

LICENSE REQUIREMENTS

Reason for Control: AT

Control(s)	Country Chart (See Supp. No. 1 to part 738)
AT applies to entire entry	AT Column 1

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

LVS: N/A

GBS: N/A

LIST OF ITEMS CONTROLLED

Related controls: See ECCNs 1A004, 2B351, and 2B352.

Related Definitions: N/A

Items: a. Personal radiation monitoring dosimeters;

b. Equipment limited by design or function to protect against hazards specific to civil industries, such as mining, quarrying, agriculture, pharmaceuticals, medical, veterinary, environmental, waste management, or to the food industry.

Note: This entry (1A995) does not control items for protection against chemical or biological agents that are consumer goods, packaged for retail sale or personal use, or medical products, such as latex exam gloves, latex surgical gloves, liquid disinfectant soap, disposable surgical drapes, surgical gowns, surgical foot covers, and surgical masks. Such items are classified as EAR99.

1A999 Specific Processing Equipment, n.e.s., as Follows (See List of Items Controlled).

LICENSE REQUIREMENTS

Reason for Control: AT

Control(s):

Country Chart. AT applies to entire entry. A license is required for items controlled by this entry to North Korea for anti-terrorism reasons. The Commerce Country Chart is not designed to determine AT licensing requirements for this entry. See §742.19 of the EAR for additional information.

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

LVS: N/A

GBS: N/A

LIST OF ITEMS CONTROLLED

Related Controls: N/A

Related Definitions: N/A

Items: a. Radiation detection, monitoring and measurement equipment, n.e.s.;

b. Radiographic detection equipment such as x-ray converters, and storage phosphor image plates.

B. ''TEST'', ''INSPECTION'' AND ''PRODUCTION EQUIPMENT''

1B001 Equipment for the production or inspection of "composite" structures or laminates controlled by 1A002 or "fibrous or filamentary materials" controlled by 1C010, as follows (see List of Items Controlled), and "specially designed" "components" and "accessories" therefor.

LICENSE REQUIREMENTS

Reason for Control: NS, MT, NP, AT

Control(s)	Country chart (see supp. No. 1 to part 738)
NS applies to entire entry	NS Column 2

Control(s)	Country chart (see supp. No. 1 to part 738)
MT applies to entire entry, except 1B001.d.4, e and f. **Note:** *MT applies to equipment in 1B001.d that meet or exceed the parameters of 1B101.*	MT Column 1
NP applies to filament winding machines described in 1B001.a that are capable of winding cylindrical rotors having a diameter between 75 mm (3 in) and 400 mm (16 in) and lengths of 600 mm (24 in) or greater; AND coordinating and programming controls and precision mandrels for these filament winding machines.	NP Column 1.
AT applies to entire entry	AT Column 1.

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

LVS: N/A for MT and for 1B001.a; $5000 for all other items

GBS: N/A

LIST OF ITEMS CONTROLLED

Related Controls: (1) See ECCN 1D001 for software for items controlled by this entry and see ECCNs 1E001 (''development'' and ''production'') and 1E101 (''use'') for technology for items controlled by this entry. (2) Also see ECCNs 1B101 and 1B201.

Related Definitions: N/A

Items:

a. Filament winding machines, of which the motions for positioning, wrapping and winding fibers are coordinated and programmed in three or more 'primary servo positioning' axes, ''specially designed'' for the manufacture of ''composite'' structures or laminates, from ''fibrous or filamentary materials'';

b. 'Tape laying machines', of which the motions for positioning and laying tape are coordinated and programmed in five or more 'primary servo positioning' axes, ''specially designed'' for the manufacture of ''composite'' airframe or missile structures;

Technical Note: For the purposes of 1B001.b, 'tape-laying machines' have the ability to lay one or more 'filament bands' limited to widths greater than 25.4 mm and less than or equal to 304.8 mm, and to cut and restart individual 'filament band' courses during the laying process.

c. Multidirectional, multidimensional weaving machines or interlacing machines, including adapters and modification kits, ''specially designed'' or modified for weaving, interlacing or braiding fibers for ''composite'' structures;

Technical Note: For the purposes of 1B001.c the technique of interlacing includes knitting.

d. Equipment ''specially designed'' or adapted for the production of reinforcement fibers, as follows:

d.1. Equipment for converting polymeric fibers (such as polyacrylonitrile, rayon, pitch or polycarbosilane) into carbon fibers or silicon carbide fibers, including special equipment to strain the fiber during heating;

d.2. Equipment for the chemical vapor deposition of elements or compounds, on heated filamentary substrates, to manufacture silicon carbide fibers;

d.3. Equipment for the wet-spinning of refractory ceramics (such as aluminum oxide);

d.4. Equipment for converting aluminum containing precursor fibers into alumina fibers by heat treatment;

e. Equipment for producing prepregs controlled by 1C010.e by the hot melt method;

f. Non-destructive inspection equipment ''specially designed'' for ''composite'' materials, as follows:

f.1. X-ray tomography systems for three dimensional defect inspection;

f.2. Numerically controlled ultrasonic testing machines of which the motions for positioning transmitters or receivers are simultaneously coordinated and programmed in four or more axes to follow the three dimensional contours of the ''part'' or ''component'' under inspection;

g. Tow-placement machines, of which the motions for positioning and laying tows are coordinated and programmed in two or more 'primary servo positioning' axes, ''specially designed'' for the manufacture of ''composite'' airframe or missile structures.

Technical Note to 1B001.g: For the purposes of 1B001.g, 'tow-placement machines' have the ability to place one or more 'filament bands' having widths less than or equal to 25.4 mm, and to cut and restart individual 'filament band' courses during the placement process.

Technical Notes for 1B001: 1. For the purposes of 1B001, 'primary servo positioning' axes control, under computer ''program'' direction, the position of the end effector (i.e., head) in space relative to the work piece at the correct orientation and direction to achieve the desired process.

2. For the purposes of 1B001, a 'filament band' is a single continuous width of fully or partially resin-impregnated tape, tow or fiber. Fully or partially resin-impregnated 'filament bands' include those coated with dry powder that tacks upon heating.

1B002 Equipment designed to produce metal alloy powder or particulate materials and having any of the following (see List of Items Controlled).

LICENSE REQUIREMENTS

Reason for Control: NS, AT

Control(s)	Country Chart (See Supp. No. 1 to part 738)
NS applies to entire entry	NS Column 2
AT applies to entire entry	AT Column 1

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)
LVS: $5000
GBS: N/A
LIST OF ITEMS CONTROLLED
Related Controls: N/A
Related Definitions: N/A
Items:

a. ''Specially designed'' to avoid contamination; *and*

b. ''Specially designed'' for use in one of the processes specified by 1C002.c.2.

1B003 Tools, dies, molds or fixtures, for "superplastic forming" or "diffusion bonding" titanium, aluminum or their alloys, "specially designed" for the manufacture of any of the following (see List of Items Controlled).

LICENSE REQUIREMENTS
Reason for Control: NS, AT

Control(s)	Country Chart (See Supp. No. 1 to part 738)
NS applies to entire entry	NS Column 2
AT applies to entire entry	AT Column 1

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)
LVS: $5000
GBS: N/A
LIST OF ITEMS CONTROLLED
Related Controls: For ''specially designed'''production equipment''of systems, sub-systems, and ''parts'' and ''components'' controlled by 9A005 to 9A009, 9A011, 9A101, 9A105 to 9A109, 9A111, and 9A116 to 9A120 usable in ''missiles,'' see 9B115.
Related Definitions: N/A
Items: a. Airframe or aerospace structures;

b. ''Aircraft'' or aerospace engines; *or*

c. ''Specially designed'' ''parts'' and ''components'' for structures specified by 1B003.a or for engines specified by 1B003.b.

1B018 Items on the Wassenaar Arrangement Munitions List (see List of Items Controlled).

LICENSE REQUIREMENTS
Reason for Control: NS, MT, RS, AT, UN

Control(s)	Country Chart (See Supp. No. 1 to part 738)
NS applies to entire entry	NS Column 1.
MT applies to equipment for the ''production'' of rocket propellants.	MT Column 1.
RS applies to 1B018.a	RS Column 2.
AT applies to entire entry	AT Column 1.
UN applies to entire entry	See §746.1(b) for UN controls.

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)
LVS: $3000 for 1B018.a for countries WITHOUT an ''X'' in RS Column 2 on the Country Chart contained in Supplement No. 1 to part 738 of the EAR;
$5000 for 1B018.b.
GBS: N/A
LIST OF ITEMS CONTROLLED
Related Controls: See ECCN 1B608.a, .b, and .x for items that, immediately prior to July 1, 2014, were classified under 1B018.a.
Related Definitions: N/A
Items: a. [Reserved]

b. [Reserved]

1B101 Equipment, other than that controlled by 1B001, for the "production" of structural composites, fibers, prepregs or preforms, usable for rockets, missiles, or unmanned aerial vehicles capable of achieving a "range" equal to or greater than 300 km and their subsystems, as follows (see List of Items Controlled); and "specially designed" "parts," "components" and "accessories" therefor.

LICENSE REQUIREMENTS
*Reason for Control:*MT, NP, AT

Control(s)	Country Chart (See Supp. No. 1 to part 738)
MT applies to entire entry	MT Column 1.
NP applies to filament winding machines described in 1B101.a that are capable of winding cylindrical rotors having a diameter between 75 mm (3 in.) and 400 mm (16 in.) and lengths of 600 mm (24 in.) or greater AND to coordinating and programming controls and precision mandrels for these filament winding machines.	NP Column 1.
AT applies to entire entry	AT Column 1.

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)
LVS: N/A
GBS: N/A
LIST OF ITEMS CONTROLLED
Related Controls: See ECCN 1D101 for software for items controlled by this entry and see ECCNs 1E001 (''development'' and ''production'') and 1E101 (''use'') for technology for items controlled by this entry. Also see 1B201.
Related Definitions: Examples of ''parts,'' ''components'' and accessories for the machines controlled by this entry are molds, mandrels, dies, fixtures and tooling for the preform pressing, curing, casting, sintering or bonding of composite structures, laminates and manufactures thereof.
Items: a. Filament winding machines or 'fiber/tow-placement machines,' of which the motions for positioning, wrapping and winding fibers can be coordinated and programmed in three or more axes, designed to

fabricate composite structures or laminates from fibrous or filamentary materials, and coordinating and programming controls;

b. 'Tape-laying machines' of which the motions for positioning and laying tape can be coordinated and programmed in two or more axes, designed for the manufacture of composite airframe and missile structures;

Technical Notes for paragraphs a and b: For the purposes of 1B101.a. and 1B101.b., the following definitions apply:

1. 'Fiber/tow-placement machines' and 'tape-laying machines' are machines that perform similar processes that use computer-guided heads to lay one or several 'filament bands' onto a mold to create a part or a structure. These machines have the ability to cut and restart individual 'filament band' courses during the laying process.

2. A 'filament band' is a single continuous width of fully or partially resin-impregnated tape, tow, or fiber. Fully or partially resin-impregnated 'filament bands' include those coated with dry powder that tacks upon heating.

3. 'Fiber/tow-placement machines' have the ability to place one or more 'filament bands' having widths less than or equal to 25.4 mm. This refers to the minimum width of material the machine can place, regardless of the upper capability of the machine.

4. 'Tape-laying machines' have the ability to place one or more 'filament bands' having widths less than or equal to 304.8 mm, but cannot place 'filament bands' with a width equal to or less than 25.4 mm. This refers to the minimum width of material the machine can place, regardless of the upper capability of the machine.

c. Equipment designed or modified for the ''production'' of ''fibrous or filamentary materials'' as follows:

c.1. Equipment for converting polymeric fibers (such as polyacrylonitrile, rayon or polycarbosilane) including special provision to strain the fiber during heating;

c.2. Equipment for the vapor deposition of elements or compounds on heated filament substrates; and

c.3. Equipment for the wet-spinning of refractory ceramics (such as aluminum oxide);

d. Equipment designed or modified for special fiber surface treatment or for producing prepregs and preforms controlled by 9A110.

Note: Equipment covered in 1B101.d includes but is not limited to, rollers, tension stretchers, coating equipment, cutting equipment and clicker dies.

1B102 Metal powder "production equipment," other than that specified in 1B002, and "parts" and "components" as follows (see List of Items Controlled).

LICENSE REQUIREMENTS

Reason for Control: MT, AT

Control(s)	Country Chart (See Supp. No. 1 to part 738)
MT applies to entire entry	MT Column 1
AT applies to entire entry	AT Column 1

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

LVS: N/A

GBS: N/A

LIST OF ITEMS CONTROLLED

Related Controls: 1. See also 1B115.b.

Related Definitions: N/A

Items: a. Metal powder ''production equipment'' usable for the ''production'', in a controlled environment, of spherical, spheroidal or atomized materials specified in 1C011.a., 1C011.b., 1C111.a.1., 1C111.a.2., or controlled for MT reasons in Category V of the USML.

b. ''Specially designed'' ''parts'' and ''components'' for ''production equipment'' specified in 1B002 or 1B102.a.

Note: 1B102 includes:

a. Plasma generators (high frequency arc-jet) usable for obtaining sputtered or spherical metallic powders with organization of the process in an argon-water environment;

b. Electroburst equipment usable for obtaining sputtered or spherical metallic powders with organization of the process in an argon-water environment;

c. Equipment usable for the ''production'' of spherical aluminum powders by powdering a melt in an inert medium (e.g., nitrogen).

1B115 "Equipment, other than that controlled in 1B002 or 1B102, for the "production" of propellant or propellant constituents (see List of Items Controlled), and "specially designed" "parts" and "components" therefor.

LICENSE REQUIREMENTS

Reason for Control: MT, AT

Control(s)	Country Chart (See Supp. No. 1 to part 738)
MT applies to entire entry	MT Column 1
AT applies to entire entry	AT Column 1

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

LVS: N/A

GBS: N/A

LIST OF ITEMS CONTROLLED

Related Controls: For the control of batch mixers, continuous mixers and fluid energy mills, see 1B117, 1B118 and 1B119.

Related Definitions: N/A

Items: a. ''Production equipment'' for the ''production'', handling or acceptance testing of liquid propellants or propellant constituents controlled by 1C011.a, 1C011.b, 1C111 or on the U.S. Munitions List;

b. ''Production equipment,'' for the production, handling, mixing, curing, casting,

pressing, machining, extruding or acceptance testing of solid propellants or propellant constituents described in 1C011.a, 1C011.b or 1C111, or on the U.S. Munitions List.

Note: 1B115.b does not control batch mixers, continuous mixers or fluid energy mills. For the control of batch mixers, continuous mixers and fluid energy mills see 1B117, 1B118, and 1B119.

Note 1: [Reserved]

Note 2: 1B115 does not control equipment for the ''production,'' handling and acceptance testing of boron carbide.

1B116 "Specially Designed" nozzles for producing pyrolitically derived materials formed on a mold, mandrel or other substrate from precursor gases which decompose in the 1,573 K (1,300 °C) to 3,173 K (2,900 °C) temperature range at pressures of 130 Pa to 20 kPa.

LICENSE REQUIREMENTS

Reason for Control: MT, AT

Control(s)	Country Chart (See Supp. No. 1 to part 738)
MT applies to entire entry	MT Column 1
AT applies to entire entry	AT Column 1

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

LVS: N/A

GBS: N/A

LIST OF ITEMS CONTROLLED

Related Controls: N/A

Related Definitions: N/A

Items: The list of items controlled is contained in the ECCN heading.

1B117 Batch mixers having all of the following (see List of Items Controlled), and "specially designed" "parts" and "components" therefor.

LICENSE REQUIREMENTS

Reason for Control: MT, AT

Control(s)	Country chart (see Supp. No. 1 to part 738)
MT applies to entire entry	MT Column 1
AT applies to entire entry	AT Column 1

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

LVS: N/A

GBS: N/A

List of Items Controlled

Related Controls: See 1B115, 1B118, and 1B119.

Related Definitions: N/A

Items: a. Capable of mixing under vacuum in the range from zero to 13.326 kPa;

b. Capable of controlling the temperature of the mixing chamber;

c. A total volumetric capacity of 110 liters (30 gallons) or more; *and*

d. At least one 'mixing/kneading shaft' mounted off center.

Note to paragraph d: In 1B117.d. the term 'mixing/kneading shaft' does not refer to deagglomerators or knife-spindles.

1B118 Continuous mixers having all of the following (see List of Items Controlled), and "specially designed" "parts" and "components" therefor.

LICENSE REQUIREMENTS

Reason for Control: MT, AT

Control(s)	Country chart (see Supp. No. 1 to part 738)
MT applies to entire entry	MT Column 1
AT applies to entire entry	AT Column 1

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

LVS: N/A

GBS: N/A

LIST OF ITEMS CONTROLLED

Related Controls: See 1B115, 1B117, and 1B119.

Related Definitions: N/A

Items: a. Capable of mixing under vacuum in the range from zero to 13.326 kPa;

b. Capable of controlling the temperature of the mixing chamber; *and*

c. Either of the following:

c.1. Two or more mixing/kneading shafts; *or*

c.2. A single rotating and oscillating shaft with kneading teeth/pins as well as kneading teeth/pins inside the casing of the mixing chamber.

1B119 Fluid energy mills usable for grinding or milling propellant or propellant constituents specified in 1C011.a, 1C011.b or 1C111, or on the U.S. Munitions List, and "specially designed" "parts" and "components" therefor.

LICENSE REQUIREMENTS

Reason for Control: MT, AT

Control(s)	Country Chart (See Supp. No. 1 to part 738)
MT applies to entire entry	MT Column 1
AT applies to entire entry	AT Column 1

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

LVS: N/A

GBS: N/A

LIST OF ITEMS CONTROLLED

Related Controls: See 1B115, 1B117 and 1B118.

Related Definitions: N/A

Items: The list of items controlled is contained in the ECCN heading.

1B201 Filament winding machines (other than those controlled by ECCN 1B001 or

1B101) and related equipment, as described in this ECCN (see List of Items Controlled).

LICENSE REQUIREMENTS

Reason for Control: NP, AT

Control(s)	Country Chart (See Supp. No. 1 to part 738)
NP applies to entire entry	NP Column 1
AT applies to entire entry	AT Column 1

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

LVS: N/A

GBS: N/A

LIST OF ITEMS CONTROLLED

Related Controls: See ECCN 1D201 for software for items controlled by this entry and see ECCNs 1E001 (''development'' and ''production'') and 1E201 (''use'') for technology for items controlled by this entry. Also see ECCN 1E203 for technology for the ''development'' of software controlled by ECCN 1D201.

Related Definitions: N/A

Items: a. Filament winding machines having all of the following characteristics:

a.1. Having motions for positioning, wrapping, and winding fibers coordinated and programmed in two or more axes;

a.2. ''Specially Designed'' to fabricate composite structures or laminates from ''fibrous or filamentary materials''; *and*

a.3. Capable of winding cylindrical tubes with an internal diameter between 75 mm and 650 mm and lengths of 300 mm or greater;

b. Coordinating and programming controls for filament winding machines controlled by 1B201.a;

c. Precision mandrels for filament winding machines controlled by 1B201.a.

1B225 Electrolytic cells for fluorine production with a production capacity greater than 250 g of fluorine per hour.

LICENSE REQUIREMENTS

Reason for Control: NP, AT

Control(s)	Country Chart (See Supp. No. 1 to part 738)
NP applies to entire entry	NP Column 1
AT applies to entire entry	AT Column 1

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

LVS: N/A

GBS: N/A

LIST OF ITEMS CONTROLLED

Related Controls: (1) See ECCNs *1E001* (''development'' and ''production'') and *1E201* (''use'') for technology for items controlled by this entry. (2) See ECCN 1B999 for specific processing equipment, n.e.s.

Related Definitions: N/A

Items: The list of items controlled is contained in the ECCN heading.

1B226 Electromagnetic isotope separators designed for, or equipped with, single or multiple ion sources capable of providing a total ion beam current of 50 mA or greater.

LICENSE REQUIREMENTS

Reason for Control: NP, AT

Control(s)	Country Chart (See Supp. No. 1 to part 738)
NP applies to entire entry	NP Column 1
AT applies to entire entry	AT Column 1

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

LVS: N/A

GBS: N/A

LIST OF ITEMS CONTROLLED

Related Controls: (1) Electromagnetic isotope separators ''specially designed'' or prepared for use in separating uranium isotopes are subject to the export licensing authority of the Nuclear Regulatory Commission (see 10 CFR part 110). (2) See ECCNs 1E001 (''development'' and ''production'') and 1E201 (''use'') for technology for items controlled by this entry.

Related Definitions: N/A

ECCN Controls: This entry includes separators capable of enriching stable isotopes and separators with the ion sources and collectors both in the magnetic field and those configurations in which they are external to the field.

Items: The list of items controlled is contained in the ECCN heading.

1B228 Hydrogen cryogenic distillation columns having all of the characteristics described in this ECCN (see List of Items Controlled).

LICENSE REQUIREMENTS

Reason for Control: NP, AT

Control(s)	Country Chart (See Supp. No. 1 to part 738)
NP applies to entire entry	NP Column 1
AT applies to entire entry	AT Column 1

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

LVS: N/A

GBS: N/A

LIST OF ITEMS CONTROLLED

Related Controls: (1) Equipment ''specially designed'' or prepared for the production of heavy water is subject to the export licensing authority of the Nuclear Regulatory Commission (see 10 CFR part 110). (2) See ECCNs 1E001 (''development'' and ''production'') and 1E201 (''use'') for technology for items controlled by this entry.

Related Definitions: (1) The term ''fine grain stainless steels,'' for purposes of this ECCN, means fine grain austenitic stainless steels with an ASTM (or equivalent standard) grain size number of 5 or greater. (2) The term ''effective length,'' for purposes of this ECCN, means the active height of packing material in a packed-type column, or the active height of internal contactor plates in a plate-type column.

Items: a. Designed to operate with internal temperatures of 35 K (−238 °C) or less;

b. Designed to operate at an internal pressure of 0.5 to 5 MPa (5 to 50 atmospheres);

c. Constructed of ''fine-grain stainless steels'' of the 300 series with low sulphur content or equivalent cryogenic and H_2-compatible materials; *and*

d. With internal diameters of 30 cm or greater and ''effective lengths'' of 4 m or greater.

1B230 Pumps capable of circulating solutions of concentrated or dilute potassium amide catalyst in liquid ammonia (KNH_2/NH_3), having all of the following characteristics (see List of Items Controlled).

LICENSE REQUIREMENTS

Reason for Control: NP, AT

Control(s)	Country Chart (See Supp. No. 1 to part 738)
NP applies to entire entry	NP Column 1
AT applies to entire entry	AT Column 1

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

LVS: N/A

GBS: N/A

LIST OF ITEMS CONTROLLED

Related Controls: (1) Equipment ''specially designed'' or prepared for the production of heavy water is subject to the export licensing authority of the Nuclear Regulatory Commission (see 10 CFR part 110). (2) See ECCNs 1E001 (''development'' and ''production'') and 1E201 (''use'') for technology for items controlled by this entry.

Related Definitions: N/A

Items: a. Airtight (i.e., hermetically sealed);

b. A capacity greater than 8.5 m^3/h; *and*

c. Either of the following characteristics:

c.1. For concentrated potassium amide solutions (1% or greater), an operating pressure of 1.5 to 60 MPa (15–600 atmospheres); *or*

c.2. For dilute potassium amide solutions (less than 1%), an operating pressure of 20 to 60 MPa (200–600 atmospheres).

1B231 Tritium facilities or plants, and equipment therefor, as follows (see List of Items Controlled).

LICENSE REQUIREMENTS

Reason for Control: NP, AT

Control(s)	Country chart (see supp. No. 1 to part 738)
NP applies to entire entry	NP Column 1.
AT applies to entire entry	AT Column 1.

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

LVS: N/A

GBS: N/A

LIST OF ITEMS CONTROLLED

Related Controls: (1) Tritium, tritium compounds, and mixtures containing tritium are subject to the export licensing authority of the Nuclear Regulatory Commission (see 10 CFR part 110). (2) See ECCNs 1E001 (''development'' and ''production'') and 1E201 (''use'') for technology for items controlled by this entry.

Related Definitions: N/A

Items:

a. Facilities or plant for the production, recovery, extraction, concentration, or handling of tritium;

b. Equipment for tritium facilities or plant, as follows:

b.1. Hydrogen or helium refrigeration units capable of cooling to 23 K (−250 °C) or less, with heat removal capacity greater than 150 watts; *or*

b.2. Hydrogen isotope storage or hydrogen isotope purification systems using metal hydrides as the storage, or purification medium.

1B232 Turboexpanders or turboexpander-compressor sets having both of the following characteristics (see List of Items Controlled).

LICENSE REQUIREMENTS

Reason for Control: NP, AT

Control(s)	Country Chart (See Supp. No. 1 to part 738)
NP applies to entire entry	NP Column 1
AT applies to entire entry	AT Column 1

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

LVS: N/A

GBS: N/A

LIST OF ITEMS CONTROLLED

Related Controls: (1) Equipment ''specially designed'' or prepared for the production of heavy water is subject to the export licensing authority of the Nuclear Regulatory Commission (see 10 CFR part 110). (2) See ECCNs 1E001 (''development'' and ''production'') and 1E201 (''use'') for technology for items controlled by this entry.

Related Definitions: N/A

Items: a. Designed for operation with an outlet temperature of 35 K (−238 °C) or less; *and*

b. Designed for a throughput of hydrogen gas of 1,000 kg/h or greater.

1B233 Lithium isotope separation facilities or plants, and systems and equipment therefor (see List of Items Controlled).

LICENSE REQUIREMENTS

Reason for Control: NP, AT

Control(s)	Country Chart (See Supp. No. 1 to part 738)
NP applies to 1B233.b	NP Column 1
AT applies to 1B233.b	AT Column 1

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

LVS: N/A

GBS: N/A

LIST OF ITEMS CONTROLLED

Related Controls: (1) See ECCN 1E001 (''development'' and ''production'') and ECCN 1E201 (''use'') for technology for items described in this entry. (2) Facilities and plants described in 1B233.a are subject to the export licensing authority of the Nuclear Regulatory Commission (see 10 CFR part 110). (3) Certain lithium isotope separation equipment and components for the plasma separation process (PSP) that are described in 1B233.b through .d are also directly applicable to uranium isotope separation and are subject to the export licensing authority of the Nuclear Regulatory Commission (see 10 CFR part 110).

Related Definitions: N/A

Items: a. Facilities or plants for the separation of lithium isotopes;

b. Equipment for the separation of lithium isotopes based on the lithium-mercury amalgam process, as follows:

b.1. Packed liquid-liquid exchange columns ''specially designed'' for lithium amalgams;

b.2. Mercury and/or lithium amalgam pumps;

b.3. Lithium amalgam electrolysis cells;

b.4. Evaporators for concentrated lithium hydroxide solution.

c. Ion exchange systems ''specially designed'' for lithium isotope separation, and ''specially designed'' component parts therefor;

d. Chemical exchange systems (employing crown ethers, cryptands, or lariat ethers) ''specially designed'' for lithium isotope separation, and ''specially designed'' component parts therefor.

1B234 High explosive containment vessels, chambers, containers, and other similar containment devices, not enumerated in ECCN 1B608 or in USML Category IV or V of the ITAR, designed for the testing of high explosives or explosive devices and having both of the characteristics described in this ECCN (see List of Items Controlled).

LICENSE REQUIREMENTS

Reason for Control: NP, AT

Control(s)	Country chart (see Supp. No. 1 to part 738)
NP applies to entire entry	NP Column 1
AT applies to entire entry	AT Column 1

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

LVS: N/A

GBS: N/A

LIST OF ITEMS CONTROLLED

Related Controls: (1) Devices ''specially designed'' for the handling, control, activation, monitoring, detection, protection, discharge, or detonation of the articles enumerated in USML Category IV(a) and (b) are controlled by USML Category IV(c) of the ITAR (see 22 CFR parts 120 through 130). (2) See USML Category V of the ITAR (22 CFR parts 120 through 130) for devices identified therein that are ''specially designed'' to fully contain explosives enumerated in USML Category V. (3) Also see ECCN 1B608 for ''equipment'' ''specially designed'' for the ''development,'' ''production,'' repair, overhaul, or refurbishing of items controlled by ECCN 1C608 or USML Category V and not elsewhere specified on the USML.

Related Definitions: N/A

Items: a. Designed to fully contain an explosion equivalent to 2 kg of TNT or greater; *and*

b. Having design elements or features enabling real time or delayed transfer of diagnostic or measurement information.

1B607 Military test, inspection, and production "equipment" and related commodities "specially designed" for the "development," "production," repair, overhaul, or refurbishing of commodities identified in ECCN 1A607 or 1C607, or defense articles enumerated or otherwise described in USML Category XIV (see List of Items Controlled).

LICENSE REQUIREMENTS

Reason for Control: NS, RS, AT, UN

Control(s)	Country chart (see Supp. No. 1 to Part 738)
NS applies to entire entry	NS Column 1.
RS applies to entire entry	RS Column 1.
AT applies to entire entry	AT Column 1.
UN applies to entire entry	See §746.1(b) for UN controls.

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

LVS: $1500

GBS: N/A

SPECIAL CONDITIONS FOR STA

STA: Paragraph (c)(2) of License Exception STA (§740.20(c)(2) of the EAR) may not be used for any item in 1B607.

LIST OF ITEMS CONTROLLED

Related Controls: (1) See ECCN 2B350 for controls on certain incinerators. (2) See ECCN 0A919 for ''military commodities'' located and produced outside the United States that incorporate more than a *de minimis* amount of US-origin ''600 series'' controlled content.

Related Definitions: N/A

Items: a. ''Equipment'' ''specially designed'' for the destruction of the chemical agents controlled by USML Category XIV(a).

Note to 1B607.a: ECCN 1B607.a includes controls over facilities ''specially designed'' for destruction operations. This paragraph .a does not control incinerators and ''specially designed'' handling facilities or ''specially designed'' waste supply systems therefor.

b. Test facilities and ''equipment'' ''specially designed'' for military certification, qualification, or testing of commodities controlled by ECCN 1A607.e, .f, .g, .h, or .j or by USML Category XIV(f), except for XIV(f)(1).

c. Tooling and ''equipment'' ''specially designed'' for the ''development,'' ''production,'' repair, overhaul, or refurbishing of commodities controlled by ECCN 1A607.e, .f .g, .h, or .j or USML Category XIV(f).

d. through w. [Reserved]

x. ''Parts,'' ''components,'' ''accessories,'' and ''attachments'' that are ''specially designed'' for a commodity controlled by ECCN 1B607.b or .c, or for a defense article controlled by USML Category XIV(f), and that are not enumerated or otherwise described elsewhere in the USML.

1B608 Test, inspection, and production "equipment" and related commodities "specially designed" for the "development," "production," repair, overhaul, or refurbishing of commodities enumerated in ECCN 1C608 or USML Category V (see List of Items Controlled).

LICENSE REQUIREMENTS

Reason for Control: NS, RS, MT, AT, UN

Control(s)	Country chart (See Supp. No. 1 to part 738)
NS applies to entire entry	NS Column 1
RS applies to entire entry	RS Column 1
MT applies to equipment ''specially designed'' for MT-controlled commodities in ECCN 1C608 or MT articles in USML Category V.	MT Column 1
AT applies to entire entry	AT Column 1
UN applies to entire entry	See §746.1(b) for UN controls

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

LVS: $1500

GBS: N/A

SPECIAL CONDITIONS FOR STA

STA: Paragraph (c)(2) of License Exception STA (§740.20(c)(2) of the EAR) may not be used for any item in 1B608.

LIST OF ITEMS CONTROLLED

Related Controls: (1) Defense articles that are enumerated in USML Category V, and technical data (including software) directly related thereto, are ''subject to the ITAR''. (2) See ECCN 0A919 for foreign-made ''military commodities'' that incorporate more than a *de minimis* amount of US-origin ''600 series'' controlled content. (3) See ECCN 1B115 for controls on ''production equipment,'' not controlled by this ECCN 1B608, for propellants or propellant constituents described in ECCN 1C011.a, 1C011.b, or 1C111 or in USML Category V.

Related Definitions: N/A

Items: a. ''Equipment'' ''specially designed'' for the ''development,'' ''production,'' repair, overhaul, or refurbishing of items controlled by ECCN 1C608 or USML Category V and not elsewhere specified on the USML.

NOTE TO PARAGRAPH a: ECCN 1B608.a. includes: (1) Continuous nitrators; (2) dehydration presses;

(3) cutting machines for the sizing of extruded propellants; (4) sweetie barrels (tumblers) 6 feet or more in diameter and having over 500 pounds product capacity; (5) convection current converters for the conversion of materials listed in USML Category V(c)(2); and (6) extrusion presses for the extrusion of small arms, cannon and rocket propellants.

b. Complete installations ''specially designed'' for the ''development,'' ''production,'' repair, overhaul, or refurbishing of items controlled by ECCN 1C608 or USML Category V and not elsewhere specified on the USML.

c. Environmental test facilities ''specially designed'' for the certification, qualification, or testing of items controlled by ECCN 1C608 or USML Category V.

d. through w. [Reserved]

x. ''Parts,'' ''components,'' ''accessories'' and ''attachments'' that are ''specially designed'' for a commodity subject to control in this ECCN or a defense article in USML Category V and not elsewhere specified on the USML.

1B613 Test, inspection, and "production" "equipment" and related commodities "specially designed" for the "development," "production," repair, overhaul, or refurbishing of commodities controlled by ECCN 1A613 or USML Category X, as follows (see List of Items Controlled).

LICENSE REQUIREMENTS

Reason for Control: NS, RS, AT, UN

Control(s)	Country chart (See Supp. No. 1 to part 738)
NS applies to entire entry	NS Column 1
RS applies to entire entry	RS Column 1

Control(s)	Country chart (See Supp. No. 1 to part 738)
AT applies to entire entry	AT Column 1
UN applies to entire entry	See §746.1(b) for UN controls

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

LVS: $1500

GBS: N/A

SPECIAL CONDITIONS FOR STA

STA: Paragraph (c)(2) of License Exception STA (§740.20(c)(2) of the EAR) may not be used for any item in 1B613.

LIST OF ITEMS CONTROLLED

Related Controls: See ECCN 0A919 for foreign-made ''military commodities'' that incorporate more than a *de minimis* amount of US-origin ''600 series'' controlled content.

Related Definitions: N/A

Items: a. Test, inspection, and ''production'' ''equipment,'' not controlled by USML Category X(c), that is ''specially designed'' for the ''development,'' ''production,'' repair, overhaul, or refurbishing of commodities controlled by ECCN 1A613 or USML Category X.

b. Plasma pressure compaction (P2C) ''equipment'' ''specially designed'' for the ''production'' of ceramic or composite body armor plates controlled by ECCN 1A613 or USML Category X.

1B999 Specific processing equipment, n.e.s., as follows (see List of Items Controlled).

LICENSE REQUIREMENTS

Reason for Control: RS, AT

Control(s)	Country chart (see supp. no. 1 to part 738)
RS applies to entire entry	A license is required for items controlled by this entry for export or reexport to Iraq or Pakistan or transfer within Iraq or Pakistan for regional stability reasons. The Commerce Country Chart is not designed to determine RS license requirements for this entry. See §§742.6 and 746.3 of the EAR for additional information.
AT applies to entire entry	A license is required for items controlled by this entry to North Korea for anti-terrorism reasons. The Commerce Country Chart is not designed to determine AT license requirements for this entry. See §742.19 of the EAR for additional information.

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

LVS: N/A

GBS: N/A

LIST OF ITEMS CONTROLLED

Related Controls: See also 1B001, 1B101, 1B201, 1B225, and 1D999

Related Definitions: N/A

Items:

a. Electrolytic cells for fluorine production, n.e.s.

b. Particle accelerators.

c. Industrial process control hardware/systems designed for power industries, n.e.s.

d. Freon and chilled water cooling systems capable of continuous cooling duties of 100,000 BTU/hr (29.3 kW) or greater.

e. Equipment for the production of structural composites, fibers, prepregs and preforms, n.e.s.

C. ''MATERIALS''

Technical Note: Metals and alloys: Unless provision to the contrary is made, the words ''metals'' and ''alloys'' in 1C001 to 1C011 cover crude and semi-fabricated forms, as follows:

Crude forms: Anodes, balls, bars (including notched bars and wire bars), billets, blocks, blooms, brickets, cakes, cathodes, crystals, cubes, dice, grains, granules, ingots, lumps, pellets, pigs, powder, rondelles, shot, slabs, slugs, sponge, sticks;

Semi-fabricated forms (whether or not coated, plated, drilled or punched):

a. Wrought or worked materials fabricated by rolling, drawing, extruding, forging, impact extruding, pressing, graining, atomizing, and grinding, i.e.: angles, channels, circles, discs, dust, flakes, foils and leaf, forging, plate, powder, pressings and stampings, ribbons, rings, rods (including bare welding rods, wire rods, and rolled wire), sections, shapes, sheets, strip, pipe and tubes (including tube rounds, squares, and hollows), drawn or extruded wire;

b. Cast material produced by casting in sand, die, metal, plaster or other types of molds, including high pressure castings, sintered forms, and forms made by powder metallurgy.

The object of the control should not be defeated by the export of non-listed forms alleged to be finished products but representing in reality crude forms or semi-fabricated forms.

1C001 Materials "specially designed" for absorbing electromagnetic radiation, or intrinsically conductive polymers, as follows (see List of Items Controlled).

LICENSE REQUIREMENTS

Reason for Control: NS, MT, AT

Control(s)	Country chart (see supp. No. 1 to part 738)
NS applies to entire entry	NS Column 1
MT applies to items that meet or exceed the parameters of ECCN 1C101.	MT Column 1
AT applies to entire entry	AT Column 1

REPORTING REQUIREMENTS

See §743.1 of the EAR for reporting requirements for exports under License Exceptions, and Validated End-User authorizations.

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

LVS: N/A

GBS: N/A

SPECIAL CONDITIONS FOR STA

STA: License Exception STA may not be used to ship any item in this entry to any of the destinations listed in Country Group A:6 (See Supplement No.1 to part 740 of the EAR).

LIST OF ITEMS CONTROLLED

Related Controls: See also 1C101.

Related Definitions: N/A

Items:

a. Materials for absorbing frequencies exceeding 2×10^8 Hz but less than 3×10^{12} Hz.

Note 1: 1C001.a does not control:

a. Hair type absorbers, constructed of natural or synthetic fibers, with non-magnetic loading to provide absorption;

b. Absorbers having no magnetic loss and whose incident surface is non-planar in shape, including pyramids, cones, wedges and convoluted surfaces;

c. Planar absorbers, having all of the following:

1. Made from any of the following:

a. Plastic foam materials (flexible or non-flexible) with carbon-loading, or organic materials, including binders, providing more than 5% echo compared with metal over a bandwidth exceeding ±15% of the center frequency of the incident energy, and not capable of withstanding temperatures exceeding 450 K (177 °C); or

b. Ceramic materials providing more than 20% echo compared with metal over a bandwidth exceeding ±15% of the center frequency of the incident energy, and not capable of withstanding temperatures exceeding 800 K (527 °C);

Technical Note: For the purposes of 1C001.a Note 1.c.1, absorption test samples should be a square at least 5 wavelengths of the center frequency on a side and positioned in the far field of the radiating element.

2. Tensile strength less than 7×10^6 N/m^2; and

3. Compressive strength less than 14×10^6 N/m^2;

d. Planar absorbers made of sintered ferrite, having all of the following:

1. A specific gravity exceeding 4.4; and

2. A maximum operating temperature of 548 K (275 °C) or less;

e. Planar absorbers having no magnetic loss and fabricated from 'open-cell foams' plastic material with a density of 0.15 grams/cm^3 or less.

Technical Note: For the purposes of 1C001.a Note e., 'open-cell foams' are flexible and porous materials, having an inner structure open to the atmosphere. 'Open-cell foams' are also known as reticulated foams.

Note 2: Nothing in Note 1 releases magnetic materials to provide absorption when contained in paint.

b. Materials not transparent to visible light and ''specially designed'' for absorbing near-infrared radiation having a wavelength exceeding 810 nm but less than 2,000 nm (frequencies exceeding 150 THz but less than 370 THz);

Note: 1C001.b does not apply to materials, ''specially designed'' or formulated for any of the following applications:

a. ''Laser'' marking of polymers; or

b. ''Laser'' welding of polymers.

c. Intrinsically conductive polymeric materials with a 'bulk electrical conductivity' exceeding 10,000 S/m (Siemens per meter) or a 'sheet (surface) resistivity' of less than 100 ohms/square, based on any of the following polymers:

c.1. Polyaniline;

c.2. Polypyrrole;

c.3. Polythiophene;

c.4. Poly phenylene-vinylene; *or*

c.5. Poly thienylene-vinylene.

Note: 1C001.c does not apply to materials in a liquid form.

Technical Note: For the purposes of 1C001.c, 'bulk electrical conductivity' and 'sheet (surface) resistivity' should be determined using ASTM D–257 or national equivalents.

1C002 Metal alloys, metal alloy powder and alloyed materials, as follows (see List of Items Controlled).

LICENSE REQUIREMENTS

Reason for Control: NS, NP, AT

Control(s)	Country chart (see supp. No. 1 to part 738)
NS applies to entire entry	NS Column 2
NP applies to 1C002.b.3 or b.4 if they exceed the parameters stated in 1C202.	NP Column 1
AT applies to entire entry	AT Column 1

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

LVS: $3000; N/A for NP

GBS: N/A

LIST OF ITEMS CONTROLLED

Related Controls: (1) See ECCNs 1E001 (''development'' and ''production'') and 1E201 (''use'') for technology for items controlled by this entry. (2) Also see ECCN 1C202. (3) Aluminum alloys and titanium alloys in physical forms and finished products ''especially designed'' or prepared for use in separating uranium isotopes are subject to the export licensing authority of the Nuclear Regulatory Commission (see 10 CFR part 110).

Related Definition: N/A

Items:

Note: 1C002 does not control metal alloys, metal alloy powder and alloyed materials, specially formulated for coating purposes.

Technical Note: For the purposes of 1C002, metal alloys are those containing a higher percentage by weight of the stated metal than of any other element.

a. Aluminides, as follows:

a.1. Nickel aluminides containing a minimum of 15% by weight aluminum, a maximum of 38% by weight aluminum and at least one additional alloying element;

a.2. Titanium aluminides containing 10% by weight or more aluminum and at least one additional alloying element;

b. Metal alloys, as follows, made from the powder or particulate material controlled by 1C002.c:

b.1. Nickel alloys having any of the following:

b.1.a. A 'stress-rupture life' of 10,000 hours or longer at 923 K (650 °C) at a stress of 676 MPa; *or*

b.1.b. A 'low cycle fatigue life' of 10,000 cycles or more at 823 K (550 °C) at a maximum stress of 1,095 MPa;

b.2. Niobium alloys having any of the following:

b.2.a. A 'stress-rupture life' of 10,000 hours or longer at 1,073 K (800 °C) at a stress of 400 MPa; *or*

b.2.b. A 'low cycle fatigue life' of 10,000 cycles or more at 973 K (700 °C) at a maximum stress of 700 MPa;

b.3. Titanium alloys having any of the following:

b.3.a. A 'stress-rupture life' of 10,000 hours or longer at 723 K (450 °C) at a stress of 200 MPa; *or*

b.3.b. A 'low cycle fatigue life' of 10,000 cycles or more at 723 K (450 °C) at a maximum stress of 400 MPa;

b.4 Aluminum alloys having any of the following:

b.4.a. A tensile strength of 240 MPa or more at 473 K (200 °C); *or*

b.4.b. A tensile strength of 415 MPa or more at 298 K (25 °C);

b.5. Magnesium alloys having all the following:

b.5.a. A tensile strength of 345 MPa or more; and

b.5.b. A corrosion rate of less than 1 mm/year in 3% sodium chloride aqueous solution measured in accordance with ASTM standard G–31 or national equivalents;

Technical Notes: For the purposes of 1C002.b:

1. 'Stress-rupture life' should be measured in accordance with ASTM standard E–139 or national equivalents.

2. 'Low cycle fatigue life' should be measured in accordance with ASTM Standard E–606 'Recommended Practice for Constant-Amplitude Low-Cycle Fatigue Testing' or national equivalents. Testing should be axial with an average stress ratio equal to 1 and a stress-concentration factor (K_t) equal to 1. The average stress ratio is defined as maximum stress minus minimum stress divided by maximum stress.

c. Metal alloy powder or particulate material, having all of the following:

c.1. Made from any of the following composition systems:

Technical Note: For the purposes of 1C002.c.1, X equals one or more alloying elements.

c.1.a. Nickel alloys (Ni-Al-X, Ni-X-Al) qualified for turbine engine ''parts'' or ''components,'' *i.e.*, with less than 3 non-metallic particles (introduced during the manufacturing process) larger than 100 μm in 109 alloy particles;

c.1.b. Niobium alloys (Nb-Al-X or Nb-X-Al, Nb-Si-X or Nb-X-Si, Nb-Ti-X or Nb-X-Ti);

c.1.c. Titanium alloys (Ti-Al-X or Ti-X-Al);

c.1.d. Aluminum alloys (Al-Mg-X or Al-X-Mg, Al-Zn-X or Al-X-Zn, Al-Fe-X or Al-X-Fe); *or*

c.1.e. Magnesium alloys (Mg-Al-X or Mg-X-Al);

c.2. Made in a controlled environment by any of the following processes:

c.2.a. 'Vacuum atomization';

c.2.b. 'Gas atomization';

c.2.c. 'Rotary atomization';

c.2.d. 'Splat quenching';

c.2.e. 'Melt spinning' and 'comminution';

c.2.f. 'Melt extraction' and 'comminution';

c.2.g. 'Mechanical alloying'; *or*

c.2.h. 'Plasma atomization'; *and*

c.3. Capable of forming materials controlled by 1C002.a or 1C002.b;

d. Alloyed materials, having all the following:

d.1. Made from any of the composition systems specified by 1C002.c.1;

d.2. In the form of uncomminuted flakes, ribbons or thin rods; *and*

d.3. Produced in a controlled environment by any of the following:

d.3.a. 'Splat quenching';

d.3.b. 'Melt spinning'; *or*

d.3.c. 'Melt extraction'.

Technical Notes: For the purposes of 1C002:

1. 'Vacuum atomization' is a process to reduce a molten stream of metal to droplets of a diameter of 500 μm or less by the rapid evolution of a dissolved gas upon exposure to a vacuum.

2. 'Gas atomization' is a process to reduce a molten stream of metal alloy to droplets of 500 μm diameter or less by a high pressure gas stream.

3. 'Rotary atomization' is a process to reduce a stream or pool of molten metal to droplets of a diameter of 500 μm or less by centrifugal force.

4. 'Splat quenching' is a process to 'solidify rapidly' a molten metal stream impinging upon a chilled block, forming a flake-like product.

5. 'Melt spinning' is a process to 'solidify rapidly' a molten metal stream impinging upon a rotating chilled block, forming a flake, ribbon or rod-like product.

6. 'Comminution' is a process to reduce a material to particles by crushing or grinding.

7. 'Melt extraction' is a process to 'solidify rapidly' and extract a ribbon-like alloy product by the insertion of a short segment of a rotating chilled block into a bath of a molten metal alloy.

8. 'Mechanical alloying' is an alloying process resulting from the bonding, fracturing and re-bonding of elemental and master alloy powders by mechanical impact. Non-metallic particles may be incorporated in the alloy by addition of the appropriate powders.

9. 'Plasma atomization' is a process to reduce a molten stream or solid metal to droplets of 500 μm diameter or less, using plasma torches in an inert gas environment.

10. For the purposes of 1C002 Technical Notes, 'solidify rapidly' is a process involving the solidification of molten material at cooling rates exceeding 1000 K/sec.

1C003 Magnetic metals, of all types and of whatever form, having any of the following (see List of Items Controlled).

LICENSE REQUIREMENTS

Reason for Control: NS, AT

Control(s)	Country chart (see supp. No. 1 to part 738)
NS applies to entire entry	NS Column 2
AT applies to entire entry	AT Column 1

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

LVS: $3000

GBS: N/A

LIST OF ITEMS CONTROLLED

Related Controls: N/A

Related Definitions: N/A

Items:

a. Initial relative permeability of 120,000 or more and a thickness of 0.05 mm or less;

Technical Note: For the purposes of 1C003.a, measurement of initial relative permeability must be performed on fully annealed materials.

b. Magnetostrictive alloys having any of the following:

b.1. A saturation magnetostriction of more than 5×104^{-4}; *or*

b.2. A magnetomechanical coupling factor (k) of more than 0.8; *or*

c. Amorphous or 'nanocrystalline' alloy strips, having all of the following:

c.1. A composition having a minimum of 75% by weight of iron, cobalt or nickel;

c.2. A saturation magnetic induction (B_s) of 1.6 T or more; *and*

c.3. Any of the following:

c.3.a. A strip thickness of 0.02 mm or less; *or*

c.3.b. An electrical resistivity of 2×10^{-4} ohm cm or more.

Technical Note: For the purposes of 1C003.c, 'nanocrystalline' materials are those materials having a crystal grain size of 50 nm or less, as determined by X-ray diffraction.

1C004 Uranium titanium alloys or tungsten alloys with a "matrix" based on iron, nickel or copper, having all of the following (see List of Items Controlled).

LICENSE REQUIREMENTS

Reason for Control: NS, AT

Control(s)	Country Chart (See Supp. No. 1 to part 738)
NS applies to entire entry	NS Column 2
AT applies to entire entry	AT Column 1

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

LVS: $3000

GBS: N/A

LIST OF ITEMS CONTROLLED

Related Controls: See also 1C117 and 1C226.

Related Definitions: N/A

Items: a. A density exceeding 17.5 g/cm^3;

b. An elastic limit exceeding 880 MPa;

c. An ultimate tensile strength exceeding 1,270 MPa; *and*

d. An elongation exceeding 8%.

1C005 "Superconductive" "composite" conductors in lengths exceeding 100 m or with a mass exceeding 100 g, as follows (see List of Items Controlled).

LICENSE REQUIREMENTS

Reason for Control: NS, AT

Control(s)	Country chart (see supp. No. 1 to part 738)
NS applies to entire entry	NS Column 2
AT applies to entire entry	AT Column 1

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

LVS: $1500

GBS: N/A

LIST OF ITEMS CONTROLLED

Related Controls: N/A

Related Definitions: N/A

Items:

a. ''Superconductive'' ''composite'' conductors containing one or more niobium-titanium 'filaments', having all of the following:

a.1. Embedded in a ''matrix'' other than a copper or copper-based mixed ''matrix''; *and*

a.2. Having a cross-section area less than 0.28×10^{-4} mm^2 (6 μm in diameter for circular 'filaments');

b. ''Superconductive'' ''composite'' conductors consisting of one or more ''superconductive'' 'filaments' other than niobium-titanium, having all of the following:

b.1. A ''critical temperature'' at zero magnetic induction exceeding 9.85 K (−263.31 °C); and

b.2. Remaining in the ''superconductive'' state at a temperature of 4.2 K (−268.96 °C) when exposed to a magnetic field oriented in any direction perpendicular to the longitudinal axis of conductor and corresponding to

a magnetic induction of 12 T with critical current density exceeding 1750 A/mm² on overall cross-section of the conductor.

c. ''Superconductive'' ''composite'' conductors consisting of one or more ''superconductive'' 'filaments' which remain ''superconductive'' above 115 K (−158.16 °C).

Technical Note: For the purposes of 1C005, 'filaments' may be in wire, cylinder, film, tape or ribbon form.

1C006 Fluids and lubricating materials, as follows (see List of Items Controlled).

LICENSE REQUIREMENTS

Reason for Control: NS, AT

Control(s)	Country chart (see Supp. No. 1 to part 738)
NS applies to entire entry	NS Column 2.
AT applies to entire entry	AT Column 1.

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

LVS: $3000

GBS: Yes for 1C006.d

LIST OF ITEMS CONTROLLED

Related Controls: See also *1C996*.

Related Definitions: N/A

Items:

a. [Reserved]

b. Lubricating materials containing, as their principal ingredients, phenylene or alkylphenylene ethers or thio-ethers, or their mixtures, containing more than two ether or thio-ether functions or mixtures thereof.

c. Damping or flotation fluids having all of the following:

c.1. Purity exceeding 99.8%;

c.2. Containing less than 25 particles of 200 μm or larger in size per 100 ml; and

c.3. Made from at least 85% of any of the following:

c.3.a. Dibromotetrafluoroethane (CAS 25497–30–7, 124–73–2, 27336–23–8);

c.3.b. Polychlorotrifluoroethylene (oily and waxy modifications only); *or*

c.3.c. Polybromotrifluoroethylene;

d. Fluorocarbon fluids designed for electronic cooling and having all of the following:

d.1. Containing 85% by weight or more of any of the following, or mixtures thereof:

d.1.a. Monomeric forms of perfluoropolyalkylether-triazines or perfluoroaliphatic-ethers;

d.1.b. Perfluoroalkylamines;

d.1.c. Perfluorocycloalkanes; *or*

d.1.d. Perfluoroalkanes;

d.2. Density at 298 K (25 °C) of 1.5 g/ml or more;

d.3. In a liquid state at 273 K (0 °C); *and*

d.4. Containing 60% or more by weight of fluorine.

Note: 1C006.d does not apply to materials specified and packaged as medical products.

1C007 Ceramic powders, ceramic "matrix" "composite" materials and 'precursor materials,' as follows (see List of Items Controlled).

LICENSE REQUIREMENTS

Reason for Control: NS, MT, AT

Control(s)	Country chart (see Supp. No. 1 to part 738)
NS applies to entire entry	NS Column 2
MT applies to items in 1C007.c when the dielectric constant is less than 6 at any frequency from 100 MHz to 100 GHz for use in ''missile'' radomes.	MT Column 1
AT applies to entire entry	AT Column 1

REPORTING REQUIREMENTS

See §743.1 of the EAR for reporting requirements for exports under License Exceptions, and Validated End-User authorizations.

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

LVS: $5,000, except N/A for MT and for 1C007.e

GBS: N/A

SPECIAL CONDITIONS FOR STA

STA: License Exception STA may not be used to ship any item in 1C007.c entry to any of the destinations listed in Country Group A:6 (See Supplement No.1 to part 740 of the EAR).

LIST OF ITEMS CONTROLLED

Related Controls: See also 1C107

Related Definitions: N/A

Items: a. Ceramic powders of titanium diboride (TiB_2) (CAS 12045–63–5) having total metallic impurities, excluding intentional additions, of less than 5,000 ppm, an average particle size equal to or less than 5 μm and no more than 10% of the particles larger than 10 μm;

b. [Reserved]

c. Ceramic ''matrix'' ''composite'' materials as follows:

c.1. Ceramic-ceramic ''composite'' materials with a glass or oxide-''matrix'' and reinforced with any of the following:

c.1.a. Continuous fibers made from any of the following materials:

c.1.a.1. Al_2O_3 (CAS 1344–28–1); or

c.1.a.2. Si-C-N; or

Note: 1C007.c.1.a does not apply to ''composites'' containing fibers with a tensile strength of less than 700 MPa at 1,273 K (1,000 °C) or tensile creep resistance of more than 1% creep strain at 100 MPa load and 1,273 K (1,000 °C) for 100 hours.

c.1.b. Fibers being all of the following:

c.1.b.1. Made from any of the following materials:

c.1.b.1.a. Si-N;

c.1.b.1.b. Si-C;

c.1.b.1.c. Si-Al-O-N; *or*

c.1.b.1.d. Si-O-N; *and*

c.1.b.2. Having a ''specific tensile strength'' exceeding 12.7×10^3 m;

c.2. Ceramic ''matrix'' ''composite'' materials with a ''matrix'' formed of carbides or nitrides of silicon, zirconium or boron;

N.B.: For items previously specified by 1C007.c see 1C007.c.1.b.

d. [Reserved]

N.B.: For items previously specified by 1C007.d see 1C007.c.2.

e. 'Precursor materials' ''specially designed'' for the ''production'' of materials controlled by 1C007.c, as follows:

e.1. Polydiorganosilanes;

e.2. Polysilazanes;

e.3. Polycarbosilazanes;

Technical Note: For the purposes of 1C007, 'precursor materials' are special purpose polymeric or metallo-organic materials used for the ''production'' of silicon carbide, silicon nitride, or ceramics with silicon, carbon and nitrogen.

f. [Reserved]

N.B.: For items previously specified by 1C007.f see 1C007.c.1.a.

1C008 Non-fluorinated polymeric substances as follows (see List of Items Controlled).

LICENSE REQUIREMENTS

Reason for Control: NS, AT

Control(s)	Country chart (see supp. No. 1 to part 738)
NS applies to entire entry	NS Column 2
AT applies to entire entry	AT Column 1

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

LVS: $200

GBS: N/A

LIST OF ITEMS CONTROLLED

Related Controls: See also 1A003.

Related Definitions: N/A

Items:

a. Imides as follows:

a.1. Bismaleimides;

a.2. Aromatic polyamide-imides (PAI) having a 'glass transition temperature (Tg)' exceeding 563 K (290 °C);

a.3. Aromatic polyimides having a 'glass transition temperature (Tg)' exceeding 505 K (232 °C);

a.4. Aromatic polyetherimides having a 'glass transition temperature (Tg)' exceeding 563 K (290 °C);

Note: 1C008.a controls the substances in liquid or solid ''fusible'' form, including resin, powder, pellet, film, sheet, tape, or ribbon.

N.B.: For non-''fusible'' aromatic polyimides in film, sheet, tape, or ribbon form, see ECCN 1A003.

b. [Reserved]

c. [Reserved]

d. Polyarylene ketones;

e. Polyarylene sulfides, where the arylene group is biphenylene, triphenylene or combinations thereof;

f. Polybiphenylenethersulphone having a 'glass transition temperature (Tg)' exceeding 563 K (290 °C).

Technical Notes: 1. For the purposes of 1C008.a.2 thermoplastic materials, 1C008.a.4 materials, and 1C008.f materials, the 'glass transition temperature (Tg)' is determined using the method described in ISO 11357–2 (1999) or national equivalents.

2. For the purposes of 1C008.a.2 thermosetting materials and 1C008.a.3 materials, the 'glass transition temperature (Tg)' is determined using the 3-point bend method described in ASTM D 7028–07 or equivalent national standard. The test is to be performed using a dry test specimen which has attained a minimum of 90% degree of cure as specified by ASTM E 2160–04 or equivalent national standard, and was cured using the combination of standard- and post-cure processes that yield the highest Tg.

1C009 Unprocessed fluorinated compounds as follows (see List of Items Controlled).

LICENSE REQUIREMENTS

Reason for Control: NS, AT

Control(s)	Country Chart (See Supp. No. 1 to part 738)
NS applies to entire entry	NS Column 2
AT applies to entire entry	AT Column 1

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

LVS: $5000

GBS: N/A

LIST OF ITEMS CONTROLLED

Related Controls: See also 1A001.

Related Definitions: N/A

Items: a. [Reserved]

b. Fluorinated polyimides containing 10% by weight or more of combined fluorine;

c. Fluorinated phosphazene elastomers containing 30% by weight or more of combined fluorine.

1C010 "Fibrous or filamentary materials" as follows (see List of Items Controlled).

LICENSE REQUIREMENTS

Reason for Control: NS, NP, AT

Control(s)	Country chart (see supp. No. 1 to part 738)
NS applies to entire entry	NS Column 2
NP applies to 1C010.a (aramid "fibrous or filamentary materials", b (carbon "fibrous and filamentary materials"), and e.1 for "fibrous and filamentary materials" that meet or exceed the control criteria of ECCN 1C210.	NP Column 1
AT applies to entire entry	AT Column 1

REPORTING REQUIREMENTS

See §743.1 of the EAR for reporting requirements for exports under License Exceptions, and Validated End-User authorizations.

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

LVS: $1500, N/A for NP

GBS: N/A

SPECIAL CONDITIONS FOR STA

STA: License Exception STA may not be used to ship any item in 1C010.c to any of the destinations listed in Country Group A:6 (See Supplement No.1 to part 740 of the EAR).

LIST OF ITEMS CONTROLLED

Related Controls: (1) See ECCNs 1E001 (''development'' and ''production'') and 1E201 (''use'') for technology for items controlled by this entry. (2) Also see ECCNs 1C210 and 1C990. (3) See also 9C110 for material not controlled by 1C010.e, as defined by notes 1 or 2.

Related Definitions: (1) ''Specific modulus'': Young's modulus in pascals, equivalent to N/m2 divided by specific weight in N/m^3, measured at a temperature of (296+2) K ((23+2) °C) and a relative humidity of (50+5) %. (2) ''Specific tensile strength'': ultimate tensile strength in pascals, equivalent to N/m2 divided by specific weight in N/m^3, measured at a temperature of (296+2) K ((23+2) °C) and a relative humidity of (50+5) %.

Items:

Technical Notes: 1. For the purposes of calculating ''specific tensile strength'', ''specific modulus'' or specific weight of ''fibrous or filamentary materials'' in 1C010.a, 1C010.b, 1C010.c, or 1C010.e.1.b the tensile strength and modulus should be determined by using Method A described in ISO 10618 (2004) or national equivalents.

2. For the purposes of assessing the ''specific tensile strength'', ''specific modulus'' or specific weight of non-unidirectional ''fibrous or filamentary materials'' (e.g., fabrics, random mats or braids) in 1C010, this is to be based on the mechanical properties of the constituent unidirectional monofilaments (e.g., monofilaments, yarns, rovings or tows) prior to processing into the non-unidirectional ''fibrous or filamentary materials''.

a. Organic ''fibrous or filamentary materials'', having all of the following:

a.1. ''Specific modulus'' exceeding 12.7×10^6 m; *and*

a.2. ''Specific tensile strength'' exceeding 23.5×10^4 m;

Note: 1C010.a does not control polyethylene.

b. Carbon ''fibrous or filamentary materials'', having all of the following:

b.1. ''Specific modulus'' exceeding 14.65×10^6 m; *and*

b.2. ''Specific tensile strength'' exceeding 26.82×10^4 m;

Note: 1C010.b does not control:

a. ''Fibrous or filamentary materials'', for the repair of ''civil aircraft'' structures or laminates, having all of the following:

1. An area not exceeding 1 m^2;

2. A length not exceeding 2.5 m; and

3. A width exceeding 15 mm.

b. Mechanically chopped, milled or cut carbon ''fibrous or filamentary materials'' 25.0 mm or less in length.

c. Inorganic ''fibrous or filamentary materials'', having all of the following:

c.1. Having any of the following:

c.1.a. Composed of 50% or more by weight silicon dioxide (SiO_2) and having a ''specific modulus'' exceeding 2.54×10^6 m; *or*

c.1.b. Not specified in 1C010.c.1.a and having a ''specific modulus'' exceeding 5.6×10^6 m; *and*

c.2. Melting, softening, decomposition or sublimation point exceeding 1,922 K (1,649 °C) in an inert environment;

Note: 1C010.c does not control:

a. Discontinuous, multiphase, polycrystalline alumina fibers in chopped fiber or random mat form, containing 3% by weight or more silica, with a ''specific modulus'' of less than 10×10^6 m;

b. Molybdenum and molybdenum alloy fibers;

c. Boron fibers;

d. Discontinuous ceramic fibers with a melting, softening, decomposition or sublimation point lower than 2,043 K (1,770 °C) in an inert environment.

d. ''Fibrous or filamentary materials'', having any of the following:

d.1. Composed of any of the following:

d.1.a. Polyetherimides controlled by 1C008.a; *or*

d.1.b. Materials controlled by 1C008.b to 1C008.f; *or*

d.2. Composed of materials controlled by 1C010.d.1.a or 1C010.d.1.b and 'commingled' with other fibers controlled by 1C010.a, 1C010.b or 1C010.c;

Technical Note: For the purposes of 1C010.d.2, 'commingled' is filament to filament blending of thermoplastic fibers and reinforcement fibers in order to produce a fiber reinforcement ''matrix'' mix in total fiber form.

e. Fully or partially resin impregnated or pitch impregnated ''fibrous or filamentary materials'' (prepregs), metal or carbon coated ''fibrous or filamentary materials'' (preforms) or 'carbon fiber preforms', having all of the following:

e.1. Having any of the following:

e.1.a. Inorganic ''fibrous or filamentary materials'' controlled by 1C010.c; *or*

e.1.b. Organic or carbon ''fibrous or filamentary materials'', having all of the following:

e.1.b.1. ''Specific modulus'' exceeding 10.15×10^6 m; and

e.1.b.2 ''Specific tensile strength'' exceeding 17.7×10^4m; and

e.2. Having any of the following:

e.2.a. Resin or pitch, controlled by 1C008 or 1C009.b;

e.2.b. 'Dynamic Mechanical Analysis glass transition temperature (DMA T_g)' equal to or exceeding 453 K (180 °C) and having a phenolic resin; *or*

e.2.c. 'Dynamic Mechanical Analysis glass transition temperature (DMA T_g)' equal to or exceeding 505 K (232 °C) and having a resin or pitch, not specified by 1C008 or 1C009.b, and not being a phenolic resin;

Note 1: Metal or carbon coated ''fibrous or filamentary materials'' (preforms) or 'carbon fiber preforms', not impregnated with resin or pitch, are specified by ''fibrous or filamentary materials'' in 1C010.a, 1C010.b or 1C010.c.

Note 2: 1C010.e does not apply to: a. Epoxy resin ''matrix'' impregnated carbon ''fibrous or filamentary materials'' (prepregs) for the repair of ''civil aircraft'' structures or laminates, having all of the following:

1. An area not exceeding 1 m²

2. A length not exceeding 2.5 m; and

3. A width exceeding 15 mm;

b. Fully or partially resin-impregnated or pitch-impregnated mechanically chopped, milled or cut carbon ''fibrous or filamentary materials'' 25.0 mm or less in length when using a resin or pitch other than those specified by 1C008 or 1C009.b.

Technical Notes: 1. For the purposes of 1C010.e and Note 1, 'carbon fiber preforms' are an ordered arrangement of uncoated or coated fibers intended to constitute a framework of a part before the ''matrix'' is introduced to form a ''composite''.

2. For the purposes of 1C010.e.2, 'Dynamic Mechanical Analysis glass transition temperature (DMA Tg)' is determined using the method described in ASTM D 7028 –07, or equivalent national standard, on a dry test specimen. In the case of thermoset materials, degree of cure of a dry test specimen shall be a minimum of 90% as defined by ASTM E 2160 04 or equivalent national standard.

1C011 Metals and compounds, as follows (see List of Items Controlled).

LICENSE REQUIREMENTS

Reason for Control: NS, MT, AT

Control(s)	Country chart (see supp. No. 1 to part 738)
NS applies to entire entry	NS Column 2
MT applies to 1C011.a and .b for items that meet or exceed the parameters in 1C111..	MT Column 1
AT applies to entire entry	AT Column 1

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

LVS: N/A

GBS: N/A

LIST OF ITEMS CONTROLLED

Related Controls: (1) See also ECCNs 1C111 and 1C608. (2) All of the following are ''subject to the ITAR'' (see 22 CFR parts 120 through 130): (a) Materials controlled by 1C011.a, and metal fuels in particle form, whether spherical, atomized, spheroidal, flaked or ground, manufactured from material consisting of 99 percent or more of items controlled by 1C011.b; and (b) Metal powders mixed with other substances to form a mixture formulated for military purposes.

Related Definitions: N/A

Items:

a. Metals in particle sizes of less than 60 μm whether spherical, atomized, spheroidal, flaked or ground, manufactured from material consisting of 99% or more of zirconium, magnesium and alloys thereof;

Technical Note: For the purposes of 1C011.a, the natural content of hafnium in the zirconium (typically 2% to 7%) is counted with the zirconium.

Note: The metals or alloys specified by 1C011.a also refer to metals or alloys encapsulated in aluminum, magnesium, zirconium or beryllium.

b. Boron or boron alloys, with a particle size of 60 μm or less, as follows:

b.1. Boron with a purity of 85% by weight or more;

b.2. Boron alloys with a boron content of 85% by weight or more;

Note: The metals or alloys specified by 1C011.b also refer to metals or alloys encapsulated in aluminum, magnesium, zirconium or beryllium.

c. Guanidine nitrate (CAS 506–93–4);

d. Nitroguanidine (NQ) (CAS 556–88–7).

1C018 Commercial charges and devices containing energetic materials on the Wassenaar Arrangement Munitions List and certain chemicals.

No items currently are in this ECCN. (1) See ECCN 1C608.b. through .m for items that, immediately prior to July 1, 2014 were classified under 1C018.b through .m. (2) See ECCNs 1C011, 1C111, and 1C239 for additional controlled energetic materials, including chlorine trifluoride (ClF_3), which is controlled under ECCN 1C111.a.3.f. (3) See ECCN 1A008 for shaped charges, detonating cord, and cutters and severing tools.

1C101 Materials for Reduced Observables such as Radar Reflectivity, Ultraviolet/Infrared Signatures and Acoustic Signatures (i.e., Stealth Technology), Other than Those Controlled by 1C001, for applications usable in rockets, missiles, or unmanned aerial vehicles capable of achieving a "range" equal to or greater than 300km, and their subsystems.

LICENSE REQUIREMENTS

Reason for Control: MT, AT

Control(s)	Country Chart (See Supp. No. 1 to part 738)
MT applies to entire entry	MT Column 1
AT applies to entire entry	AT Column 1

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

LVS: N/A

GBS: N/A

LIST OF ITEMS CONTROLLED

Related Controls: (1) Materials controlled by this entry include structural materials and coatings (including paints), ''specially designed'' for reduced or tailored reflectivity or emissivity in the microwave, infrared or ultraviolet spectra. (2) This entry does not control coatings (including paints) when specially used for the thermal control of satellites. (3) For commodities that meet the definition of defense articles under 22 CFR 120.3 of the International Traffic in Arms Regulations (ITAR), which describes similar commodities ''subject to the ITAR'' (See 22 CFR parts 120 through 130, including USML Category XIII).

Related Definitions: N/A

Items: The list of items controlled is contained in the ECCN heading.

1C102 Resaturated pyrolized carbon-carbon materials designed for space launch vehicles specified in 9A004 or sounding rockets specified in 9A104. (These items are "subject to the ITAR." See 22 CFR parts 120 through 130.)

1C107 Graphite and Ceramic Materials, Other Than Those Controlled by 1C007, Which Can be Machined to Any of the Following Products as Follows (See List of Items Controlled).

LICENSE REQUIREMENTS

Reason for Control: MT, AT

Control(s)	Country Chart (See Supp. No. 1 to part 738)
MT applies to entire entry	MT Column 1
AT applies to entire entry	AT Column 1

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

LVS: N/A

GBS: N/A

LIST OF ITEMS CONTROLLED

Related Controls: (1) See also 1C004, 1C007, and 1C298. (2) For commodities that meet the definition of defense articles under 22 CFR 120.3 of the ITAR, which describes similar commodities ''subject to the ITAR'' (See 22 CFR parts 120 through 130, including USML Category XIII). (3) ''Special fissile materials'' and ''other fissile materials''; except, four ''effective grams'' or less when contained in a sensing component in instruments are subject to the export licensing authority of the Nuclear Regulatory Commission (see 10 CFR part 110).

Related Definitions: N/A

Items: a. Fine grain graphites with a bulk density of 1.72 g/cm^3 or greater, measured at 15 °C, and having a grain size of 100 micrometers or less, usable for rocket nozzles and reentry vehicle nose tips as follows:

a.1. Cylinders having a diameter of 120 mm or greater and a length of 50 mm or greater;

a.2. Tubes having an inner diameter of 65 mm or greater and a wall thickness of 25 mm or greater and a length of 50 mm or greater;

a.3. Blocks having a size of 120 mm × 120 mm × 50 mm or greater.

b. Pyrolytic or fibrous reinforced graphites, usable for rocket nozzles and reentry vehicle nose tips;

c. Ceramic composite materials (dielectric constant is less than 6 at any frequency from 100 MHz to 100 GHz) for use in radomes useable in rockets, missiles, and unmanned aerial vehicles capable of achieving a ''range'' equal to or greater than 300 km; *or*

d. High-temperature ceramic materials, useable in rockets, missiles, and unmanned aerial vehicles capable of achieving a ''range'' equal to or greater than 300 km, as follows:

d.1. Bulk machinable silicon-carbide reinforced unfired ceramic, usable for nose tips.

d.2. Reinforced silicon-carbide ceramic composites usable for nose tips, re-entry vehicles, nozzle flaps.

d.3. Bulk machinable ceramic composite materials consisting of an 'Ultra High Temperature Ceramic (UHTC)' matrix with a melting point equal to or greater than 3000 °C and reinforced with fibers or filaments, usable for missile components (such as nose tips, re-entry vehicles, leading edges, jet vanes, control surfaces, or rocket motor throat inserts).

Note: ECCN 1C107.d.3. does not control 'Ultra High Temperature Ceramic (UHTC)' materials in non-composite form.

Technical Note: 'Ultra High Temperature Ceramics (UHTC)' includes: Titanium diboride (TiB_2), zirconium diboride (ZrB_2), niobium diboride (NbB_2), hafnium diboride (HfB_2), tantalum diboride (TaB_2), titanium carbide (TiC), zirconium carbide (ZrC), niobium carbide (NbC), hafnium carbide (HfC), tantalum carbide (TaC).

1C111 Propellants and constituent chemicals for propellants, other than those specified in 1C011, as follows (see List of Items Controlled).

LICENSE REQUIREMENTS

Reason for Control: MT, NP, RS, AT

Control(s)	Country chart (see Supp. No. 1 to part 738)
MT applies to entire entry	MT Column 1.
NP applies to 1C111.a.3.f only.	NP Column 1.
RS applies to 1C111.d.3 only	RS Column 1.
AT applies to entire entry	AT Column 1.

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

LVS: N/A

GBS: N/A

LIST OF ITEMS CONTROLLED

Related Controls: (1) See USML Category V(e)(7) for controls on HTPB (hydroxyl terminated polybutadiene) with a hydroxyl functionality equal to or greater than 2.2 and less than or equal to 2.4, a hydroxyl value of less than 0.77 meq/g, and a viscosity at 30 °C of less than 47 poise (CAS #69102–90–5). (2) See USML Category V for controls on ferrocene derivatives, including butacene. (3) See ECCN 1C608 for controls on oxidizers that are composed of fluorine and also other halogens, oxygen, or nitrogen, except for chlorine trifluoride, which is controlled under this ECCN 1C111.a.3.f. (4) See ECCN 1C011.b for controls on boron and boron alloys not controlled under this ECCN 1C111.a.2.b. (5) See USML Category V for controls on Inhibited Red Fuming Nitric Acid (IRFNA) (CAS 8007–58–7).

Related Definitions: Particle size is the mean particle diameter on a weight or volume basis. Best industrial practices must be used in sampling, and in determining particle size, and the controls may not be undermined by the addition of larger or smaller sized material to shift the mean diameter.

Items:

a. Propulsive substances:

a.1. Spherical or spheroidal aluminum powder (C.A.S. 7429–90–5) in particle size of less than 200×10^{-6} m (200 μm) and an aluminum content of 97% by weight or more, if at least 10% of the total weight is made up of particles of less than 63 μm, according to ISO 2591–1:1988 or national equivalents.

Technical Note: A particle size of 63 μm (ISO R–565) corresponds to 250 mesh (Tyler) or 230 mesh (ASTM standard E–11).

a.2. Metal powders and alloys where at least 90% of the total particles by particle volume or weight are made up of particles of less than 60 μ (determined by measurement techniques such as using a sieve, laser diffraction or optical scanning), whether spherical, atomized, spheroidal, flaked or ground, as follows:

a.2.a. Consisting of 97% by weight or more of any of the following:

a.2.a.1. Zirconium (C.A.S. #7440–67–7);

a.2.a.2. Beryllium (C.A.S. #7440–41–7); *or*

a.2.a.3. Magnesium (C.A.S. #7439–95–4);

a.2.b. Boron or boron alloys with a boron content of 85% or more by weight.

Technical Note: The natural content of hafnium in the zirconium (typically 2% to 7%) is counted with the zirconium.

Note: In a multimodal particle distribution (e.g., mixtures of different grain sizes) in which one or more modes are controlled, the entire powder mixture is controlled.

a.3. Oxidizer substances usable in liquid propellant rocket engines, as follows:

a.3.a. Dinitrogen trioxide (CAS 10544–73–7);

a.3.b. Nitrogen dioxide (CAS 10102–44–0)/dinitrogen tetroxide (CAS 10544–72–6);

a.3.c. Dinitrogen pentoxide (CAS 10102–03–1);

a.3.d. Mixed oxides of nitrogen (MON);

a.3.e. [Reserved];

a.3.f. Chlorine trifluoride (ClF_3).

Technical Note: Mixed oxides of nitrogen (MON) are solutions of nitric oxide (NO) in dinitrogen tetroxide/nitrogen dioxide (N_2O_4/NO_2) that can be used in missile systems. There are a range of compositions that can be denoted as MONi or MONij, where i and j are integers representing the percentage of nitric oxide in the mixture (e.g., MON3 contains 3% nitric oxide, MON25 25% nitric oxide. An upper limit is MON40, 40% by weight).

b. Polymeric substances:

b.1. Carboxy-terminated polybutadiene (including carboxyl-terminated polybutadiene) (CTPB);

b.2. Hydroxy-terminated polybutadiene (including hydroxyl-terminated polybutadiene) (HTPB) (CAS 69102–90–5), except for hydroxyl-terminated polybutadiene as specified in USML Category V (see 22 CFR 121.1) (also see Related Controls Note #1 for this ECCN);

b.3. Polybutadiene acrylic acid (PBAA);

b.4. Polybutadiene acrylic acid acrylonitrile (PBAN) (CAS 25265–19–4/CAS 68891–50–9);

b.5. Polytetrahydrofuran polyethylene glycol (TPEG).

Technical Note: Polytetrahydrofuran polyethylene glycol (TPEG) is a block copolymer of poly 1,4-Butanediol (CAS 110–63–4) and polyethylene glycol (PEG) (CAS 25322–68–3).

c. Other propellant energetic materials, additives, or agents:

c.1. [Reserved]

c.2. Triethylene glycol dinitrate (TEGDN);

c.3. 2 Nitrodiphenylamine (2–NDPA);

c.4. Trimethylolethane trinitrate (TMETN);

c.5. Diethylene glycol dinitrate (DEGDN).

d. Hydrazine and derivatives as follows:

d.1. Hydrazine (C.A.S. #302–01–2) in concentrations of 70% or more;

d.2. Monomethyl hydrazine (MMH) (C.A.S. #60–34–4);

d.3. Symmetrical dimethyl hydrazine (SDMH) (C.A.S. #540–73–8);

d.4. Unsymmetrical dimethyl hydrazine (UDMH) (C.A.S. #57–14–7);

d.5. Trimethylhydrazine (C.A.S. #1741–01–1);

d.6. Tetramethylhydrazine (C.A.S. #6415–12–9);

d.7. N,N diallylhydrazine (CAS 5164–11–4);

d.8. Allylhydrazine (C.A.S. #7422–78–8);

d.9. Ethylene dihydrazine (CAS 6068–98–0);

d.10. Monomethylhydrazine dinitrate;
d.11. Unsymmetrical dimethylhydrazine nitrate;
d.12. 1,1-Dimethylhydrazinium azide (CAS 227955–52–4)/1,2-Dimethylhydrazinium azide (CAS 299177–50–7);
d.13. Hydrazinium azide (C.A.S. #14546–44–2);
d.14. Hydrazinium dinitrate (CAS 13464–98–7);
d.15. Diimido oxalic acid dihydrazine (C.A.S. #3457–37–2);
d.16. 2-hydroxyethylhydrazine nitrate (HEHN);
d.17. Hydrazinium diperchlorate (C.A.S. #13812–39–0);
d.18. Methylhydrazine nitrate (MHN) (CAS 29674–96–2);
d.19. 1,1-Diethylhydrazine nitrate (DEHN)/1,2-Diethylhydrazine nitrate (DEHN) (CAS 363453–17–2);
d.20. 3,6-dihydrazino tetrazine nitrate (DHTN), also referred to as 1,4-dihydrazine nitrate.
e. Hydrazine replacement fuels as follows:
e.1. 2-Dimethylaminoethylazide (DMAZ) (CAS 86147–04–8);
e.2. [Reserved]

1C116 Maraging steels having both of the following (see List of Items Controlled).

LICENSE REQUIREMENTS
Reason for Control: MT, NP, AT

Control(s)	Country Chart (See Supp. No. 1 to part 738)
MT applies to entire entry	MT Column 1
NP applies to items that meet or exceed the parameters of 1C216.	NP Column 1
AT applies to entire entry	AT Column 1

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)
LVS: N/A
GBS: N/A
LIST OF ITEMS CONTROLLED
Related Controls: (1) See ECCNs 1E001 (''development'' and ''production'') and 1E101 (''use'') for technology for items controlled by this entry. (2) Also see ECCN 1C216. (3) Maraging steel, in physical forms and finished products and ''specially designed'' or prepared for use in separating uranium isotopes, is subject to the export licensing authority of the Nuclear Regulatory Commission (see 10 CFR part 110).
Related Definitions: N/A
Items: a. Having an ultimate tensile strength, measured at 20 °C, equal to or greater than:
a.1. 0.9 GPa in the solution annealed stage; *or*
a.2. 1.5 GPa in the precipitation hardened stage; *and*
b. Any of the following forms:
b.1 Sheet, plate or tubing with a wall or plate thickness equal to or less than 5.0 mm; *or*
b.2 Tubular forms with a wall thickness equal to or less than 50 mm and having an inner diameter equal to or greater than 270 mm.

Technical Note: Maraging steels are iron alloys that are generally:
a. Characterized by high nickel, very low carbon content and use substitutional elements or precipitates to produce strengthening and age-hardening of the alloy; and
b. Subjected to heat treatment cycles to facilitate the martensitic transformation process (solution annealed stage) and subsequently age hardened (precipitation hardened stage).

1C117 Materials for the fabrication of missile "parts" or "components" for rockets or missiles capable of achieving a "range" equal to or greater than 300 km, as follows (see List of Items Controlled).

LICENSE REQUIREMENTS
Reason for Control: MT, AT

Control(s)	Country Chart (See Supp. No. 1 to part 738)
MT applies to entire entry	MT Column 1
AT applies to entire entry	AT Column 1

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)
LVS: N/A
GBS: N/A
LIST OF ITEMS CONTROLLED
Related Controls: See 1C226.
Related Definitions: N/A
Items: a. Tungsten and alloys in particulate form with a tungsten content of 97% by weight or more and a particle size of 50×10^{-6} m (50 μm) or less;
b. Molybdenum and alloys in particulate form with a molybdenum content of 97% by weight or more and a particle size of 50×10^{-6} m (50 μm) or less;
c. Tungsten materials in the solid form having all of the following:
c.1. Any of the following material compositions:
c.1.a. Tungsten and alloys containing 97% by weight or more of tungsten;
c.1.b. Copper infiltrated tungsten containing 80% by weight or more of tungsten; *or*
c.1.c. Silver infiltrated tungsten containing 80% by weight or more of tungsten; *and*
c.2. Able to be machined to any of the following products:
c.2.a. Cylinders having a diameter of 120 mm or greater and a length of 50 mm or greater;
c.2.b. Tubes having an inner diameter of 65 mm or greater and a wall thickness of 25 mm or greater and a length of 50 mm or greater; *or*

c.2.c. Blocks having a size of 120 mm × 120 mm × 50 mm or greater.

1C118 Titanium-stabilized duplex stainless steel (Ti-DSS), having all of the following characteristics (see List of Items Controlled).

LICENSE REQUIREMENTS

Reason for Control: MT, AT

Control(s)	Country chart (see Supp. No. 1 to part 738)
MT applies to entire entry	MT Column 1
AT applies to entire entry	AT Column 1

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

LVS: N/A

GBS: N/A

LIST OF ITEMS CONTROLLED

Related Controls: N/A

Related Definitions: N/A

Items: a. Having all of the following characteristics:

a.1. Containing 17.0–23.0% by weight of chromium and 4.5–7.0% by weight of nickel;

a.2. Having a titanium content of greater than 0.10% by weight; *and*

a.3. A ferritic-austenitic microstructure (also referred to as a two-phase microstructure) of which at least 10% by volume (according to ASTM E–1181–87 or national equivalents) is austenite; *and*

b. Having any of the following forms:

b.1. Ingots or bars having a size of 100 mm or more in each dimension;

b.2. Sheets having a width of 600 mm or more and a thickness of 3 mm or less; *or*

b.3. Tubes having an outer diameter of 600 mm or more and a wall thickness of 3 mm or less.

1C202 Alloys other than those controlled by 1C002.b.3 or 1C002.b.4 as follows (see List of Items Controlled).

LICENSE REQUIREMENTS

Reason for Control: NP, AT

Control(s)	Country Chart (See Supp. No. 1 to part 738)
NP applies to entire entry	NP Column 1
AT applies to entire entry	AT Column 1

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

LVS: N/A

GBS: N/A

LIST OF ITEMS CONTROLLED

Related Controls: (1) See ECCNs 1E001 (''development'' and ''production'') and 1E201 (''use'') for technology for items controlled by this entry. (2) Also see ECCN 1C002. (3) Aluminum alloys and titanium alloys, in physical forms and finished products and ''specially designed'' or prepared for use in separating uranium isotopes, are subject to the export licensing authority of the Nuclear Regulatory Commission (see 10 CFR part 110).

Related Definitions: The phrase ''capable of'' refers to aluminum alloys and titanium alloys either before or after heat treatment.

Items: a. Aluminum alloys having both of the following characteristics:

a.1. ''Capable of'' an ultimate tensile strength of 460 MPa or more at 293 K (20 °C); *and*

a.2. In the form of tubes or cylindrical solid forms (including forgings) with an outside diameter of more than 75 mm;

b. Titanium alloys having both of the following characteristics:

b.1. ''Capable of'' an ultimate tensile strength of 900 MPa or more at 293 K (20 °C); *and*

b.2. In the form of tubes or cylindrical solid forms (including forgings) with an outside diameter of more than 75 mm.

1C210 "Fibrous or filamentary materials" or prepregs, other than those controlled by 1C010.a, .b or .e, as follows (see List of Items Controlled).

LICENSE REQUIREMENTS

Reason for Control: NP, AT

Control(s)	Country Chart (See Supp. No. 1 to part 738)
NP applies to entire entry	NP Column 1
AT applies to entire entry	AT Column 1

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

LVS: N/A

GBS: N/A

LIST OF ITEMS CONTROLLED

Related Controls: (1) See ECCNs 1E001 (''development'' and ''production'') and 1E201 (''use'') for technology for items controlled by this entry. (2) Also see ECCNs 1C010 and 1C990.

Related Definitions: For the purpose of this entry, the term ''fibrous or filamentary materials'' is restricted to continuous ''monofilaments'', ''yarns'', ''rovings'', ''tows'', or ''tapes''. Definitions for other terms used in this entry:

Filament or Monofilament is the smallest increment of fiber, usually several μm in diameter.

Strand is a bundle of filaments (typically over 200) arranged approximately parallel.

Roving is a bundle (typically 12–120) of approximately parallel strands.

Yarn is a bundle of twisted strands.

Tow is a bundle of filaments, usually approximately parallel.

Tape is a material constructed of interlaced or unidirectional filaments, strands, rovings, tows, or yarns, etc., usually preimpregnated with resin.

Specific modulus is the Young's modulus in N/m^2 divided by the specific weight in N/m^3, measured at a temperature of (296 ±2) K ((23 ±2) °C) and a relative humidity of 50 ±5 percent.

Specific tensile strength is the ultimate tensile strength in N/m^2 divided by specific weight in N/m^3, measured at a temperature of (296 ±2) K ((23 ±2) °C) and a relative humidity of 50 ±5 percent.

Items: a. Carbon or aramid ''fibrous or filamentary materials'' having a ''specific modulus'' of 12.7×10^6 m or greater or a ''specific tensile strength'' of 235×10^3 m or greater *except* Aramid ''fibrous or filamentary materials'' having 0.25 percent or more by weight of an ester based fiber surface modifier;

b. Glass ''fibrous or filamentary materials'' having a ''specific modulus'' of 3.18×10^6 m or greater and a ''specific tensile strength'' of 76.2×10^3 m or greater; *or*

c. Thermoset resin impregnated continuous ''yarns'', ''rovings'', ''tows'' or ''tapes'' with a width no greater than 15 mm (prepregs), made from carbon or glass ''fibrous or filamentary materials'' controlled by 1C210.a or .b.

TECHNICAL NOTE: The resin forms the matrix of the composite.

1C216 Maraging steel, other than that controlled by 1C116, "capable of" an ultimate tensile strength of 1,950 MPa or more, at 293 K (20 °C).

LICENSE REQUIREMENTS

Reason for Control: NP, AT

Control(s)	Country Chart (See Supp. No. 1 to part 738)
NP applies to entire entry	NP Column 1.
AT applies to entire entry	AT Column 1.

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

LVS: N/A

GBS: N/A

LIST OF ITEMS CONTROLLED

Related Controls: (1) See ECCNs 1E001 (''development'' and ''production'') and 1E201 (''use'') for technology for items controlled by this entry.

(2) Also see ECCN 1C116.

(3) Maraging steel, in physical form and finished products ''specially designed'' or prepared for use in separating uranium isotopes, is subject to the export licensing authority of the Nuclear Regulatory Commission (see 10 CFR part 110).

Related Definitions: The phrase ''capable of'' in the ECCN heading refers to maraging steel either before or after heat treatment.

ECCN Controls: This entry does not control forms in which all linear dimensions are 75 mm or less.

Items: The list of items controlled is contained in the ECCN heading.

1C225 Boron enriched in the boron-10 (^{10}B) isotope to greater than its natural isotopic abundance, as follows: elemental boron, compounds, mixtures containing boron, manufactures thereof, waste or scrap of any of the foregoing.

LICENSE REQUIREMENTS

Reason for Control: NP, AT

Control(s)	Country Chart (See Supp. No. 1 to part 738)
NP applies to entire entry	NP Column 1
AT applies to entire entry	AT Column 1

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

LVS: N/A

GBS: N/A

LIST OF ITEMS CONTROLLED

Related Controls: See ECCNs 1E001 (''development'' and ''production'') and 1E201 (''use'') for technology for items controlled by this entry.

Related Definitions: In this entry, mixtures containing boron include boron-loaded materials.

Items: The list of items controlled is contained in the ECCN heading.

Technical Note: The natural isotopic abundance of boron-10 is approximately 18.5 weight percent (20 atom percent).

1C226 Tungsten, tungsten carbide, and alloys containing more than 90% tungsten by weight, having both of the following characteristics (see List of Items Controlled).

LICENSE REQUIREMENTS

Reason for Control: NP, AT

Control(s)	Country Chart (See Supp. No. 1 to part 738)
NP applies to entire entry	NP Column 1
AT applies to entire entry	AT Column 1

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

LVS: N/A

GBS: N/A

LIST OF ITEMS CONTROLLED

Related Controls: See ECCNs 1E001 (''development'' and ''production'') and 1E201 (''use'') for technology for items controlled by this entry.

Related Definitions: N/A

ECCN Controls: This entry does not control manufactures ''specially designed'' as weights or gamma-ray collimators.

Items: a. In forms with a hollow cylindrical symmetry (including cylinder segments) with an inside diameter between 100 and 300 mm; *and*

b. A mass greater than 20 kg.

1C227 Calcium having both of the following characteristics (see List of Items Controlled).

LICENSE REQUIREMENTS

Reason for Control: NP, AT

Control(s)	Country Chart (See Supp. No. 1 to part 738)
NP applies to entire entry	NP Column 1
AT applies to entire entry	AT Column 1

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

LVS: N/A

GBS: N/A

LIST OF ITEMS CONTROLLED

Related Controls: See ECCNs 1E001 (''development'' and ''production'') and 1E201 (''use'') for technology for items controlled by this entry.

Related Definitions: N/A

Items: a. Containing less than 1,000 parts per million by weight of metallic impurities other than magnesium; *and*

b. Containing less than 10 parts per million by weight of boron.

1C228 Magnesium having both of the following characteristics (see List of Items Controlled).

LICENSE REQUIREMENTS

Reason for Control: NP, AT

Control(s)	Country Chart (See Supp. No. 1 to part 738)
NP applies to entire entry	NP Column 1
AT applies to entire entry	AT Column 1

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

LVS: N/A

GBS: N/A

LIST OF ITEMS CONTROLLED

Related Controls: See ECCNs 1E001 (''development'' and ''production'') and 1E201 (''use'') for technology for items controlled by this entry.

Related Definitions: N/A

Items: a. Containing less than 200 parts per million by weight of metallic impurities other than calcium; *and*

b. Containing less than 10 parts per million by weight of boron.

1C229 Bismuth having both of the following characteristics (see List of Items Controlled)

LICENSE REQUIREMENTS

Reason for Control: NP, AT

Control(s)	Country Chart (See Supp. No. 1 to part 738)
NP applies to entire entry	NP Column 1
AT applies to entire entry	AT Column 1

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

LVS: N/A

GBS: N/A

LIST OF ITEMS CONTROLLED

Related Controls: See ECCNs 1E001 (''development'' and ''production'') and 1E201 (''use'') for technology for items controlled by this entry.

Related Definitions: N/A

Items: a. A purity of 99.99% or greater by weight; *and*

b. Containing less than 10 parts per million by weight of silver.

1C230 Beryllium metal, alloys containing more than 50% beryllium by weight, beryllium compounds, manufactures thereof, and waste or scrap of any of the foregoing.

LICENSE REQUIREMENTS

Reason for Control: NP, AT

Control(s)	Country Chart (See Supp. No. 1 to part 738)
NP applies to entire entry	NP Column 1
AT applies to entire entry	AT Column 1

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

LVS: N/A

GBS: N/A

LIST OF ITEMS CONTROLLED

Related Controls: See ECCNs 1E001 (''development'' and ''production'') and 1E201 (''use'') for technology for items controlled by this entry.

Related Definitions: N/A

ECCN Controls: This entry does not control the following:

a. Metal windows for X-ray machines, or for bore-hole logging devices;

b. Oxide shapes in fabricated or semi-fabricated forms ''specially designed'' for electronic component parts or as substrates for electronic circuits;

c. Beryl (silicate of beryllium and aluminum) in the form of emeralds or aquamarines.

Items: The list of items controlled is contained in the ECCN heading.

1C231 Hafnium metal, hafnium alloys and compounds containing more than 60% hafnium by weight, manufactures thereof, and waste or scrap of any of the foregoing.

LICENSE REQUIREMENTS

Reason for Control: NP, AT

Control(s)	Country Chart (See Supp. No. 1 to part 738)
NP applies to entire entry	NP Column 1
AT applies to entire entry	AT Column 1

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)
LVS: N/A
GBS: N/A
LIST OF ITEMS CONTROLLED
Related Controls: See ECCNs 1E001 (''development'' and ''production'') and 1E201 (''use'') for technology for items controlled by this entry.
Related Definitions: N/A
Items: The list of items controlled is contained in the ECCN heading.

1C232 Helium-3 (^{3}He), mixtures containing helium-3, and products or devices containing any of the foregoing.
LICENSE REQUIREMENTS
Reason for Control: NP, AT

Control(s)	Country Chart (See Supp. No. 1 to part 738)
NP applies to entire entry	NP Column 1
AT applies to entire entry	AT Column 1

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)
LVS: N/A
GBS: N/A
LIST OF ITEMS CONTROLLED
Related Controls: See ECCNs 1E001 (''development'' and ''production'') and 1E201 (''use'') for technology for items controlled by this entry.
Related Definitions: N/A
ECCN Controls: This entry does not control a product or device containing less than 1 g of helium-3.
Items: The list of items controlled is contained in the ECCN heading.

1C233 Lithium enriched in the lithium-6 (^{6}Li) isotope to greater than its natural isotopic abundance, and products or devices containing enriched lithium, as follows: elemental lithium, alloys, compounds, mixtures containing lithium, manufactures thereof, and waste or scrap of any of the foregoing.
LICENSE REQUIREMENTS
Reason for Control: NP, AT

Control(s)	Country Chart (See Supp. No. 1 to part 738)
NP applies to entire entry	NP Column 1
AT applies to entire entry	AT Column 1

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)
LVS: N/A
GBS: N/A
LIST OF ITEMS CONTROLLED
Related Controls: (1) See ECCNs 1E001 (''development'' and ''production'') and 1E201 (''use'') for technology for items controlled by this entry. (2) See ECCN 1B233 for lithium isotope separation facilities or plants, and equipment therefor. (3) Certain facilities or plants for the separation of lithium isotopes are subject to the export licensing authority of the Nuclear Regulatory Commission (see 10 CFR part 110).
Related Definitions: The natural isotopic abundance of lithium-6 is approximately 6.5 weight percent (7.5 atom percent).
ECCN Controls: This entry does not control thermoluminescent dosimeters.
Items: The list of items controlled is contained in the ECCN heading.

1C234 Zirconium with a hafnium content of less than 1 part hafnium to 500 parts zirconium by weight, as follows: metal, alloys containing more than 50% zirconium by weight, compounds, manufactures thereof, and waste or scrap of any of the foregoing.
LICENSE REQUIREMENTS
Reason for Control: NP, AT

Control(s)	Country Chart (See Supp. No. 1 to part 738)
NP applies to entire entry	NP Column 1
AT applies to entire entry	AT Column 1

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)
LVS: N/A
GBS: N/A
LIST OF ITEMS CONTROLLED
Related Controls: (1) See ECCNs 1E001 (''development'' and ''production'') and 1E201 (''use'') for technology for items controlled by this entry. (2) Zirconium metal and alloys in the form of tubes or assemblies of tubes, ''specially designed'' or prepared for use in a reactor, are subject to the export licensing authority of the Nuclear Regulatory Commission (see 10 CFR part 110).
Related Definitions: N/A
ECCN Controls: This entry does not control zirconium in the form of foil having a thickness of 0.10 mm (0.004 in.) or less.
Items: The list of items controlled is contained in the ECCN heading.

1C235 Tritium, tritium compounds, mixtures containing tritium in which the ratio of tritium to hydrogen atoms exceeds 1 part in 1,000, and products or devices containing any of the foregoing.
LICENSE REQUIREMENTS
Reason for Control: NP, AT

Control(s)	Country Chart (See Supp. No. 1 to part 738)
NP applies to entire entry	NP Column 1.
AT applies to entire entry	AT Column 1.

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)
LVS: N/A
GBS: N/A
LIST OF ITEMS CONTROLLED
Related Controls: (1) See ECCNs 1E001 (''development'' and ''production'') and 1E201 (''use'') for technology for items controlled by this entry. (2) Also see ECCN 1B231. (3) Tritium that is byproduct material (*e.g.*, produced in a nuclear reactor) is subject to the export licensing authority of the Nuclear Regulatory Commission (see 10 CFR part 110).
Related Definitions: N/A
ECCN Controls: (1) This entry does not control tritium, tritium compounds, and mixtures that are byproduct material (e.g., produced in a nuclear reactor)—such materials are subject to the licensing jurisdiction of the Nuclear Regulatory Commission (see Related Controls paragraph for this entry). (2) This entry does not control a product or device containing less than 1.48×10^3 GBq (40 Ci) of tritium.
Items: The list of items controlled is contained in the ECCN heading.

1C236 Radionuclides appropriate for making neutron sources based on alpha-n reaction and products or devices containing such radionuclides (see List of Items Controlled).
LICENSE REQUIREMENTS
Reason for Control: NP, AT

Control(s)	Country Chart (See Supp. No. 1 to part 738)
NP applies to entire entry	NP Column 1
AT applies to entire entry	AT Column 1

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)
LVS: N/A
GBS: N/A
LIST OF ITEMS CONTROLLED
Related Controls: (1) See ECCNs 1E001 (''development'' and ''production'') and 1E201 (''use'') for technology for items controlled by this entry. (2) Certain alpha-emitting radionuclides are subject to the export licensing authority of the Nuclear Regulatory Commission (see 10 CFR part 110).
Related Definitions: N/A
ECCN Controls: This entry does not control a product or device containing less than 3.7 GBq (100 millicuries) of activity.
Items: a. Radionuclides identified in 1C236.a.1 in any of the forms described in 1C236.a.2:
a.1. Radionuclides, as follows, appropriate for making neutron sources based on alpha-n reactions:
a.1.a. Actinium 225;
a.1.b. Actinium 227;
a.1.c. Californium 253;
a.1.d. Curium 240;
a.1.e. Curium 241;
a.1.f. Curium 242;
a.1.g. Curium 243;
a.1.h. Curium 244;
a.1.i. Einsteinium 253;
a.1.j. Einsteinium 254;
a.1.k. Gadolinium 148;
a.1.l. Plutonium 236;
a.1.m. Plutonium 238;
a.1.n. Polonium 208;
a.1.o. Polonium 209;
a.1.p. Polonium 210;
a.1.q. Radium 223;
a.1.r. Thorium 227;
a.1.s. Thorium 228;
a.1.t. Uranium 230;
a.1.u. Uranium 232; *and*
a.2. In any of the following forms:
a.2.a. Elemental;
a.2.b. Compounds having a total activity of 37 GBq (1 curie) per kg or greater; *or*
a.2.c. Mixtures having a total activity of 37 GBq (1 curie) per kg or greater.
b. Products or devices containing radionuclides identified in 1C236.a.1 in any of the forms described in 1C236.a.2.

1C237 Radium-226 (^{226}Ra), radium-226 alloys, radium-226 compounds, mixtures containing radium-226, manufactures thereof, and products or devices containing any of the foregoing.
LICENSE REQUIREMENTS
Reason for Control: NP, AT

Control(s)	Country Chart (See Supp. No. 1 to part 738)
NP applies to entire entry	NP Column 1
AT applies to entire entry	AT Column 1

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)
LVS: N/A
GBS: N/A
LIST OF ITEMS CONTROLLED
Related Controls: See ECCNs 1E001 (''development'' and ''production'') and 1E201 (''use'') for technology for items controlled by this entry.
Related Definitions: N/A
ECCN Controls: This entry does not control the following:
a. Medical applicators;
b. A product or device containing less than 0.37 GBq (10 millicuries) of radium-226.
Items: The list of items controlled is contained in the ECCN heading.

1C239 High explosives, other than those controlled by the U.S. Munitions List, or substances or mixtures containing more than 2% by weight thereof, with a crystal density greater than 1.8 g/cm^3 and having a detonation velocity greater than 8,000 m/s.

LICENSE REQUIREMENTS
Reason for Control: NP, AT

Control(s)	Country Chart (See Supp. No. 1 to part 738)
NP applies to entire entry	NP Column 1
AT applies to entire entry	AT Column 1

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)
LVS: N/A
GBS: N/A
LIST OF ITEMS CONTROLLED
Related Controls: (1) See ECCNs 1E001 (''development'' and ''production'') and 1E201 (''use'') for technology for items controlled by this entry. (2) See ECCNs 1C608 (energetic materials and related commodities on the Wassenaar Arrangement Munitions List) and 1C992 (commercial charges and devices containing energetic materials, n.e.s and nitrogen trifluoride in a gaseous state). (3) High explosives for military use are ''subject to the ITAR'' (see 22 CFR Part 121.1).
Related Definitions: N/A
Items: The list of items controlled is contained in the ECCN heading.

1C240 Nickel powder or porous nickel metal, other than nickel powder or porous nickel metal, specially prepared for the manufacture of gaseous diffusion barriers subject to the export licensing authority of the Nuclear Regulatory Commission (see 10 CFR part 110), as follows (see List of Items Controlled).
Reason for Control: NP, AT

Control(s)	Country Chart (See Supp. No. 1 to part 738)
NP applies to entire entry	NP Column 1
AT applies to entire entry	AT Column 1

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)
LVS: N/A
GBS: N/A
LIST OF ITEMS CONTROLLED
Related Controls: (1) See ECCNs 1E001 (''development'' and ''production'') and 1E201 (''use'') for technology for items controlled by this entry. (2) Nickel powder and porous nickel metal, ''specially designed'' or prepared for use in separating uranium isotopes, are subject to the export licensing authority of the Nuclear Regulatory Commission (see 10 CFR part 110).
Related Definitions: N/A
ECCN Controls: This entry does not control the following:
a. Filamentary nickel powders;
b. Single porous nickel sheets with an area of 1,000 cm^2 per sheet or less.
Items: a. Nickel powder having both of the following characteristics:
a.1. A nickel purity content of 99.0% or greater by weight; and
a.2. A mean particle size of less than 10 micrometers measured by American Society for Testing and Materials (ASTM) B330 standard;
b. Porous nickel metal produced from materials controlled by 1C240.a.

Technical Note: 1C240.b refers to porous metal formed by compacting and sintering the materials in 1C240.a to form a metal material with fine pores interconnected throughout the structure.

1C241 Rhenium and alloys containing rhenium (see List of Items Controlled).
LICENSE REQUIREMENTS
Reason for Control: NP, AT

Control(s)	Country chart (see Supp. No. 1 to part 738)
NP applies to entire entry	NP Column 1
AT applies to entire entry	AT Column 1

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)
LVS: N/A
GBS: N/A
LIST OF ITEMS CONTROLLED
Related Controls: N/A
Related Definitions: N/A
Items: a. Rhenium and alloys containing rhenium, as follows, having both of the characteristics described in 1C241.b:
a.1. Alloys containing 90% by weight or more of rhenium;
a.2. Alloys containing 90% by weight or more of any combination of rhenium and tungsten; *and*
b. Having both of the following characteristics:
b.1. In forms with a hollow cylindrical symmetry (including cylinder segments) with an inside diameter between 100 mm and 300 mm; *and*
b.2. A mass greater than 20 kg.

1C298 Graphite and deuterium that is intended for use other than in a nuclear reactor, as follows (see List of Items Controlled).
LICENSE REQUIREMENTS
Reason for Control: NP

Control(s)	Country chart (see Supp. No. 1 to part 738)
NP applies to entire entry	NP Column 2.

License Requirement Note: The graphite and deuterium, as defined in this entry, when intended for use in a nuclear reactor, is subject

to the export licensing authority of the Nuclear Regulatory Commission (see 10 CFR part 110).

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

LVS: N/A

GBS: N/A

LIST OF ITEMS CONTROLLED

Related Controls: (1) See also 1C107. (2) Graphite having a purity level of less than 5 parts per million ''boron equivalent'' as measured according to ASTM standard C–1233–98 and intended for use in a nuclear reactor is subject to the export licensing authority of the Nuclear Regulatory Commission (see 10 CFR part 110). (3) Deuterium and any deuterium compound, including heavy water, in which the ratio of deuterium atoms to hydrogen atoms exceeds 1:5000; and intended for use in a nuclear reactor is subject to the export licensing authority of the Nuclear Regulatory Commission (see 10 CFR part 110).

Related Definitions: For the purpose of this entry, graphite with a purity level better than 5 parts per million boron equivalent is determined according to ASTM standard C1233–98. In applying ASTM standard C1233–98, the boron equivalence of the element carbon is not included in the boron equivalence calculation, since carbon is not considered an impurity. For the purpose of this entry, 'Deuterium' means deuterium and any deuterium compound, including heavy water, in which the ratio of deuterium atoms to hydrogen atoms exceeds 1:5000.

Items:

a. Graphite with a boron content of less than 5 parts per million and a density greater than 1.5 grams per cubic centimeter that is intended for use other than in a nuclear reactor;

b. 'Deuterium' not for use in a nuclear reactor.

1C350 Chemicals that may be used as precursors for toxic chemical agents (see List of Items Controlled).

LICENSE REQUIREMENTS

Reason for Control: CB, CW, AT

Control(s)	Country chart (see supp. No. 1 to part 738)
CB applies to entire entry CB Column 2.	

CW applies to 1C350.b and .c. The Commerce Country Chart is not designed to determine licensing requirements for items controlled for CW reasons. A license is required, for CW reasons, to export or reexport Schedule 2 chemicals and mixtures identified in 1C350.b to States not Party to the CWC (destinations not listed in Supplement No. 2 to part 745 of the EAR). A license is required, for CW reasons, to export Schedule 3 chemicals and mixtures identified in 1C350.c to States not Party to the CWC, unless an End-Use Certificate issued by the government of the importing country has been obtained by the exporter prior to export. A license is required, for CW reasons, to reexport Schedule 3 chemicals and mixtures identified in 1C350.c from a State not Party to the CWC to any other State not Party to the CWC. (See §742.18 of the EAR for license requirements and policies for toxic and precursor chemicals controlled for CW reasons. See §745.2 of the EAR for End-Use Certificate requirements that apply to exports of Schedule 3 chemicals to countries not listed in Supplement No. 2 to part 745 of the EAR.)

AT applies to entire entry. The Commerce Country Chart is not designed to determine licensing requirements for items controlled for AT reasons in 1C350. A license is required, for AT reasons, to export or reexport items controlled by 1C350 to a country in Country Group E:1 of Supplement No. 1 to part 740 of the EAR. (See part 742 of the EAR for additional information on the AT controls that apply to Iran, North Korea, and Syria. See part 746 of the EAR for additional information on sanctions that apply to Iran, North Korea, and Syria.)

License Requirement Notes 1. SAMPLE SHIPMENTS: Subject to the following requirements and restrictions, a license is not required for sample shipments when the cumulative total of these shipments does not exceed a 55-gallon container or 200 kg of a single chemical to any one consignee during a calendar year. A consignee that receives a sample shipment under this exclusion may not resell, transfer, or reexport the sample shipment, but may use the sample shipment for any other legal purpose unrelated to chemical weapons.

a. Chemicals Not Eligible

A. [Reserved]

B. CWC Schedule 2 chemicals (States not Party to the CWC). No CWC Schedule 2 chemical or mixture identified in 1C350.b is eligible for sample shipment to States not Party to the CWC (destinations not listed in Supplement No. 2 to part 745 of the EAR) without a license.

b. Countries Not Eligible: Countries in Country Group E:1 of Supplement No. 1 to part 740 of the EAR are not eligible to receive sample shipments of any chemicals controlled by this ECCN without a license.

c. Sample shipments that require an End-Use Certificate for CW reasons: No CWC Schedule 3 chemical or mixture identified in 1C350.c is eligible for sample shipment to States not Party to the CWC (destinations not listed in Supplement No. 2 to part 745 of the EAR) without a license, unless an End-Use Certificate issued by the government of the importing country is obtained by the exporter prior to export (see §745.2 of the EAR for End-Use Certificate requirements).

d. Sample shipments that require a license for reasons set forth elsewhere in the EAR: Sample

shipments, as described in this Note 1, may require a license for reasons set forth elsewhere in the EAR. See, in particular, the end-use/end-user restrictions in part 744 of the EAR, and the restrictions that apply to embargoed countries in part 746 of the EAR.

e. Annual report requirement. The exporter is required to submit an annual written report for shipments of samples made under this Note 1. The report must be on company letterhead stationery (titled ''Report of Sample Shipments of Chemical Precursors'' at the top of the first page) and identify the chemical(s), Chemical Abstract Service Registry (C.A.S.) number(s), quantity(ies), the ultimate consignee's name and address, and the date of export for all sample shipments that were made during the previous calendar year. The report must be submitted no later than February 28 of the year following the calendar year in which the sample shipments were made, to: U.S. Department of Commerce, Bureau of Industry and Security, 14th Street and Pennsylvania Ave. NW, Room 2099B, Washington, DC 20230, Attn: ''Report of Sample Shipments of Chemical Precursors.''

2. MIXTURES:

a. Mixtures that contain precursor chemicals identified in ECCN 1C350, in concentrations that are below the levels indicated in 1C350.b through .d, are controlled by ECCN 1C395 or 1C995 and are subject to the licensing requirements specified in those ECCNs.

b. *A license is not required under this ECCN for a mixture, when the controlled chemical in the mixture is a normal ingredient in consumer goods packaged for retail sale for personal use. Such consumer goods are designated EAR99. However, a license may be required for reasons set forth elsewhere in the EAR.*

Note to Mixtures: Calculation of concentrations of AG-controlled chemicals:

a. Exclusion. No chemical may be added to the mixture (solution) for the sole purpose of circumventing the Export Administration Regulations;

b. Percent Weight Calculation. When calculating the percentage, by weight, of ingredients in a chemical mixture, include all ingredients of the mixture, including those that act as solvents.

3. COMPOUNDS. Compounds created with any chemicals identified in this ECCN 1C350 may be shipped NLR (No License Required), without obtaining an End-Use Certificate, unless those compounds are also identified in this entry or require a license for reasons set forth elsewhere in the EAR.

4. TESTING KITS: Certain medical, analytical, diagnostic, and food testing kits containing small quantities of chemicals identified in this ECCN 1C350, are excluded from the scope of this ECCN and are controlled under ECCN 1C395 or 1C995. (Note that replacement reagents for such kits are controlled by this ECCN 1C350 if the reagents contain one or more of the precursor chemicals identified in 1C350 in concentrations equal to or greater than the control levels for mixtures indicated in 1C350.)

Technical Notes: 1. For purposes of this entry, a ''mixture'' is defined as a solid, liquid or gaseous product made up of two or more ingredients that do not react together under normal storage conditions.

2. The scope of this control applicable to Hydrogen Fluoride (see 1C350.d.14 in the List of Items Controlled) includes its liquid, gaseous, and aqueous phases, and hydrates.

3. Precursor chemicals in ECCN 1C350 are listed by name, Chemical Abstract Service (CAS) number and CWC Schedule (where applicable). Precursor chemicals of the same structural formula (e.g., hydrates, isotopically-labeled forms or all possible stereoisomers) are controlled by ECCN 1C350, regardless of name or CAS number. CAS numbers are shown to assist in identifying whether a particular precursor chemical or mixture is controlled under ECCN 1C350, irrespective of nomenclature. However, CAS numbers cannot be used as unique identifiers in all situations because some forms of the listed precursor chemical have different CAS numbers, and mixtures containing a precursor chemical listed in ECCN 1C350 may also have different CAS numbers.

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

LVS: N/A

GBS: N/A

LIST OF ITEMS CONTROLLED

Related Controls: See USML Category XIV for related chemical agent binary precursors and key precursors ''subject to the ITAR'' (see 22 CFR parts 120 through 130).

Related Definitions: See §770.2(k) of the EAR for synonyms for the chemicals listed in this entry.

Items:

a. [Reserved]

b. Australia Group-controlled precursor chemicals also identified as Schedule 2 chemicals under the CWC, as follows, and mixtures in which at least one of the following chemicals constitutes 30 percent or more of the weight of the mixture:

b.1. (C.A.S. #7784–34–1) Arsenic trichloride;

b.2. (C.A.S. #76–93–7) Benzilic acid;

b.3. (C.A.S. #78–38–6) Diethyl ethylphosphonate;

b.4. (C.A.S. #683–08–9) Diethyl methylphosphonate;

b.5. (C.A.S. #15715–41–0) Diethyl methylphosphonite;

b.6. (C.A.S. #2404–03–7) Diethyl-N,N-dimethylphosphoroamidate;

b.7. (C.A.S. #41480–75–5) N,N-Diisopropylaminoethanethiol hydrochloride;

b.8. (C.A.S. #5842–07–9) N,N-Diisopropyl-beta-aminoethane thiol;

b.9. (C.A.S. #96–80–0) N,N-Diisopropyl-beta-aminoethanol;

b.10. (C.A.S. #96–79–7), N,N-Diisopropyl-beta-aminoethyl chloride;

b.11. (C.A.S. #4261–68–1) N,N-Diisopropyl-beta-aminoethyl chloride hydrochloride;
b.12. (C.A.S. #6163–75–3) Dimethyl ethylphosphonate;
b.13. (C.A.S. #756–79–6) Dimethyl methylphosphonate;
b.14. (C.A.S. #677–43–0) N,N-dimethylaminophosphoryl dichloride;
b.15. (C.A.S. #1498–40–4) Ethyl phosphonous dichloride [Ethyl phosphinyl dichloride];
b.16. (C.A.S. #430–78–4) Ethyl phosphonus difluoride [Ethyl phosphinyl difluoride];
b.17. (C.A.S. #1066–50–8) Ethyl phosphonyl dichloride;
b.18. (C.A.S. #993–13–5) Methylphosphonic acid;
b.19. (C.A.S. #676–98–2) Methylphosphonothioic dichloride.
b.20. (C.A.S. #464–07–3) Pinacolyl alcohol;
b.21. (C.A.S. #1619–34–7) 3-Quinuclidinol;
b.22. (C.A.S. #111–48–8) Thiodiglycol.
c. Australia Group-controlled precursor chemicals also identified as Schedule 3 chemicals under the CWC, as follows, and mixtures in which at least one of the following chemicals constitutes 30 percent or more of the weight of the mixture:
c.1. (C.A.S. #762–04–9) Diethyl phosphite;
c.2. (C.A.S. #868–85–9) Dimethyl phosphite (dimethyl hydrogen phosphite);
c.3. (C.A.S. #139–87–7) Ethyldiethanolamine;
c.4. (C.A.S. #10025–87–3) Phosphorus oxychloride;
c.5. (C.A.S. #10026–13–8) Phosphorus pentachloride;
c.6. (C.A.S. #7719–12–2) Phosphorus trichloride;
c.7. (C.A.S. #10545–99–0) Sulfur dichloride;
c.8. (C.A.S. #10025–67–9) Sulfur monochloride;
c.9. (C.A.S. #7719–09–7) Thionyl chloride;
c.10. (C.A.S. #102–71–6) Triethanolamine;
c.11. (C.A.S. #122–52–1) Triethyl phosphite;
c.12. (C.A.S. #121–45–9) Trimethyl phosphite.
d. Other Australia Group-controlled precursor chemicals not also identified as Schedule 1, 2, or 3 chemicals under the CWC, as follows, and mixtures in which at least one of the following chemicals constitutes 30 percent or more of the weight of the mixture:
d.1. (C.A.S. #1341–49–7) Ammonium hydrogen fluoride;
d.2. (C.A.S. #107–07–3) 2-Chloroethanol;
d.3. (C.A.S. #109–89–7) Diethylamine;
d.4. (C.A.S. #100–37–8) N,N-Diethylaminoethanol;
d.5. (C.A.S. #589–57–1) Diethyl chlorophosphite;
d.6. (C.A.S. #298–06–6) O,O-Diethyl phosphorodithioate;
d.7. (C.A.S. #2465–65–8) O,O-Diethyl phosphorothioate;
d.8. (C.A.S. #108–18–9) Di-isopropylamine;
d.9. (C.A.S. #124–40–3) Dimethylamine;
d.10. (C.A.S. #506–59–2) Dimethylamine hydrochloride;
d.11. (C.A.S. #142–84–7) Dipropylamine
d.12. (C.A.S. #762–77–6) Ethyl chlorofluorophosphate;
d.13. (C.A.S. #1498–51–7) Ethyl dichlorophosphate;
d.14. (C.A.S. #460–52–6) Ethyl difluorophosphate;
d.15. (C.A.S. #7664–39–3) Hydrogen fluoride;
d.16. (C.A.S. #3554–74–3) 3-Hydroxyl-1-methylpiperidine;
d.17. (C.A.S. #76–89–1) Methyl benzilate;
d.18. (C.A.S. #754–01–8) Methyl chlorofluorophosphate;
d.19. (C.A.S. #677–24–7) Methyl dichlorophosphate;
d.20. (C.A.S. #22382–13–4) Methyl difluorophosphate;
d.21. (C.A.S. #14277–06–6) N,N Diethylacetamidine;
d.22. (C.A.S. #53510–30–8) N,N-Diethylbutanamidine;
d.23. (C.A.S. #90324–67–7) N,N-Diethylformamidine;
d.24. (C.A.S. #1342789–47–2) N,N Diethylisobutanamidine;
d.25. (C.A.S. #84764–73–8) N,N-Diethylpropanamidine;
d.26. (C.A.S. #1315467–17–4) N,N-Diisopropylbutanamidine;
d.27. (C.A.S. #857522–08–8) N,N-Diisopropylformamidine;
d.28. (C.A.S. #2909–14–0) N,N-Dimethylacetamidine;
d.29. (C.A.S. #1340437–35–5) N,N-Dimethylbutanamidine;
d.30. (C.A.S. #44205–42–7) N,N-Dimethylformamidine;
d.31. (C.A.S. #321881–25–8) N,N-Dimethylisobutanamidine;
d.32. (C.A.S. #56776–14–8) N,N-Dimethylpropanamidine;
d.33. (C.A.S. #1339586–99–0) N,N-Dipropylacetamidine;
d.34. C.A.S. #1342422–35–8) N,N-Dipropylbutanamidine;
d.35. (C.A.S. #48044–20–8) N,N-Dipropylformamidine;
d.36. (C.A.S. #1342700–45–1) N,N-Dipropylisobutanamidine;
d.37. (C.A.S. #1341496–89–6) N,N-Dipropylpropanamidine;
d.38. (C.A.S. #1314–80–3) Phosphorus pentasulfide;
d.39. (C.A.S. #75–97–8) Pinacolone;
d.40. (C.A.S. #7789–29–9) Potassium bifluoride;
d.41. (C.A.S. #151–50–8) Potassium cyanide;
d.42. (C.A.S. #7789–23–3) Potassium fluoride;
d.43. (C.A.S. #3731–38–2) 3-Quinuclidone;
d.44. (C.A.S. #1333–83–1) Sodium bifluoride;
d.45. (C.A.S. #143–33–9) Sodium cyanide;
d.46. (C.A.S. #7681–49–4) Sodium fluoride;
d.47. (C.A.S. #16893–85–9) Sodium hexafluorosilicate;
d.48. (C.A.S. #1313–82–2) Sodium sulfide;

d.49. (C.A.S. #637–39–8) Triethanolamine hydrochloride;

d.50. (C.A.S. #116–17–6) Tri-isopropyl phosphite.

1C351 Human and animal pathogens and "toxins," as follows (see List of Items Controlled).

LICENSE REQUIREMENTS

Reason for Control: CB, CW, AT

Control(s)	Country Chart (see Supp. No. 1 to part 738)
CB applies to items controlled by 1C351.d.15 and .16.	CB Column 1.
CB applies to entire entry	CB Column 2.

CW applies to 1C351.d.15 and .d.16 and a license is required for CW reasons for all destinations, including Australia, Canada, and the United Kingdom, as follows: CW applies to 1C351.d.15 for ricin in the form of (1) Ricinus communis AgglutininII (RCA_{II}), also known as ricin D or Ricinus Communis LectinIII (RCL_{III}) and (2) Ricinus communis LectinIV (RCL_{IV}), also known as ricin E. CW applies to 1C351.d.16 for saxitoxin identified by C.A.S. #35523–89–8. See §742.18 of the EAR for licensing information pertaining to chemicals subject to restriction pursuant to the Chemical Weapons Convention (CWC). The Commerce Country Chart is not designed to determine licensing requirements for items controlled for CW reasons.

Control(s)	Country Chart (see Supp. No. 1 to part 738)
AT applies to entire entry	Column 1.

License Requirement Notes 1. All vaccines and 'immunotoxins' are excluded from the scope of this entry. Certain medical products and diagnostic and food testing kits that contain biological toxins controlled under 1C351.d, with the exception of toxins controlled for CW reasons under 1C351.d.15 or .d.16, are excluded from the scope of this entry. Vaccines, 'immunotoxins', certain medical products, and diagnostic and food testing kits excluded from the scope of this entry are controlled under ECCN 1C991.

2. Clostridium perfringens strains, other than the epsilon toxin-producing strains of Clostridium perfringens described in 1C351.c.12, are excluded from the scope of this entry, since they may be used as positive control cultures for food testing and quality control.

3. Unless specified elsewhere in this ECCN 1C351 (e.g., in License Requirement Notes 1–3), this ECCN controls all biological agents and ''toxins,'' regardless of quantity or attenuation, that are identified in the List of Items Controlled for this ECCN, including small quantities or attenuated strains of select biological agents or ''toxins'' that are excluded from the lists of select biological agents or ''toxins'' by the Animal and Plant Health Inspection Service (APHIS), U.S. Department of Agriculture (USDA), or the Centers for Disease Control and Prevention (CDC), U.S. Department of Health and Human Services (HHS), in accordance with their regulations in 9 CFR part 121 and 42 CFR part 73, respectively.

4. Biological agents and pathogens are controlled under this ECCN 1C351 when they are an isolated live culture of a pathogen agent, or a preparation of a toxin agent that has been isolated or extracted from any source or material, including living material that has been deliberately inoculated or contaminated with the agent. Isolated live cultures of a pathogen agent include live cultures in dormant form or in dried preparations, whether the agent is natural, enhanced or modified.

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

LVS: N/A

GBS: N/A

LIST OF ITEMS CONTROLLED

Related Controls: (1) Certain forms of ricin and saxitoxin in 1C351.d.15 and .d.16 are CWC Schedule 1 chemicals (see §742.18 of the EAR). The U.S. Government must provide advance notification and annual reports to the OPCW of all exports of Schedule 1 chemicals. See §745.1 of the EAR for notification procedures. See 22 CFR part 121, Category XIV for CWC Schedule 1 chemicals that are ''subject to the ITAR.'' (2) The Animal and Plant Health Inspection Service (APHIS), U.S. Department of Agriculture, and the Centers for Disease Control and Prevention (CDC), U.S. Department of Health and Human Services, maintain controls on the possession, use, and transfer within the United States of certain items controlled by this ECCN (for APHIS, see 7 CFR 331.3(b), 9 CFR 121.3(b), and 9 CFR 121.4(b); for CDC, see 42 CFR 73.3(b) and 42 CFR 73.4(b)). (3) See USML Category XIV for modified biological agents and biologically derived substances that are ''subject to the ITAR'' (see 22 CFR parts 120 through 130).

Related Definitions: For the purposes of this entry, 'immunotoxins' are monoclonal antibodies linked to a toxin with the intention of destroying a specific target cell while leaving adjacent cells intact.

Items:

a. Viruses identified on the Australia Group (AG) ''List of Human and Animal Pathogens and Toxins for Export Control,'' as follows:

a.1. African horse sickness virus;

a.2. African swine fever virus;

a.3. Andes virus;

a.4. Avian influenza (AI) viruses identified as having high pathogenicity (HP), as follows:

a.4.a. AI viruses that have an intravenous pathogenicity index (IVPI) in 6-week-old chickens greater than 1.2; *or*

a.4.b. AI viruses that cause at least 75% mortality in 4- to 8-week-old chickens infected intravenously.

Note: Avian influenza (AI) viruses of the H5 or H7 subtype that do not have either of the characteristics described in 1C351.a.4 (specifically, 1C351.a.4.a or .a.4.b) should be sequenced to determine whether multiple basic amino acids are present at the cleavage site of the haemagglutinin molecule (HA0). If the amino acid motif is similar to that observed for other HPAI isolates, then the isolate being tested should be considered as HPAI and the virus is controlled under 1C351.a.4.

a.5. Bluetongue virus;

a.6. Chapare virus;

a.7. Chikungunya virus;

a.8. Choclo virus;

a.9. Classical swine fever virus (Hog cholera virus);

a.10. Crimean-Congo hemorrhagic fever virus;

a.11. Dobrava-Belgrade virus;

a.12. Eastern equine encephalitis virus;

a.13. Ebolavirus (includes all members of the Ebolavirus genus);

a.14. Foot-and-mouth disease virus;

a.15. Goatpox virus;

a.16. Guanarito virus;

a.17. Hantaan virus;

a.18. Hendra virus (Equine morbillivirus);

a.19. Japanese encephalitis virus;

a.20. Junin virus;

a.21. Kyasanur Forest disease virus;

a.22. Laguna Negra virus;

a.23. Lassa virus;

a.24. Louping ill virus;

a.25. Lujo virus;

a.26. Lumpy skin disease virus;

a.27. Lymphocytic choriomeningitis virus;

a.28. Machupo virus;

a.29. Marburgvirus (includes all members of the Marburgvirus genus);

a.30. Middle East respiratory syndrome-related coronavirus (MERS-related coronavirus);

a.31. Monkeypox virus;

a.32. Murray Valley encephalitis virus;

a.33. Newcastle disease virus;

a.34. Nipah virus;

a.35. Omsk hemorrhagic fever virus;

a.36. Oropouche virus;

a.37. Peste-des-petits ruminants virus;

a.38. Porcine Teschovirus;

a.39. Powassan virus;

a.40. Rabies virus and all other members of the Lyssavirus genus;

a.41. Reconstructed 1918 influenza virus;

Technical Note: 1C351.a.41 includes reconstructed replication competent forms of the 1918 pandemic influenza virus containing any portion of the coding regions of all eight gene segments.

a.42. Rift Valley fever virus;

a.43. Rinderpest virus;

a.44. Rocio virus;

a.45. Sabia virus;

a.46. Seoul virus;

a.47. Severe acute respiratory syndrome-related coronavirus (SARS-related coronavirus);

a.48. Sheeppox virus;

a.49. Sin Nombre virus;

a.50. St. Louis encephalitis virus;

a.51. Suid herpesvirus 1 (Pseudorabies virus; Aujeszky's disease);

a.52. Swine vesicular disease virus;

a.53. Tick-borne encephalitis virus (Far Eastern subtype, formerly known as Russian Spring-Summer encephalitis virus—see 1C351.b.3 for Siberian subtype);

a.54. Variola virus;

a.55. Venezuelan equine encephalitis virus;

a.56. Vesicular stomatitis virus;

a.57. Western equine encephalitis virus; *or*

a.58. Yellow fever virus.

b. Viruses identified on the APHIS/CDC ''select agents'' lists (see Related Controls paragraph #2 for this ECCN), but not identified on the Australia Group (AG) ''List of Human and Animal Pathogens and Toxins for Export Control,'' as follows:

b.1. [Reserved];

b.2. [Reserved]; *or*

b.3. Tick-borne encephalitis virus (Siberian subtype, formerly West Siberian virus—see 1C351.a.53 for Far Eastern subtype).

c. Bacteria identified on the Australia Group (AG) ''List of Human and Animal Pathogens and Toxins for Export Control,'' as follows:

c.1. Bacillus anthracis;

c.2. Brucella abortus;

c.3. Brucella melitensis;

c.4. Brucella suis;

c.5. Burkholderia mallei (Pseudomonas mallei);

c.6. Burkholderia pseudomallei (Pseudomonas pseudomallei);

c.7. Chlamydia psittaci (Chlamydophila psittaci);

c.8. Clostriduim argentinense (formerly known as Clostridium botulinum Type G), botulinum neurotoxin producing strains;

c.9. Clostridium baratii, botulinum neurotoxin producing strains;

c.10. Clostridium botulinum;

c.11. Clostridium butyricum, botulinum neurotoxin producing strains;

c.12. Clostridium perfringens, epsilon toxin producing types;

c.13. Coxiella burnetii;

c.14. Francisella tularensis;

c.15. Mycoplasma capricolum subspecies capripneumoniae (''strain F38'');

c.16. Mycoplasma mycoides subspecies mycoides SC (small colony) (a.k.a. contagious bovine pleuropneumonia);

c.17. Rickettsia prowazekii;

c.18. Salmonella enterica subspecies enterica serovar Typhi (Salmonella typhi);

c.19. Shiga toxin producing Escherichia coli (STEC) of serogroups O26, O45, O103, O104, O111, O121, O145, O157, and other shiga toxin producing serogroups;

Note: Shiga toxin producing Escherichia coli (STEC) includes, inter alia, enterohaemorrhagic E. coli (EHEC), verotoxin producing E. coli (VTEC) or verocytotoxin producing E. coli (VTEC).

c.20. Shigella dysenteriae;

c.21. Vibrio cholerae; *or*

c.22. Yersinia pestis.

d. ''Toxins'' identified on the Australia Group (AG) ''List of Human and Animal Pathogens and Toxins for Export Control,'' as follows, or their subunits:

d.1. Abrin;

d.2. Aflatoxins;

d.3. Botulinum neurotoxins;

d.4. Brevetoxins;

d.5. Clostridium perfringens alpha, beta 1, beta 2, epsilon and iota toxins;

d.6. Conotoxins;

d.7. Diacetoxyscirpenol;

d.8. Gonyautoxins;

d.9. HT–2 toxin;

d.10. Microcystins (Cyanginosins);

d.11. Modeccin;

d.12. Neosaxitoxin (NEO);

d.13. Nodularins;

d.14. Palytoxin;

d.15. Ricin;

d.16. Saxitoxin;

d.17. Shiga toxins (shiga-like toxins, verotoxins, and verocytotoxins);

d.18. Staphylococcus aureus enterotoxins, hemolysin alpha toxin, and toxic shock syndrome toxin (formerly known as Staphylococcus enterotoxin F);

d.19. T–2 toxin;

d.20. Tetrodotoxin;

d.21. Viscumin (Viscum album lectin 1); *or*

d.22. Volkensin.

e. ''Fungi'', as follows:

e.1. Coccidioides immitis; *or*

e.2. Coccidioides posadasii.

1C353 Genetic elements and genetically modified organisms, as follows (see List of Items Controlled).

LICENSE REQUIREMENTS

Reason for Control: CB, AT

Control(s)	Country Chart (see Supp. No. 1 to part 738)
CB applies to genetic elements of items controlled by 1C351.d.15 and .16.	CB Column 1.
CB applies to entire entry	CB Column 2.
AT applies to entire entry	AT Column 1.

License Requirements Notes:

1. Vaccines that contain genetic elements or genetically modified organisms identified in this ECCN are controlled by ECCN 1C991.

2. Unless specified elsewhere in this ECCN 1C353 (e.g., in License Requirement Note 1), this ECCN controls genetic elements or genetically modified organisms for all biological agents and ''toxins,'' regardless of quantity or attenuation, that are identified in the List of Items Controlled for this ECCN, including genetic elements or genetically modified organisms for attenuated strains of select biological agents or ''toxins'' that are excluded from the lists of select biological agents or ''toxins'' by the Animal and Plant Health Inspection Service (APHIS), U.S. Department of Agriculture, or the Centers for Disease Control and Prevention (CDC), U.S. Department of Health and Human Services, in accordance with the APHIS regulations in 7 CFR part 331 and 9 CFR part 121 and the CDC regulations in 42 CFR part 73.

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

LVS: N/A

GBS: N/A

LIST OF ITEMS CONTROLLED

Related Controls: (1) The Animal and Plant Health Inspection Service (APHIS), U.S. Department of Agriculture, and the Centers for Disease Control and Prevention (CDC), U.S. Department of Health and Human Services, maintain controls on the possession, use, and transfer within the United States of certain items controlled by this ECCN, including (but not limited to) certain genetic elements, recombinant nucleic acids, and recombinant organisms associated with the agents or toxins in ECCN 1C351 or 1C354 (for APHIS, see 7 CFR 331.3(c), 9 CFR 121.3(c), and 9 CFR 121.4(c); for CDC, see 42 CFR 73.3(c) and 42 CFR 73.4(c)). (2) See USML Category XIV for modified biological agents and biologically derived substances that are ''subject to the ITAR'' (see 22 CFR parts 120 through 130).

Related Definition: N/A

Items:

a. Any genetically modified organism that contains, or any genetic element that codes for, any of the following:

a.1. Any gene, genes, translated product or translated products specific to any virus controlled by 1C351.a or .b or 1C354.c;

a.2. Any gene or genes specific to any bacterium controlled by 1C351.c or 1C354.a, or any fungus controlled by 1C351.e or 1C354.b, and which;

a.2.a. In itself or through its transcribed or translated products represents a significant hazard to human, animal or plant health; *or*

a.2.b. Could endow or enhance pathogenicity; *or*

a.3. Any toxins, or their subunits, controlled by 1C351.d.

b. [Reserved].

Technical Notes: 1. Genetically modified organisms include organisms in which the nucleic acid sequences have been created or altered by deliberate molecular manipulation.

2. ''Genetic elements'' include, inter alia, chromosomes, genomes, plasmids, transposons,

vectors, and inactivated organisms containing recoverable nucleic acid fragments, whether genetically modified or unmodified, or chemically synthesized in whole or in part. For the purposes of this ECCN 1C353, nucleic acids from an inactivated organism, virus, or sample are considered to be 'recoverable' if the inactivation and preparation of the material is intended or known to facilitate isolation, purification, amplification, detection, or identification of nucleic acids.

3. This ECCN does not control nucleic acid sequences of shiga toxin producing Escherichia coli of serogroups O26, O45, O103, O104, O111, O121, O145, O157, and other shiga toxin producing serogroups, other than those genetic elements coding for shiga toxin, or for its subunits.

4. 'Endow or enhance pathogenicity' is defined as when the insertion or integration of the nucleic acid sequence or sequences is/are likely to enable or increase a recipient organism's ability to be used to deliberately cause disease or death. This might include alterations to, inter alia: virulence, transmissibility, stability, route of infection, host range, reproducibility, ability to evade or suppress host immunity, resistance to medical countermeasures, or detectability.

1C354 Plant pathogens, as follows (see List of Items Controlled).

LICENSE REQUIREMENTS

Reason for Control: CB, AT

Control(s)	Country chart (see Supp. No. 1 to part 738)
CB applies to entire entry	CB Column 2
AT applies to entire entry	AT Column 1

License Requirements Notes: 1. All vaccines are excluded from the scope of this ECCN. See ECCN 1C991 for vaccines.

2. Unless specified elsewhere in this ECCN 1C354 (e.g., in License Requirement Note 1), this ECCN controls all biological agents, regardless of quantity or attenuation, that are identified in the List of Items Controlled for this ECCN, including small quantities or attenuated strains of select biological agents that are excluded from the list of PPQ select agents and ''toxins'' by the Animal and Plant Health Inspection Service (APHIS), U.S. Department of Agriculture, in accordance with their regulations in 7 CFR part 331.

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

LVS: N/A

GBS: N/A

LIST OF ITEMS CONTROLLED

Related Controls: (1) The Animal and Plant Health Inspection Service (APHIS), U.S. Department of Agriculture, maintains controls on the possession, use, and transfer within the United States of certain items controlled by this ECCN (see 7 CFR 331.3(c), 9 CFR 121.3(c), and 9 CFR 121.4(c)).

(2) See 22 CFR part 121, Category XIV(b), for modified biological agents and biologically derived substances that are subject to the export licensing jurisdiction of the U.S. Department of State, Directorate of Defense Trade Controls.

Related Definitions: N/A

Items:

a. Bacteria, as follows:

a.1. *Xanthomonas albilineans;*

a.2. *Xanthomonas citri pv. citri (Xanthomonas axonopodis* pv. *citri, Xanthomonas campestris* pv. *citri);*

a.3. *Xanthomonas oryzae* [this species of proteobacteria is identified on the APHIS ''select agents'' list (see Related Controls paragraph for this ECCN), but only the pathovar *Xanthomonas oryzae* pv. *oryzae* (syn. *Pseudomonas campestris* pv. *oryzae*) is identified on the Australia Group (AG) ''List of Plant Pathogens for Export Control''];

a.4. *Clavibacter michiganensis* subsp. *sepedonicus* (*Clavibacter sepedonicus, Clavibacter michiganense* subsp. *sepedonicus, Corynebacterium michiganensis* subsp. *sepedonicum, Corynebacterium sepedonicum*);

a.5. *Ralstonia solanacearum,* race 3, biovar 2;

a.6. *Raythayibactor toxicus* [this bacterium is identified on the APHIS ''select agents'' list (see the Related Controls paragraph for this ECCN), but is not identified on the Australia Group (AG) ''List of Plant Pathogens for Export Control''].

b. Fungi, as follows:

b.1. *Bipolaris oryzae* (*Cochliobolus miyabeanus, Helminthosporium oryzae*);

b.2. *Colletotrichum kahawae* (*Colletotrichum coffeanum* var. *virulans*);

b.3. *Pseudocercospora ulei* (*Microcyclus ulei, Dothidella ulei*);

b.4. *Puccinnia graminis* ssp. *graminis* var. *graminis/Puccinia graminis* ssp. *graminis* var. *stakmanii* (*Puccinia graminis* [syn. *Puccinia graminis* f. sp. *tritici*]);

b.5. *Puccinia striiformis* (syn. *Puccinia glumarum*);

b.6. *Magnaporthe oryzae* (Pyricularia oryzae);

b.7. *Peronosclerospora philippinensis* (*Peronosclerospora sacchari*);

b.8. *Sclerophthora rayssiae* var. *zeae;*

b.9. *Synchytrium endobioticum;*

b.10. *Tilletia indica;*

b.11. *Thecaphora solani;*

b.12. *Phoma glycinicola* (formerly *Pyrenochaeta glycines*) [this fungus is identified on the APHIS ''select agents'' list (see the Related Controls paragraph for this ECCN), but is not identified on the Australia Group (AG) ''List of Plant Pathogens for Export Control''].

c. Viruses, as follows:

c.1. Andean potato latent virus (Potato Andean latent tymovirus);

c.2. Potato spindle tuber viroid.

1C355 Chemical Weapons Convention (CWC) Schedule 2 and 3 chemicals and families of chemicals not controlled by ECCN 1C350 or "subject to the ITAR" (see 22 CFR parts) (see List of Items Controlled).

LICENSE REQUIREMENTS

Reason for Control: CW, AT.

Control(s)

CW applies to entire entry. The Commerce Country Chart is not designed to determine licensing requirements for items controlled for CW reasons. A license is required to export or reexport CWC Schedule 2 chemicals and mixtures identified in 1C355.a to States not Party to the CWC (destinations not listed in Supplement No. 2 to part 745 of the EAR). A license is required to export CWC Schedule 3 chemicals and mixtures identified in 1C355.b to States not Party to the CWC, unless an End Use Certificate issued by the government of the importing country is obtained by the exporter, prior to export. A license is required to reexport CWC Schedule 3 chemicals and mixtures identified in 1C355.b from a State not Party to the CWC to any other State not Party to the CWC. (See §742.18 of the EAR for license requirements and policies for toxic and precursor chemicals controlled for CW reasons.)

AT applies to entire entry. The Commerce Country Chart is not designed to determine licensing requirements for items controlled for AT reasons in 1C350. A license is required, for AT reasons, to export or reexport items controlled by 1C350 to a country in Country Group E:1 of Supplement No. 1 to part 740 of the EAR. (See part 742 of the EAR for additional information on the AT controls that apply to Iran, North Korea, and Syria. See part 746 of the EAR for additional information on sanctions that apply to Iran, North Korea, and Syria.)

License Requirements Notes:

1. MIXTURES:

a. Mixtures containing toxic and precursor chemicals identified in ECCN 1C355, in concentrations that are below the control levels indicated in 1C355.a and .b, are controlled by ECCN 1C995 and are subject to the license requirements specified in that ECCN.

b. Mixtures containing chemicals identified in this entry are not controlled by ECCN 1C355 when the controlled chemical is a normal ingredient in consumer goods packaged for retail sale for personal use or packaged for individual use. Such consumer goods are classified as EAR99.

Note to mixtures: Calculation of concentrations of CW-controlled chemicals:

a. Exclusion. No chemical may be added to the mixture (solution) for the sole purpose of circumventing the Export Administration Regulations;

b. Percent Weight Calculation. When calculating the percentage, by weight, of ingredients in a chemical mixture, include all ingredients of the mixture, including those that act as solvents.

2. COMPOUNDS: Compounds created with any chemicals identified in this ECCN 1C355 may be shipped NLR (No License Required), without obtaining an End-Use Certificate, unless those compounds are also identified in this entry or require a license for reasons set forth elsewhere in the EAR.

Technical Notes: For purposes of this entry, a ''mixture'' is defined as a solid, liquid or gaseous product made up of two or more ingredients that do not react together under normal storage conditions.

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

LVS: N/A

GBS: N/A

LIST OF ITEMS CONTROLLED

Related Controls: See also ECCNs *1C350 1C351, 1C395,* and *1C995.* See §§742.18 and 745.2 of the EAR for End-Use Certification requirements.

Related Definitions: N/A

Items:

a. CWC Schedule 2 chemicals and mixtures containing Schedule 2 chemicals:

a.1. Toxic chemicals, as follows, and mixtures containing toxic chemicals:

a.1.a. PFIB: 1,1,3,3,3-Pentafluoro-2-(trifluoromethyl)-1-propene (C.A.S. 382–21–8) and mixtures in which PFIB constitutes more than 1 percent of the weight of the mixture;

a.1.b. [Reserved]

a.2. Precursor chemicals, as follows, and mixtures in which at least one of the following precursor chemicals constitutes more than 10 percent of the weight of the mixture:

a.2.a. Chemicals, except for those listed in Schedule 1, containing a phosphorus atom to which is bonded one methyl, ethyl, or propyl (normal or iso) group but not further carbon atoms.

Note: 1C355.a.2.a does not control Fonofos: O-Ethyl S-phenyl ethylphosphonothiolothionate (C.A.S. 944–22–9).

a.2.b. FAMILY: N,N-Dialkyl (Me, Et, n-Pr or i-Pr) phosphoramidic dihalides;

a.2.c. FAMILY: Dialkyl (Me, Et, n-Pr or i-Pr) N,N-dialkyl (Me, Et, n-Pr, or i-Pr)-phosphoramidates;

a.2.d. FAMILY: N,N-Dialkyl (Me, Et, n-Pr or i-Pr) aminoethyl-2-chlorides and corresponding protonated salts;

a.2.e. FAMILY: N,N-Dialkyl (Me, Et, n-Pr or i-Pr) aminoethane-2-ols and corresponding protonated salts;

Note: 1C355.a.2.e. does not control N,N-Dimethylaminoethanol and corresponding protonated salts (C.A.S. 108–01–0) or N,N-Diethylaminoethanol and corresponding protonated salts (C.A.S. 100–37–8).

a.2.f. FAMILY: N,N-Dialkyl (Me, Et, n-Pr or i-Pr) aminoethane-2-thiols and corresponding protonated salts.

b. CWC Schedule 3 chemicals and mixtures containing Schedule 3 chemicals:

b.1. Toxic chemicals, as follows, and mixtures in which at least one of the following toxic chemicals constitutes 30 percent or more of the weight of the mixture:

b.1.a. Phosgene: Carbonyl dichloride (C.A.S. 75–44–5);

b.1.b. Cyanogen chloride (C.A.S. 506–77–4);

b.1.c. Hydrogen cyanide (C.A.S. 74–90–8);

b.1.d. Chloropicrin: Trichloronitromethane (CAS 76–06–2).

b.2. Precursor chemicals, as follows, and mixtures in which at least one of the following precursor chemicals constitutes 30 percent or more of the weight of the mixture:

b.2.a. [Reserved];

b.2.b. Methyldiethanolamine (C.A.S. 105–59–9).

1C395 Mixtures and Medical, Analytical, Diagnostic, and Food Testing Kits Not Controlled by ECCN 1C350, as follows (See List of Items Controlled).

LICENSE REQUIREMENTS

Reason for Control: CB, CW, AT

Control(s): CB applies to entire entry. The Commerce Country Chart is not designed to determine licensing requirements for items controlled for CB reasons in 1C395. A license is required, for CB reasons, to export or reexport mixtures controlled by 1C395.a and test kits controlled by 1C395.b to States not Party to the CWC (destinations not listed in Supplement No. 2 to part 745 of the EAR).

CW applies to entire entry. The Commerce Country Chart is not designed to determine licensing requirements for items controlled for CW reasons. A license is required for CW reasons, as follows, to States not Party to the CWC (destinations not listed in Supplement No. 2 to part 745 of the EAR): (1) Exports and reexports of mixtures controlled by 1C395.a, (2) exports and reexports of test kits controlled by 1C395.b that contain CWC Schedule 2 chemicals controlled by ECCN 1C350, (3) exports of test kits controlled by 1C395.b that contain CWC Schedule 3 chemicals controlled by ECCN 1C350, except that a license is not required, for CW reasons, to export test kits containing CWC Schedule 3 chemicals if an End-Use Certificate issued by the government of the importing country is obtained by the exporter prior to export, and (4) reexports from States not Party to the CWC of test kits controlled by 1C395.b that contain CWC Schedule 3 chemicals. (See §742.18 of the EAR for license requirements and policies for toxic and precursor chemicals controlled for CW reasons.)

AT applies to entire entry. The Commerce Country Chart is not designed to determine licensing requirements for items controlled for AT reasons in 1C395. A license is required, for AT reasons, to export or reexport items controlled by 1C395 to a country in Country Group E:1 of Supplement No. 1 to part 740 of the EAR. (See part 742 of the EAR for additional information on the AT controls that apply to Iran, North Korea, Sudan, and Syria. See part 746 of the EAR for additional information on sanctions that apply to Iran, North Korea, and Syria.)

License Requirements Notes: 1. 1C395.b does not control mixtures that contain precursor chemicals identified in ECCN 1C350.b or .c in concentrations below the control levels for mixtures indicated in 1C350.b or .c. 1C395.a and 1C995.a.1 and a.2.a control such mixtures, unless they are consumer goods, as described in License Requirements Note 2 of this ECCN.

2. This ECCN does not control mixtures when the controlled chemicals are normal ingredients in consumer goods packaged for retail sale for personal use. Such consumer goods are classified as EAR99.

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

LVS: N/A

GBS: N/A

LIST OF ITEMS CONTROLLED

Related Controls: 1. ECCN 1C350 controls mixtures containing 30 percent or higher concentrations, by weight, of any single CWC Schedule 2 chemical identified in ECCN 1C350.b; ECCN 1C995 controls such mixtures containing concentrations of 10 percent or less. 2. ECCN 1C995 controls ''medical, analytical, diagnostic, and food testing kits'' (as defined in the Related Definitions paragraph of this ECCN) that contain precursor chemicals listed in ECCN 1C350.d. ECCN 1C350 controls any such kits in which the amount of any single chemical listed in 1C350.b, .c, or .d exceeds 300 grams by weight.

Related Definitions: For the purpose of this entry, ''medical, analytical, diagnostic, and food testing kits'' are pre-packaged materials of defined composition that are specifically developed, packaged and marketed for medical, analytical, diagnostic, or public health purposes. Replacement reagents for medical, analytical, diagnostic, and food testing kits described in 1C395.b are controlled by ECCN 1C350 if the reagents contain at least one of the precursor chemicals identified in that ECCN in concentrations equal to or greater than the control levels for mixtures indicated in 1C350.b. or .c.

Items: a. Mixtures containing more than 10 percent, but less than 30 percent, by weight of any single CWC Schedule 2 chemical identified in ECCN 1C350.b (For controls on other mixtures containing these chemicals, see

Note 1 in the Related Controls paragraph of this ECCN.).

b. ''Medical, analytical, diagnostic, and food testing kits'' (as defined in the Related Definitions for this ECCN) that contain CWC Schedule 2 or 3 chemicals controlled by ECCN 1C350.b or .c in an amount *not* exceeding 300 grams per chemical. (For controls on other such test kits containing these and other controlled chemicals, see Note 2 in the Related Controls paragraph of this ECCN.)

1C607 Tear Gases, Riot Control Agents and materials for the detection and decontamination of chemical warfare agents (see List of Items Controlled).

LICENSE REQUIREMENTS

Reason for Control: NS, RS, AT, UN

Control(s)	Country chart (see Supp. No. 1 to Part 738)
NS applies to entire entry, except 1C607.a.10, .a.11, .a.12, and .a.14.	NS Column 1.
RS applies to entire entry	RS Column 1.
AT applies to entire entry	AT Column 1.
UN applies to entire entry	See §746.1(b) for UN controls.

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

LVS: N/A

GBS: N/A

SPECIAL CONDITIONS FOR STA

STA: Paragraph (c)(2) of License Exception STA (§740.20(c)(2) of the EAR) may not be used for any item in 1C607.

LIST OF ITEMS CONTROLLED

Related Controls: (1) See ECCN 1A984 for controls on other riot control agents. (2) See 22 CFR 121.1 (USML), Category XIV(b), for modified biological agents and biologically derived substances that are subject to the ITAR. (3) See 22 CFR 121.1 (USML), Category XIV(g), for ITAR controls on antibodies, recombinant protective antigens, polynucleotides, biopolymers or biocatalysts (including the expression vectors, viruses, plasmids, or cultures of specific cells used to produce them) that are ''specially designed'' for use with articles controlled under USML Category XIV(f). (4) See ECCN 0A919 for ''military commodities'' located and produced outside the United States that incorporate more than a *de minimis* amount of US-origin ''600 series'' controlled content.

Related Definitions: N/A

Items: a. Tear gases and riot control agents including:

a.1. CA (Bromobenzyl cyanide) (CAS 5798–79–8);

a.2. CS (o-Chlorobenzylidenemalononitrile or o-Chlorobenzalmalononitrile) (CAS 2698–41–1);

a.3. CN (Phenylacyl chloride or w-Chloroacetophenone) (CAS 532–27–4);

a.4. CR (Dibenz-(b,f)-1,4-oxazephine) (CAS 257–07–8);

a.5. Adamsite (Diphenylamine chloroarsine or DM) (CAS 578–94–9);

a.6. N-Nonanoylmorpholine, (MPA) (CAS 5299–64–9);

a.7. Dibromodimethyl ether (CAS 4497–29–4);

a.8. Dichlorodimethyl ether (ClCi) (CAS 542–88–1);

a.9. Ethyldibromoarsine (CAS 683–43–2);

a.10. Bromo acetone (CAS 598–31–2);

a.11. Bromo methylethylketone (CAS 816–40–0);

a.12. Iodo acetone (CAS 3019–04–3);

a.13. Phenylcarbylamine chloride (CAS 622–44–6);

a.14. Ethyl iodoacetate (CAS 623–48–3);

Note to 1C607.a: ECCN 1C607.a. does not control the following: formulations containing 1% or less of CN or CS; individually packaged tear gases or riot control agents for personal self-defense purposes that are controlled by ECCN 1A984; or active constituent chemicals, and combinations thereof, identified and packaged for food production or medical purposes.

b. ''Biopolymers,'' not controlled by USML Category XIV(g) ''specially designed'' or processed for the detection or identification of chemical warfare agents specified by USML Category XIV(a), and the cultures of specific cells used to produce them.

c. ''Biocatalysts,'' and biological systems therefor, not controlled by USML Category XIV(g) ''specially designed'' for the decontamination or degradation of chemical warfare agents controlled in USML Category XIV (a), as follows:

c.1. ''Biocatalysts'' ''specially designed'' for the decontamination or degradation of chemical warfare agents controlled in USML Category XIV(a) resulting from directed laboratory selection or genetic manipulation of biological systems;

c.2. Biological systems containing the genetic information specific to the production of ''biocatalysts'' specified by 1C607.c.1, as follows:

c.2.a. ''Expression vectors;''

c.2.b. Viruses; *or*

c.2.c. Cultures of cells.

Note to 1C607.b and .c: The cultures of cells and biological systems are exclusive and these sub-items do not apply to cells or biological systems for civil purposes, such as agricultural, pharmaceutical, medical, veterinary, environmental, waste management, or in the food industry.

d. Chemical mixtures not controlled by USML Category XIV(f) ''specially designed'' for military use for the decontamination of objects contaminated with materials specified by USML Category XIV(a) or (b).

1C608 "Energetic materials" and related commodities (see List of Items Controlled).

LICENSE REQUIREMENTS

Reason for Control: NS, RS, MT, AT, UN

Control(s)	Country chart (see Supp. no. 1 to part 738)
NS applies to entire entry	NS Column 1
RS applies to entire entry	RS Column 1
MT applies to 1C608.m	MT Column 1
AT applies to entire entry	AT Column 1
UN applies to entire entry	See §746.1(b) of the EAR for UN controls

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

LVS: $1,500

GBS: N/A

SPECIAL CONDITIONS FOR STA

STA: Paragraph (c)(2) of License Exception STA (§740.20(c)(2) of the EAR) may not be used for any item in 1C608.

LIST OF ITEMS CONTROLLED

Related Controls: (1) The EAR does not control devices or charges containing materials controlled by USML subparagraphs V(c)(6), V(h), or V(i). The USML controls devices containing such materials. (2) The USML in Categories III, IV, or V controls devices and charges in this entry if they contain materials controlled by Category V (other than slurries) and such materials can be easily extracted without destroying the device or charge. (3) See also explosives and other items enumerated in ECCNs 1A006, 1A007, 1A008, 1C011, 1C111, 1C239, and 1C992. (4) See ECCN 0A919 for foreign-made ''military commodities'' that incorporate more than a *de minimis* amount of US-origin ''600 series'' controlled content.

Related Definitions: (1) For purposes of this entry, the term 'controlled materials' means controlled energetic materials enumerated in ECCNs 1C011, 1C111, 1C239, 1C608, or USML Category V. (2) For the purposes of this entry, the term 'propellants' means substances or mixtures that react chemically to produce large volumes of hot gases at controlled rates to perform mechanical work.

Items: a. 'Single base', 'double base', and 'triple base' 'propellants' having nitrocellulose with nitrogen content greater than 12.6% in the form of either:

a.1. 'Sheetstock' or 'carpet rolls'; *or*

a.2. Grains with diameter greater than 0.10 inches.

Note: This entry does not control 'propellant' grains used in shotgun shells, small arms cartridges, or rifle cartridges.

Technical Notes: 1. 'Sheetstock' is 'propellant' that has been manufactured in the form of a sheet suitable for further processing.

2. A 'carpet roll' is 'propellant' that has been manufactured as a sheet, often cut to a desired width, and subsequently rolled up (like a carpet).

3. 'Single base' is 'propellant' which consists mostly of nitrocellulose.

4. 'Double base' 'propellant' consist mostly of nitrocellulose and nitroglycerine.

5. 'Triple base' consists mostly of nitrocellulose, nitroglycerine, and nitroguanidine. Such 'propellants' contain other materials, such as resins or stabilizers, that could include carbon, salts, burn rate modifiers, nitrodiphenylamine, wax, polyethylene glycol (PEG), polyglycol adipate (PGA).

b. Shock tubes containing greater than 0.064 kg per meter (300 grains per foot), but not more than 0.1 kg per meter (470 grains per foot) of 'controlled materials.'

c. Cartridge power devices containing greater than 0.70 kg, but not more than 1.0 kg of 'controlled materials.'

d. Detonators (electric or nonelectric) and ''specially designed'' assemblies therefor containing greater than 0.01 kg, but not more than 0.1 kg of 'controlled materials'.

e. Igniters not controlled by USML Categories III or IV that contain greater than 0.01 kg, but not more than 0.1 kg of 'controlled materials'.

f. Oil well cartridges containing greater than 0.015 kg, but not more than 0.1 kg of 'controlled materials'.

g. Commercial cast or pressed boosters containing greater than 1.0 kg, but not more than 5.0 kg of 'controlled materials'.

h. Commercial prefabricated slurries and emulsions containing greater than 10 kg and less than or equal to thirty-five percent by weight of USML 'controlled materials'.

i. [Reserved]

j. ''Pyrotechnic'' devices ''specially designed'' for commercial purposes (*e.g.*, theatrical stages, motion picture special effects, and fireworks displays), and containing greater than 3.0 kg, but not more than 5.0 kg of 'controlled materials'.

k. Other commercial explosive devices or charges ''specially designed'' for commercial applications, not controlled by 1C608.c through .g above, containing greater than 1.0 kg, but not more than 5.0 kg of 'controlled materials'.

l. Propyleneimine (2 methylaziridine) (C.A.S. #75–55–8).

m. Any oxidizer or 'mixture' thereof that is a compound composed of fluorine and any of the following: other halogens, oxygen, or nitrogen.

Note 1 to 1C608.m: Nitrogen trifluoride (NF3) (CAS 7783–54–2) in a gaseous state is controlled under ECCN 1C992 and not under ECCN 1C608.m.

Note 2 to 1C608.m: Chlorine trifluoride (ClF3) (CAS 7790–91–2) is controlled under ECCN 1C111.a.3.f and not under ECCN 1C608.m.

Note 3 to 1C608.m: Oxygen difluoride (OF2) is controlled under USML Category V.d.10 (see 22 CFR 121.1) and not under ECCN 1C608.m.

Note to 1C608.l and m: If a chemical in ECCN 1C608.l or .m is incorporated into a commercial charge or device described in ECCN 1C608.c through .k or in ECCN 1C992, the classification of the commercial charge or device applies to the item.

Technical Note to 1C608.m: 'Mixture' refers to a composition of two or more substances with at least one substance being enumerated in 1C011, 1C111, 1C239, 1C608, USML Category V, or elsewhere on the USML.

n. Any explosives, 'propellants', oxidizers, ''pyrotechnics'', fuels, binders, or additives that are ''specially designed'' for military application and not enumerated or otherwise described in USML Category V or elsewhere on the USML.

Note 1: 1C608.n does not apply to the following ''aircraft'' fuels: JP–4, JP–5, and JP–8.

Note 2: ''Aircraft'' fuels specified by 1C608.n, Note 1 are finished products, not their constituents.

1C980 Inorganic chemicals listed in Supplement No. 1 to part 754 of the EAR that were produced or derived from the Naval Petroleum Reserves (NPR) or became available for export as a result of an exchange of any NPR produced or derived commodities.

LICENSE REQUIREMENTS

Reason for Control: SS

Control(s): SS applies to entire entry. For licensing requirements (and possible License Exceptions) proceed directly to part 754 of the EAR. The Commerce Country Chart is not designed to determine licensing requirements for items controlled for SS reasons

LIST OF ITEMS CONTROLLED

Related Controls: N/A

Related Definitions: N/A

Items: The list of items controlled is contained in the ECCN heading.

1C982 Other petroleum products listed in Supplement No. 1 to part 754 of the EAR that were produced or derived from the Naval Petroleum Reserves (NPR) or became available for export as a result of an exchange of any NPR produced or derived commodities.

LICENSE REQUIREMENTS

Reason for Control: SS

Control(s): SS applies to entire entry. For licensing requirements (and possible License Exceptions) proceed directly to part 754 of the EAR. The Commerce Country Chart is not designed to determine licensing requirements for items controlled for SS reasons

LIST OF ITEMS CONTROLLED

Related Controls: N/A

Related Definitions: N/A

Items: The list of items controlled is contained in the ECCN heading.

1C983 Natural gas liquids and other natural gas derivatives listed in Supplement No. 1 to part 754 of the EAR that were produced or derived from the Naval Petroleum Reserves (NPR) or became available for export as a result of an exchange of any NPR produced or derived commodities.

LICENSE REQUIREMENTS

Reason for Control: SS

Control(s): SS applies to entire entry. For licensing requirements (and possible License Exceptions) proceed directly to part 754 of the EAR. The Commerce Country Chart is not designed to determine licensing requirements for items controlled for SS reasons.

LIST OF ITEMS CONTROLLED

Related Controls: N/A

Related Definitions: N/A

Items: The list of items controlled is contained in the ECCN heading.

1C984 Manufactured gas and synthetic natural gas (except when commingled with natural gas and thus subject to export authorization from the Department of Energy) listed in Supplement No. 1 to part 754 of the EAR that were produced or derived from the Naval Petroleum Reserves (NPR) or became available for export as a result of an exchange of any NPR produced or derived commodities.

LICENSE REQUIREMENTS

Reason for Control: SS

Control(s): SS applies to entire entry. For licensing requirements (and possible License Exceptions) proceed directly to part 754 of the EAR. The Commerce Country Chart is not designed to determine licensing requirements for items controlled for SS reasons

LIST OF ITEMS CONTROLLED

Related Controls: N/A

Related Definitions: N/A

Items: The list of items controlled is contained in the ECCN heading.

1C988 Unprocessed western red cedar (thuja plicata) logs and timber, and rough, dressed and worked lumber containing wane, as described in § 754.4 of the EAR.

LICENSE REQUIREMENTS

Reason for Control: SS

Control(s): SS applies to entire entry. For licensing requirements (and possible License Exceptions) proceed directly to part 754 of the EAR. The Commerce Country Chart is not designed to determine licensing requirements for items controlled for SS reasons

LIST OF ITEMS CONTROLLED

Related Controls: N/A

Related Definitions: For a non-exhaustive list of 10-digit Harmonized System-based Schedule B commodity numbers that may apply to unprocessed Western Red Cedar products subject to §754.4 and related definitions, see Supplement No. 2 to part 754 of the EAR.
Items: The list of items controlled is contained in the ECCN heading.

1C990 Fibrous and filamentary materials, not controlled by 1C010 or 1C210, for use in "composite" structures and with a specific modulus of 3.18 × 10^6 m or greater and a specific tensile strength of 7.62 × 10^4 m or greater.

LICENSE REQUIREMENTS
Reason for Control: AT

Control(s)	Country Chart (See Supp. No. 1 to part 738)
AT applies to entire entry	AT Column 1

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)
LVS: N/A
GBS: N/A
LIST OF ITEMS CONTROLLED
Related Controls: N/A
Related Definitions: N/A
Items: The list of items controlled is contained in the ECCN heading.

1C991 Vaccines, immunotoxins, medical products, diagnostic and food testing kits, as follows (see List of Items Controlled).

LICENSE REQUIREMENTS
Reason for Control: CB, AT

Control(s)	Country Chart (see Supp. No. 1 to part 738)
CB applies to 1C991.c	CB Column 3.
AT applies to entire entry	AT Column 1.

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)
LVS: N/A
GBS: N/A
LIST OF ITEMS CONTROLLED
Related Controls: (1) Medical products containing ricin or saxitoxin, as follows, are controlled for CW reasons under ECCN 1C351:
(a) Ricinus communis AgglutininII (RCA_{II}), also known as ricin D, or Ricinus Communis LectinIII (RCL_{III});
(b) Ricinus communis LectinIV (RCL_{IV}), also known as ricin E; *or*
(c) Saxitoxin identified by C.A.S. #35523–89–8.
(2) The export of a ''medical product'' that is an ''Investigational New Drug'' (IND), as defined in 21 CFR 312.3, is subject to certain U.S. Food and Drug Administration (FDA) requirements that are independent of the export requirements specified in this ECCN or elsewhere in the EAR. These FDA requirements are described in 21 CFR 312.110 and must be satisfied in addition to any requirements specified in the EAR.
(3) Also see 21 CFR 314.410 for FDA requirements concerning exports of new drugs and new drug substances.
Related Definitions: For the purpose of this entry, 'immunotoxins' are monoclonal antibodies linked to a toxin with the intention of destroying a specific target cell while leaving adjacent cells intact. For the purpose of this entry, 'medical products' are: (1) Pharmaceutical formulations designed for testing and human (or veterinary) administration in the treatment of medical conditions; (2) prepackaged for distribution as clinical or medical products; and (3) approved by the U.S. Food and Drug Administration either to be marketed as clinical or medical products or for use as an ''Investigational New Drug'' (IND) (see 21 CFR part 312). For the purpose of this entry, 'diagnostic and food testing kits' are specifically developed, packaged and marketed for diagnostic or public health purposes. Biological toxins in any other configuration, including bulk shipments, or for any other end-uses are controlled by ECCN 1C351. For the purpose of this entry, 'vaccine' is defined as a medicinal (or veterinary) product in a pharmaceutical formulation, approved by the U.S. Food and Drug Administration or the U.S. Department of Agriculture to be marketed as a medical (or veterinary) product or for use in clinical trials, that is intended to stimulate a protective immunological response in humans or animals in order to prevent disease in those to whom or to which it is administered.
Items:

Technical Note: For purposes of the controls described in this ECCN, 'toxins' refers to those toxins, or their subunits, controlled under ECCN 1C351.d.

a. Vaccines containing, or designed for use against, items controlled by ECCN 1C351, 1C353 or 1C354.

b. Immunotoxins containing toxins controlled by 1C351.d;

c. Medical products that contain any of the following:

c.1. Toxins controlled by ECCN 1C351.d (except for botulinum neurotoxins controlled by ECCN 1C351.d.3, conotoxins controlled by ECCN 1C351.d.6, or items controlled for CW reasons under ECCN 1C351.d.15 or .d.16); *or*

c.2. Genetically modified organisms or genetic elements controlled by ECCN 1C353.a.3 (except for those that contain, or code for, botulinum neurotoxins controlled by ECCN 1C351.d.3 or conotoxins controlled by ECCN 1C351.d.6);

d. Medical products not controlled by 1C991.c that contain any of the following:

d.1. Botulinum neurotoxins controlled by ECCN 1C351.d.3;

d.2. Conotoxins controlled by ECCN 1C351.d.6; *or*

d.3. Genetically modified organisms or genetic elements controlled by ECCN 1C353.a.3 that contain, or code for, botulinum neurotoxins controlled by ECCN 1C351.d.3 or conotoxins controlled by ECCN 1C351.d.6;

e. Diagnostic and food testing kits containing toxins controlled by ECCN 1C351.d (except for items controlled for CW reasons under ECCN 1C351.d.15 or .d.16).

1C992 Commercial charges and devices containing energetic materials, n.e.s. and nitrogen trifluoride in a gaseous state (see List of Items Controlled).

LICENSE REQUIREMENTS

Reason for Control: AT, RS, foreign policy

Control(s)	Country chart (see Supp. No. 1 to part 738)
AT applies to entire entry	AT Column 1.
RS applies to entire entry	A license is required for items controlled by this entry for export or reexport to Iraq and transfer within Iraq for regional stability reasons. The Commerce Country Chart is not designed to determine RS license requirements for this entry. See §§ 742.6 and 746.3 of the EAR for additional information.
Russian industry sector sanctions apply to entire entry.	See § 746.8 for specific license requirements and license review policy.

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

LVS: N/A

GBS: N/A

LIST OF ITEMS CONTROLLED

Related Controls: (1) Commercial charges and devices ''subject to the EAR,'' contain energetic materials described on the USML that exceed the quantities noted or that are not covered by this entry are controlled under ECCN 1C608. (2) Nitrogen trifluoride when not in a gaseous state is controlled under ECCN 1C608.

Related Definitions: (1) Items controlled by this entry ECCN 1C992 are those materials not controlled by ECCN 1C608 and not ''subject to the ITAR.'' (2) For purposes of this entry, the term ''controlled materials'' means controlled energetic materials (see ECCNs 1C011, 1C111, 1C239, and 1C608; see also 22 CFR 121.1, Category V). (3) The individual energetic materials described on the USML, even when compounded with other materials, remain ''subject to the ITAR'' when not incorporated into explosive devices or charges. (4) Commercial prefabricated slurries and emulsions containing greater than 35% of energetic materials described on the USML are ''subject to the ITAR.'' (5) For purposes of this entry, the mass of aluminum powder, potassium perchlorate, and any of the substances listed in the note to the USML (see 22 CFR 121.12) (such as ammonium pictrate, black powder, etc.) contained in commercial explosive devices and in the charges are omitted when determining the total mass of controlled material.

Items:

a. Shaped charges ''specially designed'' for oil well operations, utilizing one charge functioning along a single axis, that upon detonation produce a hole, and

a.1. Contain any formulation of controlled materials;

a.2. Have only a uniform shaped conical liner with an included angle of 90 degrees or less;

a.3. Contain more than 0.010 kg but less than or equal to 0.090 kg of controlled materials; and

a.4. Have a diameter not exceeding 4.5 inches;

b. Shaped charges ''specially designed'' for oil well operations containing less than or equal to 0.010 kg of controlled materials;

c. Detonation cord or shock tubes containing less than or equal to 0.064 kg per meter (300 grains per foot) of controlled materials;

d. Cartridge power devices, that contain less than or equal to 0.70 kg of controlled materials in the deflagration material;

e. Detonators (electric or nonelectric) and assemblies thereof, that contain less than or equal to 0.01 kg of controlled materials;

f. Igniters, that contain less than or equal to 0.01 kg of controlled materials;

g. Oil well cartridges, that contain less than or equal to 0.015 kg of controlled energetic materials;

h. Commercial cast or pressed boosters containing less than or equal to 1.0 kg of controlled materials;

i. Commercial prefabricated slurries and emulsions containing less than or equal to 10.0 kg and less than or equal to thirty-five percent by weight of materials described on the USML;

j. Cutters and severing tools containing less than or equal to 3.5 kg of controlled materials;

k. Pyrotechnic devices when designed exclusively for commercial purposes (*e.g.*, theatrical stages, motion picture special effects, and fireworks displays) and containing less than or equal to 3.0 kg of controlled materials; or

l. Other commercial explosive devices and charges not controlled by 1C992.a through .k containing less than or equal to 1.0 kg of controlled materials.

Note: 1C992.l includes automotive safety devices; extinguishing systems; cartridges for riveting guns; explosive charges for agricultural, oil and gas operations, sporting goods, commercial mining, or public works purposes; and delay tubes used in the assembly of commercial explosive devices.

m. Nitrogen trifluoride (NF_3) in a gaseous state.

1C995 Mixtures not controlled by ECCN 1C350, ECCN 1C355 or ECCN 1C395 that contain chemicals controlled by ECCN 1C350 or ECCN 1C355 and medical, analytical, diagnostic, and food testing kits not controlled by ECCN 1C350 or ECCN 1C395 that contain chemicals controlled by ECCN 1C350.d, as follows (see List of Items controlled).

LICENSE REQUIREMENTS

Reason for Control: AT, RS

Control(s)	Country Chart (See Supp. No. 1 to part 738)
AT applies to entire entry	AT Column 1.
RS applies to entire entry.	A license is required for items controlled by this entry for export or reexport to Iraq or transfer within Iraq for regional stability reasons. The Commerce Country Chart is not designed to determine RS license requirements for this entry. See §§ 742.6 and 746.3 of the EAR for additional information.

License Requirement Notes: 1. This ECCN does not control mixtures containing less than 0.5% of any single toxic or precursor chemical controlled by ECCN 1C350.b, .c, or .d or ECCN 1C355 as unavoidable by-products or impurities. Such mixtures are classified as EAR99.

2. 1C995.c does not control mixtures that contain precursor chemicals identified in 1C350.d in concentrations below the levels for mixtures indicated in 1C350.d. 1C995.a.2.b controls such mixtures, unless they are consumer goods as described in License Requirements Note 3 of this ECCN.

3. This ECCN does not control mixtures when the controlled chemicals are normal ingredients in consumer goods packaged for retail sale for personal use. Such consumer goods are classified as EAR99.

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

LVS: N/A

GBS: N/A

LIST OF ITEMS CONTROLLED

Related Controls: 1. ECCN 1C350 controls mixtures containing 30 percent or higher concentrations of any single CWC Schedule 2 chemical identified in ECCN 1C350.b. ECCN 1C395 controls mixtures containing concentrations of more than 10 percent, but less than 30 percent, of any single CWC Schedule 2 chemical identified in ECCN 1C350.b. 2. ECCN 1C350 controls mixtures containing chemicals identified in ECCN 1C350.c or .d that exceed the concentration levels indicated in 1C995.a.2. 3. ECCN 1C355 controls mixtures containing chemicals identified in ECCN 1C355 that exceed the concentration levels indicated in 1C995.b. 4. ECCN 1C395 controls ''medical, analytical, diagnostic, and food testing kits'' (as defined in the Related Controls paragraph of this ECCN) that contain CWC Schedule 2 or 3 chemicals listed in 1C350.b or .c. ECCN 1C350 controls any such testing kits in which the amount of any single chemical listed in 1C350.b, .c., or .d exceeds 300 grams by weight.

Related Definitions: For the purpose of this entry, ''medical, analytical, diagnostic, and food testing kits'' are pre-packaged materials of defined composition that are specifically developed, packaged and marketed for medical, analytical, diagnostic, or public health purposes. Replacement reagents for medical, analytical, diagnostic, and food testing kits described in 1C995.c are controlled by ECCN 1C350 if the reagents contain at least one of the precursor chemicals identified in that ECCN in concentrations equal to or greater than the control levels for mixtures indicated in 1C350.d.

Items: a. Mixtures containing the following concentrations of precursor chemicals controlled by ECCN 1C350 (For controls on other mixtures containing these chemicals, see Notes 1 and 2 in the Related Controls paragraph of this ECCN.):

a.1. Mixtures containing 10 percent or less, by weight, of any single CWC Schedule 2 chemical controlled by ECCN 1C350.b;

a.2. Mixtures containing less than 30 percent, by weight, of:

a.2.a. Any single CWC Schedule 3 chemical controlled by ECCN 1C350.c; or

a.2.b. Any single precursor chemical controlled by ECCN 1C350.d.

b. Mixtures containing the following concentrations of toxic or precursor chemicals controlled by ECCN 1C355 (For controls on other mixtures containing these chemicals, see Note 3 in the Related Controls paragraph of this ECCN.):

b.1. Mixtures containing the following concentrations of CWC Schedule 2 chemicals controlled by ECCN 1C355.a:

b.1.a. Mixtures containing 1 percent or less, by weight, of any single CWC Schedule 2 chemical controlled by ECCN 1C355.a.1 (i.e., mixtures containing PFIB); or

b.1.b. Mixtures containing 10 percent or less, by weight, of any single CWC Schedule 2 chemical controlled by 1C355.a.2;

b.2. Mixtures containing less than 30 percent, by weight, of any single CWC Schedule 3 chemical controlled by ECCN 1C355.b.

c. ''Medical, analytical, diagnostic, and food testing kits'' (as defined in the Related Definitions for this ECCN) that contain precursor chemicals controlled by ECCN 1C350.d in an amount *not* exceeding 300 grams per chemical. (For controls on other such test kits containing these and other controlled chemicals, see Note 4 in the Related Controls paragraph of this ECCN.)

1C996 Hydraulic fluids containing synthetic hydrocarbon oils, not controlled by 1C006, having all the following characteristics (see List of Items Controlled).

LICENSE REQUIREMENTS
Reason for Control: AT

Control(s)	Country Chart (See Supp. No. 1 to part 738)
AT applies to entire entry	AT Column 1

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)
LVS: N/A
GBS: N/A
LIST OF ITEMS CONTROLLED
Related Controls: N/A
Related Definitions: N/A
Items: a. A flash point exceeding 477 K (204 °C);
b. A pour point at 239 K (−-34 °C) or less;
c. A viscosity index of 75 or more; *and*
d. A thermal stability at 616 K (343 °C).

1C997 Ammonium Nitrate, Including Fertilizers and Fertilizer Blends Containing More Than 15% by Weight Ammonium Nitrate, Except Liquid Fertilizers (Containing Any Amount of Ammonium Nitrate) or Dry Fertilizers Containing Less Than 15% by Weight Ammonium Nitrate.

LICENSE REQUIREMENTS
Reason for Control: AT, RS

Control(s)	Country Chart (See Supp. No. 1 to part 738)
AT applies to entire entry	AT Column 1.
RS applies to entire entry.	A license is required for items controlled by this entry for export or reexport to Iraq or transfer within Iraq for regional stability reasons. The Commerce Country Chart is not designed to determine RS license requirements for this entry. See §§ 742.6 and 746.3 of the EAR for additional information.

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)
LVS: N/A
GBS: N/A
LIST OF ITEMS CONTROLLED
Related Controls: N/A
Related Definitions: N/A
Items: The list of items controlled is contained in the ECCN heading.

1C998 Non-fluorinated polymeric substances, not controlled by 1C008, as follows (see List of Items Controlled).

LICENSE REQUIREMENTS
Reason for Control: AT

Control(s)	Country Chart (See Supp. No. 1 to part 738)
AT applies to entire entry	AT Column 1.

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)
LVS: N/A
GBS: N/A
LIST OF ITEMS CONTROLLED
Related Controls: N/A
Related Definitions: N/A
Items: a. Polyarylene ether ketones, as follows:
a.1 Polyether ether ketone (PEEK);
a.2. Polyether ketone ketone (PEKK);
a.3. Polyether ketone (PEK);
a.4. Polyether ketone ether ketone ketone (PEKEKK);
b. [Reserved]

1C999 Specific Materials, n.e.s., as Follows (See List of Items Controlled).

LICENSE REQUIREMENTS
Reason for Control: AT, RS

Control(s)	Country Chart (See Supp. No. 1 to part 738)
AT applies to entire entry	A license is required for items controlled by this entry to North Korea for anti-terrorism reasons. The Commerce Country Chart is not designed to determine AT license requirements for this entry. See § 742.19 of the EAR for additional information.
RS applies to entire entry.	A license is required for items controlled by this entry for export or reexport to Iraq or transfer within Iraq for regional stability reasons. The Commerce Country Chart is not designed to determine RS license requirements for this entry. See §§ 742.6 and 746.3 of the EAR for additional information.

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)
LVS: N/A
GBS: N/A
LIST OF ITEMS CONTROLLED
Related Controls: See also 1C236.
Related Definitions: N/A

Items: a. Hardened steel and tungsten carbide precision ball bearings (3mm or greater diameter);

b. 304 and 316 stainless steel plate, n.e.s.;

c. Monel plate;

d. Tributyl phosphate;

e. Nitric acid in concentrations of 20 weight percent or greater;

f. Fluorine;

g. Alpha-emitting radionuclides, n.e.s.

D. ''SOFTWARE''

1D001 "Software" "specially designed" or modified for the "development", "production" or "use" of equipment controlled by 1B001 to 1B003.

LICENSE REQUIREMENTS

Reason for Control: NS, MT, NP, AT

Control(s)	Country Chart (See Supp. No. 1 to part 738)
NS applies to entire entry	NS Column 1
MT applies to "software" for the "development," "production," operation, or maintenance of items controlled by 1B001 for MT reasons.	MT Column 1
NP applies to "software" for the "development", "production" or "use" of items controlled by 1B001 for NP reasons.	NP Column 1
AT applies to entire entry	AT Column 1

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

TSR: Yes, except N/A for MT

LIST OF ITEMS CONTROLLED

Related Controls: (1) See ECCNs 1E101 (''use'') and 1E102 (''development'' and ''production'') for technology for items controlled by this entry. (2) Also see 1D002, 1D101, 1D201, and 1D999.

Related Definitions: N/A

Items: The list of items controlled is contained in the ECCN heading.

1D002 "Software" for the "development" of organic "matrix", metal "matrix" or carbon "matrix" laminates or "composites".

LICENSE REQUIREMENTS

Reason for Control: NS, AT

Control(s)	Country Chart (See Supp. No. 1 to part 738)
NS applies to entire entry	NS Column 1
AT applies to entire entry	AT Column 1

REPORTING REQUIREMENTS See §743.1 of the EAR for reporting requirements for exports under License Exceptions, and Validated End-User authorizations

LIST OF ITEMS CONTROLLED

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

TSR: Yes

SPECIAL CONDITIONS FOR STA

STA: License Exception STA may not be used to ship or transmit ''software'' for the ''development'' of organic ''matrix'', metal ''matrix'' or carbon ''matrix'' laminates or ''composites'' specified in ECCN 1A002 to any of the destinations listed in Country Group A:6 (See Supplement No. 1 to part 740 of the EAR).

Related Controls: ''Software'' for items controlled by *1A102* are ''subject to the ITAR'' (see 22 CFR parts 120 through 130).

Related Definitions: N/A

Items: The list of items controlled is contained in the ECCN heading.

1D003 "Software" "specially designed" or modified to enable equipment to perform the functions of equipment controlled under 1A004.c or 1A004.d.

LICENSE REQUIREMENTS

Reason for Control: NS, RS, AT

Control(s)	Country Chart (See Supp. No. 1 to part 738)
NS applies to entire entry	NS Column 2.
RS applies to software for equipment controlled by 1A004.d.	RS Column 2.
AT applies to entire entry	AT Column 1.

REPORTING REQUIREMENTS See §743.1 of the EAR for reporting requirements for exports under License Exceptions, and Validated End-User authorizations

SPECIAL CONDITIONS FOR STA

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

TSR: N/A

LIST OF ITEMS CONTROLLED

Related Controls: N/A

Related Definitions: N/A

Items: The list of items controlled is contained in the ECCN heading.

1D018 "Software" "specially designed" or modified for the "development," "production," or "use" of items controlled by 1B018.b.

LICENSE REQUIREMENTS

Reason for Control: NS, MT, AT, UN

Control(s)	Country Chart (See Supp. No. 1 to part 738)
NS applies to entire entry	NS Column 1.
MT applies to "software" for the "development", "production", operation, or maintenance of items controlled by 1B018 for MT reasons.	
AT applies to entire entry	AT Column 1.

Control(s)	Country Chart (See Supp. No. 1 to part 738)
UN applies to entire entry	See § 746.1(b) for UN controls.

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)
TSR: N/A
LIST OF ITEMS CONTROLLED
Related Controls: See ECCN 1D608 for ''software'' for items classified under ECCN 1B608 that, immediately prior to July 1, 2014, were classified under 1B018.a.
Related Definitions: N/A
Items: The list of items controlled is contained in the ECCN heading.

1D101 "Software" "specially designed" or modified for the operation or maintenance of commodities controlled by 1B101, 1B102, 1B115, 1B117, 1B118, or 1B119.

LICENSE REQUIREMENTS
Reason for Control: MT, NP, AT

Control(s)	Country Chart (See Supp. No. 1 to part 738)
MT applies to entire entry	MT Column 1.
NP applies to "software" for the "use" of items controlled by 1B101.a.	NP Column 1.
AT applies to entire entry	AT Column 1.

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)
TSR: N/A
LIST OF ITEMS CONTROLLED
Related Controls: See ECCNs 1E101 (''use'') and 1E102 (''development'' and ''production'') for technology for items controlled by this entry.
Related Definitions: N/A
Items: The list of items controlled is contained in the ECCN heading.

1D103 "Software" "specially designed" for reduced observables such as radar reflectivity, ultraviolet/infrared signatures and acoustic signatures, for applications usable in rockets, missiles, or unmanned aerial vehicles capable of delivering at least a 500 kg payload to a "range" equal to or greater than 300 km and their complete subsystems.

LICENSE REQUIREMENTS
Reason for Control: MT, AT

Control(s)	Country Chart (See Supp. No. 1 to part 738)
MT applies to entire entry	MT Column 1
AT applies to entire entry	AT Column 1

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)
TSR: N/A
LIST OF ITEMS CONTROLLED
Related Controls: (1) This entry includes ''software'' ''specially designed'' for analysis of signature reduction. (2) For software that meets the definition of defense articles under 22 CFR 120.3 of the International Traffic in Arms Regulations (ITAR), which describes similar software that are ''subject to the ITAR'' (see 22 CFR parts 120 through 130, including USML Category XIII).
Related Definitions: N/A
Items: The list of items controlled is contained in the ECCN heading.

1D201 "Software" "specially designed" or modified for the "use" of items controlled by 1B201.

LICENSE REQUIREMENTS
Reason for Control: NP, AT

Control(s)	Country Chart (See Supp. No. 1 to part 738)
NP applies to entire entry	NP Column 1
AT applies to entire entry	AT Column 1

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)
TSR: N/A
LIST OF ITEMS CONTROLLED
Related Controls: See ECCNs 1E201 (''use'') and 1E203 (''development'' and ''production'') for technology for items controlled by this entry.
Related Definitions: N/A
Items: The list of items controlled is contained in the ECCN heading.

1D390 "Software" for process control that is specifically configured to control or initiate "production" of chemicals controlled by 1C350.

LICENSE REQUIREMENTS
Reason for Control: CB, AT

Control(s)	Country Chart (See Supp. No. 1 to part 738)
CB applies to entire entry	CB Column 2
AT applies to entire entry	AT Column 1

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)
TSR: N/A
LIST OF ITEMS CONTROLLED
Related Controls: N/A
Related Definitions: See Section 772.1 of the EAR for the definitions of ''software,'' ''program,'' and ''microprogram.''
Items: The list of items controlled is contained in the ECCN heading.

1D607 "Software" "specially designed" for the "development," "production," operation, or maintenance of items controlled

by 1A607, 1B607 or 1C607 (see List of Items Controlled).

LICENSE REQUIREMENTS

Reason for Control: NS, RS, AT, UN

Control(s)	Country chart (see Supp. No. 1 to Part 738)
NS applies to entire entry, except "software" for 1C607.a.10, .a.11, .a.12, and .a.14.	NS Column 1.
RS applies to entire entry	RS Column 1.
AT applies to entire entry	AT Column 1.
UN applies to entire entry	See §746.1(b) for UN controls.

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

TSR: N/A

SPECIAL CONDITIONS FOR STA

STA: Paragraph (c)(2) of License Exception STA (§740.20(c)(2) of the EAR) may not be used for any item in 1D607.

LIST OF ITEMS CONTROLLED

Related Controls: (1) ''Software'' directly related to articles enumerated or otherwise described in USML Category XIV is subject to the ITAR (see 22 CFR §121.1, Category XIV(m)). ''Software'' controlled by USML Category XIV(m) includes ''software'' directly related to any equipment containing reagents, algorithms, coefficients, software, libraries, spectral databases, or alarm set point levels developed under U.S. Department of Defense contract or funding for the detection, identification, warning or monitoring of items controlled in paragraphs (a) or (b) of USML Category XIV, or for chemical or biological agents specified by U.S. Department of Defense funding or contract. (2) See ECCN 0A919 for ''military commodities'' located and produced outside the United States that incorporate more than a *de minimis* amount of US-origin ''600 series'' controlled content.

Related Definitions: N/A

Items: a. ''Software'' ''specially designed'' for the ''development,'' ''production,'' operation, or maintenance of commodities controlled by ECCN 1A607, 1B607, or 1C607.

b. [Reserved]

1D608 "Software" "specially designed" for the "development," "production," operation, or maintenance of commodities controlled by 1B608 or 1C608 (see List of Items Controlled).

LICENSE REQUIREMENTS

Reason for Control: NS, RS, MT, AT, UN

Control(s)	Country chart (See Supp. No. 1 to part 738)
NS applies to entire entry	NS Column 1
RS applies to entire entry	RS Column 1
MT applies to "software" "specially designed" for the "use" of 1B608 equipment in the "production" and handling of materials controlled by 1C608.m or MT articles in USML Category V.	MT Column 1
AT applies to entire entry	AT Column 1
UN applies to entire entry	See §746.1(b) for UN controls

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

TSR: N/A

SPECIAL CONDITIONS FOR STA

STA: Paragraph (c)(2) of License Exception STA (§740.20(c)(2) of the EAR) may not be used for any item in 1D608.

LIST OF ITEMS CONTROLLED

Related Controls: (1) Software directly related to articles enumerated or otherwise described in USML Categories III, IV or V is subject to the controls of those USML Categories, respectively. (2) See ECCN 0A919 for foreign-made ''military commodities'' that incorporate more than a *de minimis* amount of U.S.-origin ''600 series'' items.

Related Definitions: N/A

Items: a. ''Software'' ''specially designed'' for the ''development,'' ''production,'' operation, or maintenance of commodities controlled by ECCN 1B608 or 1C608.

b. [Reserved]

1D613 "Software" "specially designed" for the "development," "production," operation, or maintenance of commodities controlled by 1A613 or 1B613, as follows (see List of Items Controlled).

LICENSE REQUIREMENTS

Reason for Control: NS, RS, AT, UN

Control(s)	Country chart (see Supp. No. 1 to part 738)
NS applies to entire entry except 1D613.y.	NS Column 1.
RS applies to entire entry except 1D613.y.	RS Column 1.
RS applies to 1D613.y	China, Russia, or Venezuela (see §742.6(a)(7)).
AT applies to entire entry	AT Column 1.
UN applies to entire entry, except 1D613.y.	See §746.1(b) for UN controls.

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

TSR: N/A

SPECIAL CONDITIONS FOR STA

STA: Paragraph (c)(2) of License Exception STA (§740.20(c)(2) of the EAR) may not be used for any ''software'' in 1D613.

LIST OF ITEMS CONTROLLED

Related Controls: (1) ''Software'' directly related to articles controlled by USML Category X is subject to the control of USML paragraph X(e) of the ITAR. (2) See ECCN 0A919 for foreign-made ''military commodities'' that incorporate more than a de minimis amount of US-origin ''600 series'' controlled content.
Related Definitions: N/A
Items:

a. ''Software'' (other than ''software'' controlled in paragraph .y of this entry) ''specially designed'' for the ''development,'' ''production,'' operation, or maintenance of commodities controlled by ECCNs 1A613 (except 1A613.y) or 1B613 (except 1B613.y).

b. to x. [Reserved]

y. Specific ''software'' ''specially designed'' for the ''production,'' ''development,'' operation, or maintenance of commodities controlled by ECCN 1A613.y.

1D993 "Software" "specially designed" for the "development," "production" or "use" of materials controlled by 1C210.b, or 1C990.

LICENSE REQUIREMENTS
Reason for Control: AT

Control(s)	Country Chart (See Supp. No. 1 to part 738)
AT applies to entire entry	AT Column 1

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)
TSR: N/A
LIST OF ITEMS CONTROLLED
Related Controls: N/A
Related Definitions: N/A
Items: The list of items controlled is contained in the ECCN heading.

1D999 Specific Software, n.e.s., as Follows (See List of Items Controlled).

LICENSE REQUIREMENTS
Reason for Control: AT
Control(s):
Country Chart. AT applies to entire entry. A license is required for items controlled by this entry to North Korea for anti-terrorism reasons. The Commerce Country Chart is not designed to determine AT licensing requirements for this entry. See §742.19 of the EAR for additional information.
LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)
TSR: N/A
LIST OF ITEMS CONTROLLED
Related Controls: See also 1B999.
Related Definitions: N/A
Items: a. Software ''specially designed'' for industrial process control hardware/systems controlled by 1B999, n.e.s.;

b. Software ''specially designed'' for equipment for the production of structural composites, fibers, prepregs and preforms controlled by 1B999, n.e.s.

E. ''TECHNOLOGY''

1E001 "Technology" according to the General Technology Note for the "development" or "production" of items controlled by 1A002, 1A003, 1A004, 1A005, 1A006.b, 1A007, 1A008 1A101, 1A231, 1B (except 1B608, 1B613 or 1B999), or 1C (except 1C355, 1C608, 1C980 to 1C984, 1C988, 1C990, 1C991, 1C995 to 1C999).

LICENSE REQUIREMENTS
Reason for Control: NS, MT, NP, CB, RS, AT

Control(s)	Country Chart (see Supp. No. 1 to part 738)
NS applies to ''technology'' for items controlled by 1A002, 1A003, 1A005, 1A006.b, 1A007, 1B001 to 1B003, 1B018, 1C001 to 1C011, or 1C018.	NS Column 1.
NS applies to ''technology'' for items controlled by 1A004.	NS Column 2.
MT applies to ''technology'' for items controlled by 1A101, 1B001, 1B101, 1B102, 1B115 to 1B119, 1C001, 1C007, 1C011, 1C101, 1C102, 1C107, 1C111, 1C116, 1C117, or 1C118 for MT reasons.	MT Column 1.
NP applies to ''technology'' for items controlled by 1A002, 1A007, 1A231, 1B001, 1B101, 1B201, 1B225, 1B226, 1B228 to 1B234, 1C002, 1C010, 1C111, 1C116, 1C202, 1C210, 1C216, 1C225 to 1C237, or 1C239 to 1C241 for NP reasons.	NP Column 1.
CB applies to ''technology'' for items controlled by 1C351.d.15 and .16 and the 1C353 genetic elements of toxins in ECCN 1C351.d.15 and .16.	CB Column 1.
CB applies to ''technology'' for items controlled by 1C351, 1C353, or 1C354; and CB applies to ''technology'' for materials controlled by 1C350 and for chemical detection systems and dedicated detectors therefor, in 1A004.c, that also have the technical characteristics described in 2B351.a.	CB Column 2.
RS applies to technology for equipment controlled in 1A004.d.	RS Column 2.
AT applies to entire entry	AT Column 1.

REPORTING REQUIREMENTS

See §743.1 of the EAR for reporting requirements for exports under License Exceptions, and Validated End-User authorizations.

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

TSR: Yes, except for the following:

(1) Items controlled for MT reasons; or

(2) Exports and reexports to destinations outside of those countries listed in Country Group A:5 (See Supplement No. 1 to part 740 of the EAR) of ''technology'' for the ''development'' or production'' of the following:

(a) Items controlled by 1C001; or

(b) Items controlled by 1A002.a which are composite structures or laminates having an organic ''matrix'' and being made from materials listed under 1C010.c or 1C010.d.

SPECIAL CONDITIONS FOR STA

STA: License Exception STA may not be used to ship or transmit ''technology'' according to the General Technology Note for the ''development'' or ''production'' of equipment and materials specified by ECCNs 1A002, 1C001, 1C007.c, 1C010.c or d or 1C012 to any of the destinations listed in Country Group A:6 (See Supplement No. 1 to part 740 of the EAR).

LIST OF ITEMS CONTROLLED

Related Controls (1) Also see ECCNs 1E101, 1E201, and 1E202. (2) See ECCN 1E608 for ''technology'' for items classified under ECCN 1B608 or 1C608 that, immediately prior to July 1, 2014, were classified under ECCN 1B018.a or 1C018.b through .m (note that ECCN 1E001 controls ''development'' and ''production'' ''technology'' for chlorine trifluoride controlled by ECCN 1C111.a.3.f—see ECCN 1E101 for controls on ''use'' ''technology'' for chlorine trifluoride). (3) See ECCN 1E002.g for control libraries (parametric technical databases) ''specially designed'' or modified to enable equipment to perform the functions of equipment controlled under ECCN 1A004.c (Nuclear, biological and chemical (NBC) detection systems) or ECCN 1A004.d (Equipment for detecting or identifying explosives residues). (4) ''Technology'' for lithium isotope separation (see related ECCN 1B233) and ''technology'' for items described in ECCN 1C012 are subject to the export licensing authority of the Department of Energy (see 10 CFR part 810). (5) ''Technology'' for items described in ECCN 1A102 is ''subject to the ITAR'' (see 22 CFR parts 120 through 130).

Related Definitions: N/A

Items:

The list of items controlled is contained in the ECCN heading.

1E002 Other "technology" as follows (see List of Items Controlled).

LICENSE REQUIREMENTS

Reason for Control: NS, MT, NP, AT

Control(s)	Country chart (See Supp. No. 1 to part 738)
NS applies to entire entry, except 1E002.g	NS Column 1
NS applies to 1E002.g	NS Column 2
MT applies to 1E002.e	MT Column 1
NP applies to ''technology'' for items controlled by 1A002 for NP reasons	NP Column 1
AT applies to entire entry	AT Column 1

REPORTING REQUIREMENTS

See §743.1 of the EAR for reporting requirements for exports under License Exceptions, and Validated End-User authorizations

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

TSR: Yes, except for 1E002.e and .f.

License Exceptions Note: License Exception TSU is not applicable for the repair ''technology'' controlled by 1E002.e or .f, see supplement no. 2 to this part.

SPECIAL CONDITIONS FOR STA

STA: License Exception STA may not be used to ship or transmit any item in 1E002.e or .f to any of the destinations listed in Country Group A:6 (See Supplement No. 1 to part 740 of the EAR).

LIST OF ITEMS CONTROLLED

Related Controls: See also 1E001, 1E101,1E102, 1E202, and 1E994 for ''technology'' related to 1E002.e or .f.

Related Definitions: N/A

Items: a. ''Technology'' for the ''development'' or ''production'' of polybenzothiazoles or polybenzoxazoles;

b. ''Technology'' for the ''development'' or ''production'' of fluoroelastomer compounds containing at least one vinylether monomer;

c. ''Technology'' for the design or ''production'' of the following ceramic powders or non-''composite'' ceramic materials:

c.1. Ceramic powders having all of the following:

c.1.a. Any of the following compositions:

c.1.a.1. Single or complex oxides of zirconium and complex oxides of silicon or aluminum;

c.1.a.2. Single nitrides of boron (cubic crystalline forms);

c.1.a.3. Single or complex carbides of silicon or boron; or

c.1.a.4. Single or complex nitrides of silicon;

c.1.b. Any of the following total metallic impurities (excluding intentional additions):

c.1.b.1. Less than 1,000 ppm for single oxides or carbides; or

c.1.b.2. Less than 5,000 ppm for complex compounds or single nitrides; and

c.1.c. Being any of the following:

c.1.c.1. Zirconia (CAS 1314–23–4) with an average particle size equal to or less than 1 μm

and no more than 10% of the particles larger than 5 μm; *or*

c.1.c.2. Other ceramic powders with an average particle size equal to or less than 5 μm and no more than 10% of the particles larger than 10 μm;

c.2. Non-''composite'' ceramic materials composed of the materials described in 1E002.c.1;

Note: 1E002.c.2 does not control ''technology'' for abrasives.

d. [Reserved]

e. ''Technology'' for the installation, maintenance or repair of materials controlled by 1C001;

f. ''Technology'' for the repair of ''composite'' structures, laminates or materials controlled by 1A002 or 1C007.c;

Note: 1E002.f does not control ''technology'' for the repair of ''civil aircraft'' structures using carbon ''fibrous or filamentary materials'' and epoxy resins, contained in ''aircraft'' manufacturers' manuals.

g. ''Libraries'' ''specially designed'' or modified to enable equipment to perform the functions of equipment controlled under 1A004.c or 1A004.d.

1E101 "Technology", in accordance with the General Technology Note, for the "use" of commodities and "software" controlled by 1A101, 1A102, 1B001, 1B101, 1B102, 1B115 to 1B119, 1C001, 1C007, 1C011, 1C101, 1C107, 1C111, 1C116, 1C117, 1C118, 1D001, 1D101, or 1D103.

LICENSE REQUIREMENTS

Reason for Control: MT, NP, AT

Control(s)	Country chart (See Supp. No. 1 to part 738)
MT applies to "technology" for commodities and software controlled by 1A101, 1A102, 1B001, 1B101, 1B102, 1B115 to 1B119, 1C001, 1C007, 1C011, 1C101, 1C107, 1C111, 1C116, 1C117, 1C118, 1D001, 1D101, or 1D103 for MT reasons.	MT Column 1
NP applies to "technology" for items controlled by 1B001, 1B101, 1C111, 1C116, 1D001, or 1D101 for NP reasons.	NP Column 1
AT applies to entire entry	AT Column 1

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

TSR: N/A

LIST OF ITEMS CONTROLLED

Related Controls: ''Technology'' for items controlled by *1A102* is ''subject to the ITAR'' (see 22 CFR parts 120 through 130).

Related Definitions: N/A

Items: The list of items controlled is contained in the ECCN heading.

1E102 "Technology" according to the General Technology Note for the "development" of software controlled by 1D001, 1D101 or 1D103.

LICENSE REQUIREMENTS

Reason for Control: MT, NP, AT

Control(s)	Country Chart (See Supp. No. 1 to part 738)
MT applies to entire entry	MT Column 1.
NP applies to "technology" for items controlled by 1D001 and 1D101 for NP reasons.	NP Column 1.
AT applies to entire entry	AT Column 1.

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

TSR: N/A

LIST OF ITEMS CONTROLLED

Related Controls: This entry includes databases ''specially designed'' for analysis of signature reduction.

Related Definitions: N/A

Items: The list of items controlled is contained in the ECCN heading.

1E103 "Technical data" (including processing conditions) and procedures for the regulation of temperature, pressure or atmosphere in autoclaves or hydroclaves, when used for the "production" of "composites" or partially processed "composites", usable for equipment or materials specified in 1C007, 1C102, 1C107, 1C116, 1C117, 1C118, 9A110, and 9C110.

LICENSE REQUIREMENTS

Reason for Control: MT, AT

Control(s)	Country Chart (See Supp. No. 1 to part 738)
MT applies to entire entry	MT Column 1
AT applies to entire entry	AT Column 1

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

TSR: N/A

LIST OF ITEMS CONTROLLED

Related Controls: See also 1E203

Related Definitions: N/A

Items: The list of items controlled is contained in the ECCN heading.

1E104 "Technology" for the "production" of pyrolytically derived materials formed on a mold, mandrel or other substrate from precursor gases which decompose in the 1,573 K (1,300 °C) to 3,173 K (2,900 °C) temperature range at pressures of 130 Pa (1 mm Hg) to 20 kPa (150 mm Hg), including "technology" for the composition of precursor gases, flow-rates and process control schedules and parameters.

LICENSE REQUIREMENTS
Reason for Control: MT, AT

Control(s)	Country Chart (See Supp. No. 1 to part 738)
MT applies to entire entry	MT Column 1
AT applies to entire entry	AT Column 1

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)
TSR: N/A
LIST OF ITEMS CONTROLLED
Related Controls: N/A
Related Definitions: N/A
Items: The list of items controlled is contained in the ECCN heading.

1E201 "Technology" according to the General Technology Note for the "use" of items controlled by 1A002, 1A007, 1A202, 1A225 to 1A227, 1A231, 1B201, 1B225, 1B226, 1B228 to 1B232, 1B233.b, 1B234, 1C002.b.3 and b.4, 1C010.a, 1C010.b, 1C010.e.1, 1C202, 1C210, 1C216, 1C225 to 1C237, 1C239 to 1C241 or 1D201.

LICENSE REQUIREMENTS
Reason for Control: NP, AT

Control(s)	Country chart (see supp. No. 1 to part 738)
NP applies to entire entry, for items controlled for NP reasons.	NP Column 1
AT applies to entire entry	AT Column 1

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)
TSR: N/A
LIST OF ITEMS CONTROLLED
Related Controls: N/A
Related Definitions: N/A
Items: The list of items controlled is contained in the ECCN heading.

1E202 "Technology" according to the General Technology Note for the "development" or "production" of goods controlled by 1A202 or 1A225 to 1A227.

LICENSE REQUIREMENTS
Reason for Control: NP, AT

Control(s)	Country Chart (See Supp. No. 1 to part 738)
NP applies to entire entry	NP Column 1
AT applies to entire entry	AT Column 1

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)
TSR: N/A
LIST OF ITEMS CONTROLLED
Related Controls: N/A
Related Definitions: N/A
Items: The list of items controlled is contained in the ECCN heading.

1E203 "Technology" according to the General Technology Note for the "development" or "production" of "software" controlled by 1D201.

LICENSE REQUIREMENTS
Reason for Control: NP, AT

Control(s)	Country Chart (See Supp. No. 1 to part 738)
NP applies to entire entry	NP Column 1
AT applies to entire entry	AT Column 1

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)
TSR: N/A
LIST OF ITEMS CONTROLLED
Related Controls: N/A
Related Definitions: N/A
Items: The list of items controlled is contained in the ECCN heading.

1E350 "Technology" according to the "General Technology Note" for facilities designed or intended to produce chemicals controlled by 1C350.

LICENSE REQUIREMENTS
Reason for Control: CB, AT

Control(s)	Country Chart (See Supp. No. 1 to part 738)
CB applies to entire entry	CB Column 2
AT applies to entire entry	AT Column 1

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)
TSR: N/A
LIST OF ITEMS CONTROLLED
Related Controls: N/A
Related Definitions: N/A
Items: The list of items controlled is contained in the ECCN heading.

1E351 "Technology" according to the "General Technology Note" for the disposal of chemicals or microbiological materials controlled by 1C350, 1C351, 1C353, or 1C354.

LICENSE REQUIREMENTS
Reason for Control: CB, AT

Control(s)	Country Chart (see Supp. No. 1 to part 738)
CB applies to "technology" for the disposal of items controlled by 1C351.d.15 and .16 and the 1C353 genetic elements of toxins in ECCN 1C351.d.15 and .16.	CB Column 1.
CB applies to "technology" for the disposal of items controlled by 1C351, 1C353, or 1C354; and CB applies to "technology" for the disposal of items controlled by 1C350.	CB Column 2.

Control(s)	Country Chart (see Supp. No. 1 to part 738)
AT applies to entire entry	AT Column 1.

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)
TSR: N/A
LIST OF ITEMS CONTROLLED
Related Controls: N/A
Related Definitions: N/A
Items:

The list of items controlled is contained in the ECCN heading.

1E355 Technology for the production of Chemical Weapons Convention (CWC) Schedule 2 and 3 chemicals, as follows (see List of Items Controlled):

LICENSE REQUIREMENTS
Reason for Control: CW, AT

Control(s)	Country Chart (See Supp. No. 1 to part 738)
CW applies to entire entry. A license is required for CW reasons to CWC non-States Parties (destinations not listed in Supplement No. 2 to part 745), except for Israel and Taiwan. See §742.18 of the EAR. The Commerce Country Chart is not designed to determine licensing requirements for items controlled for CW reasons.	
AT applies to the entire entry	AT Column 1

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)
TSR: N/A
LIST OF ITEMS CONTROLLED
Related Controls: N/A
Related Definitions: N/A
Items: a. Technology for the production of the following CWC Schedule 2 toxic chemicals:

a.1. PFIB: 1,1,3,3,3-Pentafluoro-2-(trifluoromethyl)-1-propene (382–21–8);

a.2. [Reserved]

b. Technology for the production of the following CWC Schedule 3 toxic chemicals:

b.1. Phosgene: Carbonyl dichloride (75–44–5);

b.2. Cyanogen chloride (506–77–4);

b.3. Hydrogen cyanide (74–90–8).

1E607 "Technology" "required" for the "development," "production," operation, installation, maintenance, repair, overhaul, or refurbishing of items controlled by ECCN 1A607, 1B607, 1C607, or 1D607 (see List of Items Controlled).

LICENSE REQUIREMENTS
Reason for Control: NS, RS, AT, UN

Control(s)	Country chart (see Supp. No. 1 to Part 738)
NS applies to entire entry, except "technology" for 1C607.a.10, .a.11, .a.12, and .a.14 and for 1D607 "software" therefor.	NS Column 1.
RS applies to entire entry	RS Column 1.
AT applies to entire entry	AT Column 1.
UN applies to entire entry	See §746.1(b) for UN controls.

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)
TSR: N/A
SPECIAL CONDITIONS FOR STA
STA: Paragraph (c)(2) of License Exception STA (§740.20(c)(2) of the EAR) may not be used for any item in 1E607.
LIST OF ITEMS CONTROLLED
Related Controls: Technical data directly related to defense articles enumerated or otherwise described in USML Category XIV are subject to the ITAR (see 22 CFR §121.1, Category XIV(m)). Technical data controlled by USML Category XIV(m) include technical data directly related to any equipment containing reagents, algorithms, coefficients, software, libraries, spectral databases, or alarm set point levels developed under U.S. Department of Defense contract or funding for the detection, identification, warning or monitoring of items controlled in paragraphs (a) or (b) of USML Category XIV, or for chemical or biological agents specified by U.S. Department of Defense funding or contract.
Related Definitions: N/A
Items: a. ''Technology'' ''required'' for the ''development,'' ''production,'' operation, installation, maintenance, repair, overhaul, or refurbishing of items controlled by ECCN 1A607, 1B607, 1C607 or 1D607.

Note to 1E607.a: ECCN 1E607.a includes ''technology'' ''required'' exclusively for the incorporation of ''biocatalysts'' controlled by ECCN 1C607.c.1 into military carrier substances or military material.

b. [Reserved]

1E608 "Technology" "required" for the "development," "production," operation, installation, maintenance, repair, overhaul, or refurbishing of equipment controlled in 1B608 or materials controlled by 1C608 (see List of Items Controlled).

LICENSE REQUIREMENTS
Reason for Control: NS, RS, MT, AT, UN

Control(s)	Country Chart (See Supp. No. 1 to part 738)
NS applies to entire entry	NS Column 1
RS applies to entire entry	RS Column 1
MT applies to "technology" "required" for 1C608.m.	MT Column 1

Control(s)	Country Chart (See Supp. No. 1 to part 738)
AT applies to entire entry	AT Column 1
UN applies to entire entry	See §746.1(b) for UN controls

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

TSR: N/A

SPECIAL CONDITIONS FOR STA

STA: Paragraph (c)(2) of License Exception STA (§740.20(c)(2) of the EAR) may not be used for any item in 1E608.

LIST OF ITEMS CONTROLLED

Related Controls: (1) Technical data directly related to articles enumerated or otherwise described in USML Categories III, IV, or V are subject to the controls of those USML Categories, respectively.

(2) ''Technology'' for chlorine trifluoride is controlled under ECCN 1E001 (''development'' and ''production'') and ECCN 1E101 (''use'').

Related Definitions: N/A

Items: a. ''Technology'' ''required'' for the ''development,'' ''production,'' operation, installation, maintenance, repair, overhaul, or refurbishing of equipment controlled by ECCN 1B608 or materials controlled by ECCN 1C608.

b. ''Technology'' ''required'' for the ''development'' or ''production'' of nitrocellulose with nitrogen content over 12.6% and at rates greater than 2000 pounds per hour.

c. ''Technology'' ''required'' for the ''development'' or ''production'' of nitrate esters (e.g., nitroglycerine) at rates greater than 2000 pounds per hour.

1E613 "Technology" "required" for the "development," "production," operation, installation, maintenance, repair, overhaul, or refurbishing of commodities controlled by 1A613 or 1B613 or "software" controlled by 1D613, as follows (see List of Items Controlled).

LICENSE REQUIREMENTS

Reason for Control: NS, RS, AT, UN

Control(s)	Country chart (see Supp. No. 1 to part 738)
NS applies to entire entry except 1E613.y.	NS Column 1.
RS applies to entire entry except 1E613.y.	RS Column 1.
RS applies to 1E613.y	China, Russia, or Venezuela (see §742.6(a)(7)).
AT applies to entire entry	AT Column 1.
UN applies to entire entry, except 1E613.y.	See §746.1(b) for UN controls.

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

TSR: N/A

SPECIAL CONDITIONS FOR STA

STA: Paragraph (c)(2) of License Exception STA (§740.20(c)(2) of the EAR) may not be used for any ''technology'' in 1E613.

LIST OF ITEMS CONTROLLED

Related Controls: Technical data directly related to articles controlled by USML Category X are subject to the control of USML paragraph X(e) of the ITAR.

Related Definitions: N/A

Items:

a. ''Technology'' (other than ''technology'' controlled by paragraph .y of this entry) ''required'' for the ''development,'' ''production,'' operation, installation, maintenance, repair, overhaul, or refurbishing of commodities or ''software'' controlled by ECCNs 1A613 (except 1A613.y), 1B613 or 1D613 (except 1D613.y).

b. through x. [Reserved]

y. Specific ''technology'' ''required'' for the ''production,'' ''development,'' operation, installation, maintenance, repair, overhaul, or refurbishing of commodities or software controlled by ECCN 1A613.y or 1D613.y.

1E994 "Technology" for the "development", "production", or "use" of fibrous and filamentary materials controlled by 1C990.

LICENSE REQUIREMENTS

Reason for Control: AT

Control(s)	Country Chart (See Supp. No. 1 to part 738)
AT applies to entire entry	AT Column 1

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

TSR: N/A

LIST OF ITEMS CONTROLLED

Related Controls: N/A

Related Definitions: N/A

Items: The list of items controlled is contained in the ECCN heading.

1E998 "Technology" for the "development" or "production" of processing equipment controlled by 1B999, and materials controlled by 1C996, 1C997, 1C998, or 1C999.

LICENSE REQUIREMENTS

Reason for Control: AT

Control(s)	Country Chart (See Supp. No. 1 to part 738)
AT applies to entire entry	AT Column 1.

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

TSR: N/A

LIST OF ITEMS CONTROLLED

Related Controls: N/A

Related Definitions: N/A

Items: The list of items controlled is contained in the ECCN heading.

EAR99 Items Subject to the EAR That Are *Not* Elsewhere Specified in This CCL Category *or* in Any Other Category in the CCL Are Designated by the Number EAR99.

ANNEX TO CATEGORY 1

List of Explosives (See ECCNs 1A004 and 1A008)

1. ADNBF (aminodinitrobenzofuroxan or 7 amino 4,6 dinitrobenzofurazane 1 oxide) (CAS 97096 78 1);
2. BNCP (cis bis (5 nitrotetrazolato) tetra amine cobalt (III) perchlorate) (CAS 117412 28 9);
3. CL 14 (diamino dinitrobenzofuroxan or 5,7 diamino 4,6 dinitrobenzofurazane 1 oxide) (CAS 117907 74 1);
4. CL 20 (HNIW or Hexanitrohexaazaisowurtzitane) (CAS 135285 90 4); chlathrates of CL 20;
5. CP (2 (5 cyanotetrazolato) penta amine cobalt (III) perchlorate) (CAS 70247 32 4);
6. DADE (1,1 diamino 2,2 dinitroethylene, FOX–7) (CAS 145250–81–3);
7. DATB (diaminotrinitrobenzene) (CAS 1630 08 6);
8. DDFP (1,4 dinitrodifurazanopiperazine);
9. DDPO (2,6 diamino 3,5 dinitropyrazine 1 oxide, PZO) (CAS 194486 77 6);
10. DIPAM (3,3′ diamino 2,2′,4,4′,6,6′ hexanitrobiphenyl or dipicramide) (CAS 17215 44 0);
11. DNGU (DINGU or dinitroglycoluril) (CAS 55510 04 8);
12. Furazans as follows:
a. DAAOF (diaminoazoxyfurazan);
b. DAAzF (diaminoazofurazan) (CAS 78644 90 3);
13. HMX and derivatives, as follows:
a. HMX (Cyclotetramethylenetetranitramine, octahydro 1,3,5,7 tetranitro 1,3,5,7 tetrazine, 1,3,5,7 tetranitro 1,3,5,7 tetraza cyclooctane, octogen or octogene) (CAS 2691 41 0);
b. Difluoroaminated analogs of HMX;
c. K 55 (2,4,6,8 tetranitro 2,4,6,8 tetraazabicyclo [3,3,0] octanone 3, tetranitrosemiglycouril or keto bicyclic HMX) (CAS 130256 72 3);
14. HNAD (hexanitroadamantane) (CAS 143850 71 9);
15. HNS (hexanitrostilbene) (CAS 20062 22 0);
16. Imidazoles as follows:
a. BNNII (Octahydro 2,5 bis(nitroimino)imidazo [4,5 d]imidazole);
b. DNI (2,4 dinitroimidazole) (CAS 5213 49 0);
c. FDIA (1 fluoro 2,4 dinitroimidazole);
d. NTDNIA (N (2 nitrotriazolo) 2,4 dinitroimidazole);
e. PTIA (1 picryl 2,4,5 trinitroimidazole);
17. NTNMH (1 (2 nitrotriazolo) 2 dinitromethylene hydrazine);
18. NTO (ONTA or 3 nitro 1,2,4 triazol 5 one) (CAS 932 64 9);
19. Polynitrocubanes with more than four nitro groups;
20. PYX (2,6 Bis(picrylamino) 3,5 dinitropyridine) (CAS 38082 89 2);
21. RDX and derivatives, as follows:
a. RDX (cyclotrimethylenetrinitramine, cyclonite, T4, hexahydro 1,3,5 trinitro 1,3,5 triazine, 1,3,5 trinitro 1,3,5 triaza cyclohexane, hexogen or hexogene) (CAS 121 82 4);
b. Keto RDX (K 6 or 2,4,6 trinitro 2,4,6 triazacyclohexanone) (CAS 115029 35 1);
22. TAGN (triaminoguanidinenitrate) (CAS 4000 16 2);
23. TATB (triaminotrinitrobenzene) (CAS 3058 38 6);
24. TEDDZ (3,3,7,7 tetrabis(difluoroamine) octahydro 1,5 dinitro 1,5 diazocine);
25. Tetrazoles as follows:
a. NTAT (nitrotriazol aminotetrazole);
b. NTNT (1 N (2 nitrotriazolo) 4 nitrotetrazole);
26. Tetryl (trinitrophenylmethylnitramine) (CAS 479 45 8);
27. TNAD (1,4,5,8 tetranitro 1,4,5,8 tetraazadecalin) (CAS 135877 16 6);
28. TNAZ (1,3,3 trinitroazetidine) (CAS 97645 24 4);
29. TNGU (SORGUYL or tetranitroglycoluril) (CAS 55510 03 7);
30. TNP (1,4,5,8 tetranitro pyridazino[4,5 d]pyridazine) (CAS 229176 04 9);
31. Triazines as follows:
a. DNAM (2 oxy 4,6 dinitroamino s triazine) (CAS 19899 80 0);
b. NNHT (2 nitroimino 5 nitro hexahydro 1,3,5 triazine) (CAS 130400 13 4);
32. Triazoles as follows:
a. 5 azido 2 nitrotriazole;
b. ADHTDN (4 amino 3,5 dihydrazino 1,2,4 triazole dinitramide) (CAS 1614 08 0);
c. ADNT (1 amino 3,5 dinitro 1,2,4 triazole);
d. BDNTA ((bis dinitrotriazole)amine);
e. DBT (3,3′ dinitro 5,5 bi 1,2,4 triazole) (CAS 30003 46 4);
f. DNBT (dinitrobistriazole) (CAS 70890 46 9);
g. [Reserved]
h. NTDNT (1 N (2 nitrotriazolo) 3,5 dinitrotriazole);
i. PDNT (1 picryl 3,5 dinitrotriazole);
j. TACOT (tetranitrobenzotriazolobenzotriazole) (CAS 25243 36 1);
33. ''Explosives'' not listed elsewhere in this list having a detonation velocity exceeding 8,700 m/s, at maximum density, or a detonation pressure exceeding 34 GPa (340 kbar);
34. [Reserved]
35. Nitrocellulose (containing more than 12.5% nitrogen) (CAS 9004–70–0);
36. Nitroglycol (CAS 628–96–6);
37. Pentaerythritol tetranitrate (PETN) (CAS 78–11–5);
38. Picryl chloride (CAS 88–88–0);
39. 2,4,6 Trinitrotoluene (TNT) (CAS 118–96–7);

40. Nitroglycerine (NG) (CAS 55–63–0);
41. Triacetone Triperoxide (TATP) (CAS 17088–37–8);
42. Guanidine nitrate (CAS 506–93–4);
43. Nitroguanidine (NQ) (CAS 556 88 7);
44. DNAN (2,4-dinitroanisole) (CAS 119–27–7);
45. TEX (4,10-Dinitro-2,6,8,12-tetraoxa-4,10-diazaisowurtzitane);
46. GUDN (Guanylurea dinitramide) FOX–12 (CAS 217464–38–5);
47. Tetrazines as follows:
a. BTAT (Bis(2,2,2-trinitroethyl)-3,6-diaminotetrazine);
b. LAX–112 (3,6-diamino-1,2,4,5-tetrazine-1,4-dioxide);
48. Energetic ionic materials melting between 343 K (70 °C) and 373 K (100 °C) and with detonation velocity exceeding 6,800 m/s or detonation pressure exceeding 18 GPa (180 kbar);
49. BTNEN (Bis(2,2,2-trinitroethyl)-nitramine) (CAS 19836–28–3);
50. FTDO (5,6-(3′,4′-furazano)- 1,2,3,4-tetrazine-1,3-dioxide);
51. EDNA (Ethylenedinitramine) (CAS 505–71–5);
52. TKX–50 (Dihydroxylammonium 5,5′-bistetrazole-1,1′-diolate).

CATEGORY 2—MATERIALS PROCESSING

Note: For quiet running bearings, see the U.S. Munitions List.

A. ''END ITEMS'', ''EQUIPMENT'', ''ACCESSORIES'', ''ATTACHMENTS'', ''PARTS'', ''COMPONENTS'' AND ''SYSTEMS''

2A001 Anti-friction bearings, bearing systems and "components," as follows, (see List of Items Controlled).

LICENSE REQUIREMENTS

Reason for Control: NS, MT, AT

Control(s)	Country chart (see supp. No. 1 to part 738)
NS applies to entire entry	NS Column 2
MT applies to radial ball bearings having all tolerances specified in accordance with ISO 492 Tolerance Class 2 (or ANSI/ABMA Std 20 Tolerance Class ABEC–9, or other national equivalents) or better and having all the following characteristics: an inner ring bore diameter between 12 and 50 mm; an outer ring outside diameter between 25 and 100 mm; and a width between 10 and 20 mm..	MT Column 1
AT applies to entire entry	AT Column 1

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

LVS: $3000, N/A for MT

GBS: Yes, for 2A001.a,
N/A for MT

LIST OF ITEMS CONTROLLED

Related Controls: (1) See also 2A991. (2) Quiet running bearings are ''subject to the ITAR'' (see 22 CFR parts 120 through 130.)

Related Definitions: Annular Bearing Engineers Committee (ABEC).

Items:

Note: 2A001.a includes ball bearing and roller elements ''specially designed'' for the items specified therein.

a. Ball bearings and solid roller bearings, having all tolerances specified by the manufacturer in accordance with ISO 492 Tolerance Class 2 or Class 4 (or national equivalents), or better, and having both 'rings' and 'rolling elements', made from monel or beryllium;

Note: 2A001.a does not control tapered roller bearings.

Technical Notes: For the purposes of 2A001.a:

1. 'Ring'—is an annular part of a radial rolling bearing incorporating one or more raceways (ISO 5593:1997).

2. 'Rolling element'—is a ball or roller which rolls between raceways (ISO 5593:1997).

b. [Reserved]

c. Active magnetic bearing systems using any of the following, and ''specially designed'' components therefor:

c.1. Materials with flux densities of 2.0 T or greater and yield strengths greater than 414 MPa;

c.2. All-electromagnetic 3D homopolar bias designs for actuators; *or*

c.3. High temperature (450 K (177 °C) and above) position sensors.

2A101 Radial Ball Bearings Having all Tolerances Specified in Accordance With ISO 492 Tolerance Class 2 (or ANSI/ABMA Std 20 Tolerance Class ABEC–9 or Other National Equivalents), or Better and Having all of the Following Characteristics (see List of Items Controlled).

LICENSE REQUIREMENTS

Reason for Control: MT, AT

Control(s)	Country chart (see Supp. No. 1 to part 738)
MT applies to entire entry	MT Column 1.
AT applies to entire entry	AT Column 1.

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

LVS: N/A

GBS: N/A

LIST OF ITEMS CONTROLLED

Related Controls: See ECCN 2A001.

Related Definitions: N/A

Items:

a. An inner ring bore diameter between 12 and 50 mm;

b. An outer ring outside diameter between 25 and 100 mm; *and*

c. A width between 10 and 20 mm.

2A225 Crucibles made of materials resistant to liquid actinide metals (see List of Items Controlled).

LICENSE REQUIREMENTS

Reason for Control: NP, AT

Control(s)	Country Chart (See Supp. No. 1 to part 738)
NP applies to entire entry	NP Column 1
AT applies to entire entry	AT Column 1

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

LVS: N/A

GBS: N/A

LIST OF ITEMS CONTROLLED

Related Controls: See ECCNs 2E001 (''development''), 2E002 (''production''), and 2E201 (''use'') for technology for items controlled under this entry.

Related Definitions: N/A

Items: a. Crucibles having both of the following characteristics:

a.1. A volume of between 150 cm^3 (150 ml) and 8,000 cm^3 (8 liters); *and*

a.2. Made of, or coated with, any of the following materials, or combination of the following materials, having an overall impurity level of 2% or less by weight:

a.2.a. Calcium fluoride (CaF_2);

a.2.b. Calcium zirconate (metazirconate) ($CaZrO_3$);

a.2.c. Cerium sulfide (Ce_2S_3);

a.2.d. Erbium oxide (erbia) (Er_2O_3);

a.2.e. Hafnium oxide (hafnia) (HfO_2);

a.2.f. Magnesium oxide (MgO);

a.2.g. Nitrided niobium-titanium-tungsten alloy (approximately 50% Nb, 30% Ti, 20% W);

a.2.h. Yttrium oxide (yttria) (Y_2O_3); *or*

a.2.i. Zirconium oxide (zirconia) (ZrO_2);

b. Crucibles having both of the following characteristics:

b.1. A volume of between 50 cm^3 (50 ml) and 2,000 cm^3 (2 liters); *and*

b.2. Made of or lined with tantalum, having a purity of 99.9% or greater by weight;

c. Crucibles having all of the following characteristics:

c.1. A volume of between 50 cm^3 (50 ml) and 2,000 cm^3 (2 liters);

c.2. Made of or lined with tantalum, having a purity of 98% or greater by weight; *and*

c.3. Coated with tantalum carbide, nitride, boride, or any combination thereof.

2A226 Valves having all of the following characteristics (see List of Items Controlled).

LICENSE REQUIREMENTS

*Reason for Control:*NP, CB, AT

Control(s)	Country Chart (See Supp. No. 1 to part 738)
NP applies to entire entry	NP Column 1.
CB applies to valves that also meet or exceed the technical parameters in 2B350.g.	CB Column 2.
AT applies to entire entry	AT Column 1.

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

LVS: N/A

GBS: N/A

LIST OF ITEMS CONTROLLED

Related Controls: (1) See ECCNs 2E001 (''development''), 2E002 (''production''), and 2E201 (''use'') for technology for items controlled under this entry. (2) Also see ECCNs 2A992, 2B350.g and 2B999. (3) Valves ''specially designed'' or prepared for certain nuclear uses are subject to the export licensing authority of the Nuclear Regulatory Commission (see 10 CFR part 110).

Related Definitions: For valves with different inlet and outlet diameters, the ''nominal size'' in 2A226 refers to the smallest diameter.

Items: a. A ''nominal size'' of 5 mm or greater;

b. Having a bellows seal; *and*

c. Wholly made of or lined with aluminum, aluminum alloy, nickel, or nickel alloy containing more than 60% nickel by weight.

2A290 Generators and other equipment "specially designed", prepared, or intended for use with nuclear plants.

LICENSE REQUIREMENTS

Reason for Control: NP, AT

Control(s)	Country Chart (See Supp. No. 1 to part 738)
NP applies to entire entry	NP Column 2
AT applies to entire entry	AT Column 1

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

LVS: N/A

GBS: N/A

LIST OF ITEMS CONTROLLED

Related Controls: (1) See ECCN 2D290 for software for items controlled under this entry. (2) See ECCNs 2E001 (''development''), 2E002 (''production''), and 2E290 (''use'') for technology for items controlled under this entry. (3) Also see ECCN 2A291. (4) Certain nuclear equipment ''specially designed'' or prepared for use in nuclear plants is subject to the export licensing authority of the Nuclear Regulatory Commission (see 10 CFR part 110).

Related Definitions: N/A

Items: a. Generators, turbine-generator sets, steam turbines, heat exchangers, and heat

exchanger type condensers designed or intended for use in a nuclear reactor;

b. Process control systems intended for use with the equipment controlled by 2A290.a.

2A291 Equipment, except items controlled by 2A290, related to nuclear material handling and processing and to nuclear reactors, and "parts," "components" and "accessories" therefor (see List of Items Controlled).

LICENSE REQUIREMENTS

Reason for Control: NP, AT

Control(s)	Country Chart (See Supp. No. 1 to part 738)
NP applies to entire entry	NP Column 2
AT applies to entire entry	AT Column 1

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

LVS: N/A

GBS: N/A

LIST OF ITEMS CONTROLLED

Related Controls: (1) See ECCN 2D290 for software for items controlled under this entry. (2) See ECCNs 2E001 (''development''), 2E002 (''production''), and 2E290 (''use'') for technology for items controlled under this entry. (3) Also see ECCN 2A290. (4) Certain equipment ''specially designed'' or prepared for use in a nuclear reactor or in nuclear material handling is subject to the export licensing authority of the Nuclear Regulatory Commission (see 10 CFR part 110). (5) Nuclear radiation detection and measurement devices ''specially designed'' or modified for military purposes are ''subject to the ITAR'' (see 22 CFR parts 120 through 130).

Related Definitions: N/A

Items: a. Process control systems intended for use with nuclear reactors.

b. Simulators ''specially designed'' for ''nuclear reactors''.

c. Casks that are ''specially designed'' for transportation of high-level radioactive material and that weigh more than 1,000 kg.

d. Commodities, ''parts,'' ''components'' and ''accessories'' ''specially designed'' or prepared for use with nuclear plants (*e.g.*, snubbers, airlocks, pumps, reactor fuel charging and discharging equipment, containment equipment such as hydrogen recombiner and penetration seals, and reactor and fuel inspection equipment, including ultrasonic or eddy current test equipment).

e. Radiation detectors and monitors ''specially designed'' for detecting or measuring ''special nuclear material'' (as defined in 10 CFR part 110) or for nuclear reactors.

Technical Notes: 1. 2A291.e does not control neutron flux detectors and monitors. These are subject to the export licens ing authority of the Nuclear Regulatory Commission, pursuant to 10 CFR part 110.

2. 2A291.e does not control general purpose radiation detection equipment, such as geiger counters and dosimeters. These items are controlled by ECCN 1A999.

2A983 Explosives or detonator detection equipment, both bulk and trace based, consisting of an automated device, or combination of devices for automated decision making to detect the presence of different types of explosives, explosive residue, or detonators; and "parts" and "components," n.e.s.

LICENSE REQUIREMENTS

*Reason for Control:*RS, AT

Control(s)	Country Chart (See Supp. No. 1 to part 738)
RS applies to entire entry	RS Column 2
AT applies to entire entry	AT Column 1

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

LVS: N/A

GBS: N/A

LIST OF ITEMS CONTROLLED

Related Controls: Also see 1A004 and 1A995.

Related Definitions: (1) For the purpose of this entry, automated decision making is the ability of the equipment to detect explosives or detonators at the design or operator-selected level of sensitivity and provide an automated alarm when explosives or detonators at or above the sensitivity level are detected. This entry does not control equipment that depends on operator interpretation of indicators such as inorganic/organic color mapping of the items(s) being scanned.

(2) Explosives and detonators include commercial charges and devices controlled by 1C018 and 1C992 and energetic materials controlled by ECCNs 1C011, 1C111, 1C239 and 22 CFR 121.1 Category V.

Items:

Note: Explosives or detonation detection equipment in 2A983 includes equipment for screening people, documents, baggage, other personal effects, cargo and/or mail.

a. Explosives detection equipment for automated decision making to detect and identify bulk explosives utilizing, but not limited to, x-ray (*e.g.*, computed tomography, dual energy, or coherent scattering), nuclear (*e.g.*, thermal neutron analysis, pulse fast neutron analysis, pulse fast neutron transmission spectroscopy, and gamma resonance absorption), or electromagnetic techniques (*e.g.*, quadropole resonance and dielectrometry).

b. [Reserved]

c. Detonator detection equipment for automated decision making to detect and identify initiation devices (*e.g.* detonators, blasting caps) utilizing, but not limited to, x-ray

(*e.g.* dual energy or computed tomography) or electromagnetic techniques.

2A984 Concealed object detection equipment operating in the frequency range from 30 GHz to 3000 GHz and having a spatial resolution of 0.1 milliradian up to and including 1 milliradian at a standoff distance of 100 meters; and "parts" and "components," n.e.s.

LICENSE REQUIREMENTS

Reason for Control: RS, AT

Control(s)	Country Chart (See Supp. No. 1 to part 738)
RS applies to entire entry	RS Column 2.
AT applies to entire entry	AT Column 1.

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

LVS: N/A

GBS: N/A

LIST OF ITEMS CONTROLLED

Related Controls: (1) Concealed object detection equipment operating in the frequency range from 30 GHz to 3000 GHz and having a spatial resolution less than 0.1 milliradian (a lower milliradian number means a more accurate image resolution) at a standoff distance of 100 meters is ''subject to the ITAR'' under USML Category XII(c). (2) Concealed object detection equipment operating in the frequency range from 30 GHz to 3000 GHz and having a spatial resolution greater than 1 milliradian (a higher milliradian number means a less accurate image resolution) at a standoff distance of 100 meters is designated as EAR99. (3) See ECCNs 2D984 and 2E984 for related software and technology controls.

Related Definitions: N/A

Items: The list of items controlled is contained in the ECCN heading.

Note: Concealed object detection equipment includes but is not limited to equipment for screening people, documents, baggage, other personal effects, cargo and/or mail.

Technical Note: The range of frequencies span what is generally considered as the millimeter-wave, submillimeter-wave and terahertz frequency regions.

2A991 Bearings and bearing systems not controlled by 2A001 (see List of Items Controlled).

LICENSE REQUIREMENTS

Reason for Control: AT

Control(s)	Country Chart (See Supp. No. 1 to part 738)
AT applies to entire entry	AT Column 1

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

LVS: N/A

GBS: N/A

LIST OF ITEMS CONTROLLED

Related Controls: (1) This entry does not control balls with tolerance specified by the manufacturer in accordance with ISO 3290 as grade 5 or worse. (2) Quiet running bearings are ''subject to the ITAR'' (see 22 CFR parts 120 through 130).

Related Definitions: (1) (a) DN is the product of the bearing bore diameter in mm and the bearing rotational velocity in rpm. (b) Operating temperatures include those temperatures obtained when a gas turbine engine has stopped after operation. (2) Annular Bearing Engineers Committee (ABEC); American National Standards Institute (ANSI); Anti-Friction Bearing Manufacturers Association (AFBMA)

Items: a. Ball bearings or Solid ball bearings, having tolerances specified by the manufacturer in accordance with ABEC 7, ABEC 7P, or ABEC 7T or ISO Standard Class 4 or better (or equivalents) and having any of the following characteristics.

a.1. Manufactured for use at operating temperatures above 573 K (300 °C) either by using special materials or by special heat treatment; *or*

a.2. With lubricating elements or ''part'' or ''component'' modifications that, according to the manufacturer's specifications, are ''specially designed'' to enable the bearings to operate at speeds exceeding 2.3 million DN.

b. Solid tapered roller bearings, having tolerances specified by the manufacturer in accordance with ANSI/AFBMA Class 00 (inch) or Class A (metric) or better (or equivalents) and having either of the following characteristics.

b.1. With lubricating elements or ''part'' or ''component'' modifications that, according to the manufacturer's specifications, are ''specially designed'' to enable the bearings to operate at speeds exceeding 2.3 million DN; or

b.2. Manufactured for use at operating temperatures below 219 K (−54 °C) or above 423 K (150 °C).

c. Gas-lubricated foil bearing manufactured for use at operating temperatures of 561 K (288 °C) or higher and a unit load capacity exceeding 1 MPa.

d. Active magnetic bearing systems.

e. Fabric-lined self-aligning or fabric-lined journal sliding bearings manufactured for use at operating temperatures below 219 K (−54 °C) or above 423 K (150 °C).

2A992 Piping, fittings and valves made of, or lined with stainless, copper-nickel alloy or other alloy steel containing 10% or more nickel and/or chromium.

LICENSE REQUIREMENTS

Reason for Control: RS, AT

Control(s)	Country chart (see supp. no. 1 to part 738)
RS applies to entire entry	A license is required for items controlled by this entry for export or reexport to Pakistan or transfer within Pakistan for regional stability reasons. The Commerce Country Chart is not designed to determine RS license requirements for this entry. See §742.6(a)(12) of the EAR for additional information.
AT applies to entire entry	AT Column 1.

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)
LVS: N/A
GBS: N/A
LIST OF ITEMS CONTROLLED
Related Controls:

(1) See ECCN 2D993 for software for items controlled under this entry.
(2) See ECCNs 2E001 (''development''), 2E002 (''production''), and 2E993 (''use'') for technology for items controlled under this entry.
(3) Also see ECCNs 2A226, 2B350 and 2B999.
Related Definitions: N/A
Items:

a. Pressure tube, pipe, and fittings of 200 mm (8 in.) or more inside diameter, and suitable for operation at pressures of 3.4 MPa (500 psi) or greater;
b. Pipe valves having all of the following characteristics that are not controlled by ECCN 2B350.g:
b.1. A pipe size connection of 200 mm (8 in.) or more inside diameter; *and*
b.2. Rated at 10.3 MPa (1,500 psi) or more.

2A993 Pumps designed to move molten metals by electromagnetic forces.
LICENSE REQUIREMENTS
Reason for Control: AT

Control(s)	Country chart (see supp. no. 1 to part 738)
AT applies to entire entry	AT Column 1

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)
LVS: N/A
GBS: N/A
LIST OF ITEMS CONTROLLED
Related Controls: (1) See ECCN 2D993 for software for items controlled under this entry. (2) See ECCNs 2E001 (''development''), 2E002 (''production''), and 2E993 (''use'') for technology for items controlled under this entry. (3) Pumps for use in liquid-metal-cooled reactors are subject to the export licensing authority of the Nuclear Regulatory Commission (see 10 CFR part 110).
Related Definitions: N/A
Items: The list of items controlled is contained in the ECCN heading.

2A994 Portable electric generators and "specially designed" "parts" and "components".
LICENSE REQUIREMENTS
Reason for Control: AT
Control(s): AT applies to entire entry. A license is required for items controlled by this entry to Iran and North Korea. The Commerce Country Chart is not designed to determine licensing requirements for this entry. See part 746 of the EAR for additional information on Iran. See §742.19 of the EAR for additional information on North Korea.
LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)
LVS: N/A
GBS: N/A
LIST OF ITEMS CONTROLLED
Related Controls: See also 2D994 and 2E994.
Related Definitions: 'Portable electric generators' – The generators that are in 2A994 are portable – 5,000 lbs. or less on wheels or transportable in a 2½ ton truck without a special set up requirement.
Items: The list of items controlled is contained in the ECCN heading.

2A999 Specific Processing Equipment, n.e.s., as Follows (See List of Items Controlled).
LICENSE REQUIREMENTS
Reason for Control: AT
Control(s):
Country Chart. AT applies to entire entry. A license is required for items controlled by this entry to North Korea for anti-terrorism reasons. The Commerce Country Chart is not designed to determine AT licensing requirements for this entry. See §742.19 of the EAR for additional information.
LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)
LVS: N/A
GBS: N/A
LIST OF ITEMS CONTROLLED
Related Controls: See also 2A226, 2B350.
Related Definitions: N/A
Items: a. Bellows sealed valves;
b. Reserved.

B. ''TEST'', ''INSPECTION'' AND ''PRODUCTION EQUIPMENT''

Technical Notes for 2B001 to 2B009, 2B201, and 2B991 to 2B999: 1. Secondary parallel contouring axes, (e.g., the w-axis on horizontal boring mills or a secondary rotary axis the center line of which is parallel to the primary rotary axis) are not counted in the total number of contouring axes. Rotary axes need not rotate

over 360°. A rotary axis can be driven by a linear device (e.g., a screw or a rack-and-pinion).

2. The number of axes which can be coordinated simultaneously for ''contouring control'' is the number of axes along or around which, during processing of the workpiece, simultaneous and interrelated motions are performed between the workpiece and a tool. This does not include any additional axes along or around which other relative motions within the machine are performed, such as:

2.a. Wheel-dressing systems in grinding machines;

2.b. Parallel rotary axes designed for mounting of separate workpieces;

2.c. Co-linear rotary axes designed for manipulating the same workpiece by holding it in a chuck from different ends.

3. Axis nomenclature shall be in accordance with International Standard ISO 841:2001, Industrial automation systems and integration—Numerical control of machines—Coordinate system and motion nomenclature.

4. A ''tilting spindle'' is counted as a rotary axis.

5. 'Stated ''unidirectional positioning repeatability''' may be used for each specific machine model as an alternative to individual machine tests, and is determined as follows:

5.a. Select five machines of a model to be evaluated;

5.b. Measure the linear axis repeatability ($R\uparrow$,$R\downarrow$) according to ISO 230–2:2014 and evaluate ''unidirectional positioning repeatability'' for each axis of each of the five machines;

5.c. Determine the arithmetic mean value of the ''unidirectional positioning repeatability''-values for each axis of all five machines together. These arithmetic mean values ''unidirectional positioning repeatability'' (UPR) become the stated value of each axis for the model...) (UPR_x, UPR_y, . . .);

5.d. Since the Category 2 list refers to each linear axis there will be as many 'stated ''unidirectional positioning repeatability''' values as there are linear axes;

5.e. If any axis of a machine model not controlled by 2B001.a. to 2B001.c. has a 'stated ''unidirectional positioning repeatability''' equal to or less than the specified ''unidirectional positioning repeatability'' of each machine tool model plus 0.7 μm, the builder should be required to reaffirm the accuracy level once every eighteen months.

6. For the purpose of 2B, measurement uncertainty for the ''unidirectional positioning repeatability'' of machine tools, as defined in the International Standard ISO 230–2:2014, shall not be considered.

7. For the purpose of 2B, the measurement of axes shall be made according to test procedures in 5.3.2. of ISO 230–2:2014. Tests for axes longer than 2 meters shall be made over 2 m segments. Axes longer than 4 m require multiple tests (e.g., two tests for axes longer than 4 m and up to 8 m, three tests for axes longer than 8 m and up to 12 m), each over 2 m segments and distributed in equal intervals over the axis length. Test segments are equally spaced along the full axis length, with any excess length equally divided at the beginning, in between, and at the end of the test segments. The smallest ''unidirectional positioning repeatability''-value of all test segments is to be reported.

2B001 Machine tools and any combination thereof, for removing (or cutting) metals, ceramics or "composites", which, according to the manufacturer's technical specifications, can be equipped with electronic devices for "numerical control"; as follows (see List of Items Controlled).

LICENSE REQUIREMENTS

Reason for Control: NS, NP, AT

Control(s)	Country chart (See Supp. No. 1 to part 738)
NS applies to entire entry	NS Column 2.
NP applies to 2B001.a, .b, .c, and .d, EXCEPT:.	NP Column 1.
(1) turning machines under 2B001.a with a capacity no greater than 35 mm diameter; (2) bar machines (Swissturn), limited to machining only bar feed through, if maximum bar diameter is equal to or less than 42 mm and there is no capability of mounting chucks. (Machines may have drilling and/or milling capabilities for machining ''parts'' or ''components'' with diameters less than 42 mm); or.	
(3) milling machines under 2B001.b with x-axis travel greater than two meters and overall positioning accuracy according to ISO 230/2 (2006) on the x-axis more (worse) than 22.5 μm..	
AT applies to entire entry	AT Column 1.

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

LVS: N/A

GBS: N/A

LIST OF ITEMS CONTROLLED

Related Controls: (1) See ECCN 2B002 for optical finishing machines. (2) See ECCNs 2D001 and 2D002 for software for items controlled under this entry. (3) See ECCNs 2E001 (''development''), 2E002 (''production''), and 2E201 (''use'') for technology for items controlled under this entry. (4) Also see ECCNs 2B201 and 2B991.

Related Definitions: N/A

Items:

Note 1: 2B001 does not control special purpose machine tools limited to the manufacture of gears. For such machines, see 2B003.

Note 2: 2B001 does not control special purpose machine tools limited to the manufacture of any of the following:

a. Crank shafts or cam shafts;

b. Tools or cutters;

c. Extruder worms;

d. Engraved or faceted jewelry parts; or

e. Dental prostheses.

Note 3: A machine tool having at least two of the three turning, milling or grinding capabilities (e.g., a turning machine with milling capability), must be evaluated against each applicable entry 2B001.a, .b or .c.

Note 4: A machine tool having an additive manufacturing capability in addition to a turning, milling or grinding capability must be evaluated against each applicable entry 2B001.a, .b or .c.

a. Machine tools for turning having two or more axes which can be coordinated simultaneously for ''contouring control'' having any of the following:

a.1. ''Unidirectional positioning repeatability'' equal to or less (better) than 0.9 μm along one or more linear axis with a travel length less than 1.0 m; *or*

a.2. ''Unidirectional positioning repeatability'' equal to or less (better) than 1.1 μm along one or more linear axis with a travel length equal to or greater than 1.0 m;

Note 1: 2B001.a does not control turning machines ''specially designed'' for producing contact lenses, having all of the following:

a. Machine controller limited to using ophthalmic based ''software'' for part programming data input; and

b. No vacuum chucking.

Note 2: 2B001.a does not apply to bar machines (Swissturn), limited to machining only bar feed thru, if maximum bar diameter is equal to or less than 42 mm and there is no capability of mounting chucks. Machines may have drilling or milling capabilities for machining parts with diameters less than 42 mm.

b. Machine tools for milling having any of the following:

b.1. Three linear axes plus one rotary axis which can be coordinated simultaneously for ''contouring control'' having any of the following:

b.1.a. ''Unidirectional positioning repeatability'' equal to or less (better) than 0.9 μm along one or more linear axis with a travel length less than 1.0 m; *or*

b.1.b. ''Unidirectional positioning repeatability'' equal to or less (better) than 1.1 μm along one or more linear axis with a travel length equal to or greater than 1.0 m;

b.2. Five or more axes which can be coordinated simultaneously for ''contouring control'' having any of the following:

b.2.a. ''Unidirectional positioning repeatability'' equal to or less (better) than 0.9 μm along one or more linear axis with a travel length less than 1.0 m;

b.2.b. ''Unidirectional positioning repeatability'' equal to or less (better) than 1.4 μm along one or more linear axis with a travel length equal to or greater than 1 m and less than 4 m; *or*

b.2.c. ''Unidirectional positioning repeatability'' equal to or less (better) than 6.0 μm along one or more linear axis with a travel length equal to or greater than 4 m;

b.3. A ''unidirectional positioning repeatability'' for jig boring machines, equal to or less (better) than 1.1 μm along one or more linear axis; *or*

b.4. Fly cutting machines having all of the following:

b.4.a. Spindle ''run-out'' and ''camming'' less (better) than 0.0004 mm TIR; *and*

b.4.b. Angular deviation of slide movement (yaw, pitch and roll) less (better) than 2 seconds of arc, TIR, over 300 mm of travel;

c. Machine tools for grinding having any of the following:

c.1. Having all of the following:

c.1.a. ''Unidirectional positioning repeatability'' equal to or less (better) than 1.1 μm along one or more linear axis; *and*

c.1.b. Three or four axes which can be coordinated simultaneously for ''contouring control''; *or*

c.2. Five or more axes which can be coordinated simultaneously for ''contouring control'' having any of the following:

c.2.a. ''Unidirectional positioning repeatability'' equal to or less (better) than 1.1 μm along one or more linear axis with a travel length less than 1m;

c.2.b. ''Unidirectional positioning repeatability'' equal to or less (better) than 1.4 μm along one or more linear axis with a travel length equal to or greater than 1 m and less than 4 m; *or*

c.2.c. ''Unidirectional positioning repeatability'' equal to or less (better) than 6.0 μm along one or more linear axis with a travel length equal to or greater than 4 m.

Notes: 2B001.c does not control grinding machines as follows:

a. Cylindrical external, internal, and external-internal grinding machines, having all of the following:

a.1. Limited to cylindrical grinding; and

a.2. Limited to a maximum workpiece capacity of 150 mm outside diameter or length.

b. Machines designed specifically as jig grinders that do not have a z-axis or a w-axis, with a ''unidirectional positioning repeatability'' less (better) than 1.1 μm.

c. Surface grinders.

d. Electrical discharge machines (EDM) of the non-wire type which have two or more rotary axes which can be coordinated simultaneously for ''contouring control'';

e. Machine tools for removing metals, ceramics or ''composites'', having all of the following:

e.1. Removing material by means of any of the following:

e.1.a. Water or other liquid jets, including those employing abrasive additives;

e.1.b. Electron beam; or

e.1.c. ''Laser'' beam; and

e.2. At least two rotary axes having all of the following:

e.2.a. Can be coordinated simultaneously for ''contouring control''; and

e.2.b. A positioning ''accuracy'' of less (better) than 0.003°;

f. Deep-hole-drilling machines and turning machines modified for deep-hole-drilling, having a maximum depth-of-bore capability exceeding 5m.

2B002 Numerically controlled optical finishing machine tools equipped for selective material removal to produce non-spherical optical surfaces having all of the following characteristics (See List of Items Controlled).

LICENSE REQUIREMENTS

Reason for Control: NS, AT

Control(s)	Country Chart (See Supp. No. 1 to part 738)
NS applies to entire entry	NS Column 2
AT applies to entire entry	AT Column 1

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

LVS: N/A

GBS: N/A

LIST OF ITEMS CONTROLLED

Related Controls: See also 2B001.

Related Definitions: For the purposes of 2B002, 'MRF' is a material removal process using an abrasive magnetic fluid whose viscosity is controlled by a magnetic field. 'ERF' is a removal process using an abrasive fluid whose viscosity is controlled by an electric field. 'Energetic particle beam finishing' uses Reactive Atom Plasmas (RAP) or ion-beams to selectively remove material. 'Inflatable membrane tool finishing' is a process that uses a pressurized membrane that deforms to contact the workpiece over a small area.'Fluid jet finishing' makes use of a fluid stream for material removal.

Items: a. Finishing the form to less (better) than 1.0 μm;

b. Finishing to a roughness less (better) than 100 nm rms;

c. Four or more axes which can be coordinated simultaneously for ''contouring control''; *and*

d. Using any of the following processes:

d.1. 'Magnetorheological finishing (MRF)';

d.2. 'Electrorheological finishing (ERF)';

d.3. 'Energetic particle beam finishing';

d.4. 'Inflatable membrane tool finishing'; *or*

d.5. 'Fluid jet finishing'.

2B003 "Numerically controlled" machine tools, "specially designed" for the shaving, finishing, grinding or honing of hardened (R_c = 40 or more) spur, helical and double-helical gears having all of the following.

LICENSE REQUIREMENTS

Reason for Control: NS, AT

Control(s)	Country chart (see Supp. No. 1 to part 738)
NS applies to entire entry	NS Column 2
AT applies to entire entry	AT Column 1

REPORTING REQUIREMENTS

See §743.1 of the EAR for reporting requirements for exports under License Exceptions, and Validated End-User authorizations.

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

LVS: $5,000

GBS: N/A

LIST OF ITEMS CONTROLLED

Related Controls: See also *2B993*

Related Definitions: N/A

Items:

a. A pitch diameter exceeding 1,250 mm;

b. A face width of 15% of pitch diameter or larger; *and*

c. A finished quality of AGMA 14 or better (equivalent to ISO 1328 class 3).

2B004 Hot "isostatic presses" having all of the characteristics described in the List of Items Controlled, and "specially designed" "components" and "accessories" therefor.

LICENSE REQUIREMENTS

Reason for Control: NS, MT NP, AT

Control(s)	Country chart (see supp. No. 1 to part 738)
NS applies to entire entry	NS Column 2
MT applies to entire entry	MT Column 1
NP applies to entire entry, except 2B004.b.3 and presses with maximum working pressures below 69 MPa.	NP Column 1
AT applies to entire entry	AT Column 1

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

LVS: N/A

GBS: N/A

LIST OF ITEMS CONTROLLED

Related Controls: (1) See ECCN 2D001 for software for items controlled under this entry. (2) See ECCNs 2E001 (''development''), 2E002 (''production''), and 2E101 (''use'') for technology for items controlled under this entry. (3) For ''specially designed'' dies, molds and tooling, see ECCNs 0B501, 0B602, 0B606, 1B003, 9B004, and 9B009. (4) For additional controls on dies, molds and tooling,

see ECCNs 1B101.d, 2B104 and 2B204. (5) Also see ECCNs 2B117 and 2B999.a.

Related Definitions: N/A

Items:

a. A controlled thermal environment within the closed cavity and possessing a chamber cavity with an inside diameter of 406 mm or more; *and*

b. Having any of the following:

b.1. A maximum working pressure exceeding 207 MPa;

b.2. A controlled thermal environment exceeding 1,773 K (1,500 °C); *or*

b.3. A facility for hydrocarbon impregnation and removal of resultant gaseous degradation products.

Technical Note: For the purposes of 2B004, the inside chamber dimension is that of the chamber in which both the working temperature and the working pressure are achieved and does not include fixtures. That dimension will be the smaller of either the inside diameter of the pressure chamber or the inside diameter of the insulated furnace chamber, depending on which of the two chambers is located inside the other.

2B005 Equipment "specially designed" for the deposition, processing and in-process control of inorganic overlays, coatings and surface modifications, as follows, for substrates specified in column 2, by processes shown in column 1 in the "Materials Processing Table; Deposition Techniques" following 2E003.f (see List of Items Controlled), and "specially designed" automated handling, positioning, manipulation and control "components" therefor.

LICENSE REQUIREMENTS

Reason for Control: NS, AT

Control(s)	Country chart (See Supp. No. 1 to part 738)
NS applies to entire entry	NS Column 2
AT applies to entire entry	AT Column 1

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

LVS: $1000

GBS: N/A

LIST OF ITEMS CONTROLLED

Related Controls: (1) This entry does not control chemical vapor deposition, cathodic arc, sputter deposition, ion plating or ion implantation equipment, ''specially designed'' for cutting or machining tools. (2) Vapor deposition equipment for the production of filamentary materials are controlled by 1B001 or 1B101. (3) Chemical Vapor Deposition furnaces designed or modified for densification of carbon-carbon composites are controlled by *2B105*. (4) *See also 2B999.i*.

Related Definitions: N/A

Items: a. Chemical vapor deposition (CVD)''production equipment''having all of the following:

a.1. A process modified for one of the following:

a.1.a. Pulsating CVD;

a.1.b. Controlled nucleation thermal deposition (CNTD); or

a.1.c. Plasma enhanced or plasma assisted CVD; and

a.2. Having any of the following:

a.2.a. Incorporating high vacuum (equal to or less than 0.01 Pa) rotating seals; or

a.2.b. Incorporating in situ coating thickness control;

b. Ion implantation ''production equipment'' having beam currents of 5 mA or more;

c. Electron beam physical vapor deposition (EB–PVD) ''production equipment'' incorporating power systems rated for over 80 kW and having any of the following:

c.1. A liquid pool level ''laser'' control system which regulates precisely the ingots feed rate; *or*

c.2. A computer controlled rate monitor operating on the principle of photo-luminescence of the ionized atoms in the evaporant stream to control the deposition rate of a coating containing two or more elements;

d. Plasma spraying ''production equipment'' having any of the following:

d.1. Operating at reduced pressure controlled atmosphere (equal or less than 10 kPa measured above and within 300 mm of the gun nozzle exit) in a vacuum chamber capable of evacuation down to 0.01 Pa prior to the spraying process; *or*

d.2. Incorporating in situ coating thickness control;

e. Sputter deposition ''production equipment'' capable of current densities of 0.1 mA/mm^2 or higher at a deposition rate 15 μm/h or more;

f. Cathodic arc deposition ''production equipment'' incorporating a grid of electromagnets for steering control of the arc spot on the cathode;

g. Ion plating ''production equipment'' capable of *in situ* measurement of any of the following:

g.1. Coating thickness on the substrate and rate control; *or*

g.2. Optical characteristics.

2B006 Dimensional inspection or measuring systems, equipment, position feedback units and "electronic assemblies", as follows (see List of Items Controlled).

LICENSE REQUIREMENTS

Reason for Control: NS, NP, AT

Control(s)	Country chart (see supp. No. 1 to part 738)
NS applies to entire entry	NS Column 2

Control(s)	Country chart (see supp. No. 1 to part 738)
NP applies to those items in 2B006.a, b.1, b.3, and .c (angular displacement measuring instruments) that meet or exceed the technical parameters in 2B206..	NP Column 1
AT applies to entire entry	AT Column 1

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

LVS: N/A

GBS: N/A

LIST OF ITEMS CONTROLLED

Related Controls: (1) See ECCNs 2D001 and 2D002 for ''software'' for items controlled under this entry. (2) See ECCNs 2E001 (''development''), 2E002 (''production''), and 2E201 (''use'') for technology for items controlled under this entry. (3) Also see ECCNs 2B206 and 2B996.

Related Definitions: N/A

Items:

a. Computer controlled or ''numerically controlled'' Coordinate Measuring Machines (CMM), having a three dimensional length (volumetric) maximum permissible error of length measurement ($E_{0,MPE}$) at any point within the operating range of the machine (*i.e.*, within the length of axes) equal to or less (better) than (1.7 + L/1,000) μm (L is the measured length in mm) according to ISO 10360–2 (2009);

Technical Note: For the purposes of 2B006.a, $E_{0,MPE}$ of the most accurate configuration of the CMM specified by the manufacturer (e.g.,best of the following: Probe, stylus length, motion parameters, environment) and with ''all compensations available'' shall be compared to the 1.7 + L/1,000 μm threshold.

b. Linear displacement measuring instruments or systems, linear position feedback units, and ''electronic assemblies'', as follows:

Note: Interferometer and optical-encoder measuring systems containing a ''laser'' are only specified by 2B006.b.3.

b.1. 'Non-contact type measuring systems' with a 'resolution' equal to or less (better) than 0.2 μm within 0 to 0.2 mm of the 'measuring range';

Technical Notes: For the purposes of 2B006.b.1:

1. 'Non-contact type measuring systems' are designed to measure the distance between the probe and measured object along a single vector, where the probe or measured object is in motion.

2. 'Measuring range' means the distance between the minimum and maximum working distance.

b.2. Linear position feedback units ''specially designed'' for machine tools and having an overall ''accuracy'' less (better) than (800 + (600 × L/1,000)) nm (L equals effective length in mm);

b.3. Measuring systems having all of the following:

b.3.a. Containing a ''laser'';

b.3.b. A 'resolution' over their full scale of 0.200 nm or less (better); *and*

b.3.c. Capable of achieving a ''measurement uncertainty'' equal to or less (better) than (1.6 + L/2,000) nm (L is the measured length in mm) at any point within a measuring range, when compensated for the refractive index of air and measured over a period of 30 seconds at a temperature of 20±0.01 °C;

Technical Note: For the purposes of 2B006.b, 'resolution' is the least increment of a measuring device; on digital instruments, the least significant bit.

b.4. ''Electronic assemblies'' ''specially designed'' to provide feedback capability in systems controlled by 2B006.b.3;

c. Rotary position feedback units ''specially designed'' for machine tools or angular displacement measuring instruments, having an angular position ''accuracy'' equal to or less (better) than 0.9 second of arc;

Note: 2B006.c does not control optical instruments, such as autocollimators, using collimated light (e.g., ''laser'' light) to detect angular displacement of a mirror.

d. Equipment for measuring surface roughness (including surface defects), by measuring optical scatter with a sensitivity of 0.5 nm or less (better).

Note: 2B006 includes machine tools, other than those specified by 2B001, that can be used as measuring machines, if they meet or exceed the criteria specified for the measuring machine function.

2B007 "Robots" having any of the following characteristics described in the List of Items Controlled and "specially designed" controllers and "end-effectors" therefor.

LICENSE REQUIREMENTS

Reason for Control: NS, NP, AT

Control(s)	Country chart (see Supp. No. 1 to part 738)
NS applies to entire entry	NS Column 2
NP applies to equipment that meets or exceeds the criteria in ECCNs 2B207.	NP Column 1
AT applies to entire entry	AT Column 1

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

LVS: $5,000, except 2B007.b and .c

GBS: N/A

LIST OF ITEMS CONTROLLED

Related Controls:

(1) See ECCN 2D001 for ''software'' for items controlled under this entry. (2) See ECCNs

2E001 (''development''), 2E002 (''production''), and 2E201 (''use'') for technology for items controlled under this entry. (3) Also see ECCNs 2B207, 2B225 and 2B997.

Related Definitions: N/A

Items: a. [Reserved]

b. ''Specially designed'' to comply with national safety standards applicable to potentially explosive munitions environments;

Note: 2B007.b does not apply to ''robots'' ''specially designed'' for paint-spraying booths.

c. ''Specially designed'' or rated as radiation-hardened to withstand a total radiation dose greater than 5×10^3 Gy (silicon) without operational degradation; *or*

Technical Note: The term Gy (silicon) refers to the energy in Joules per kilogram absorbed by an unshielded silicon sample when exposed to ionizing radiation.

d. ''Specially designed'' to operate at altitudes exceeding 30,000 m.

2B008 'Compound rotary tables' and "tilting spindles", "specially designed" for machine tools, as follows (see List of Items Controlled).

LICENSE REQUIREMENTS

Reason for Control: NS, AT

Control(s)	Country chart (see supp. No. 1 to part 738)
NS applies to entire entry	NS Column 2
AT applies to entire entry	AT Column 1

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

LVS: N/A

GBS: N/A

LIST OF ITEMS CONTROLLED

Related Controls: See also 2B998.

Related Definition: N/A

Items:

a. [Reserved]

b. [Reserved]

c. 'Compound rotary tables' having all of the following:

c.1. Designed for machine tools for turning, milling or grinding; *and*

c.2. Two rotary axes designed to be coordinated simultaneously for ''contouring control''.

Technical Note: For the purposes of 2B008.c, a 'compound rotary table' is a table allowing the workpiece to rotate and tilt about two non-parallel axes.

d. ''Tilting spindles'' having all of the following:

d.1. Designed for machine tools for turning, milling or grinding; *and*

d.2. Designed to be coordinated simultaneously for ''contouring control''.

2B009 Spin-forming machines and flow-forming machines, which, according to the manufacturer's technical specifications, can be equipped with "numerical control" units or a computer control and having all of the following characteristics (see List of Items Controlled).

LICENSE REQUIREMENTS

Reason for Control: NS, MT, NP, AT

Control(s)	Country chart (see supp. No. 1 to part 738)
NS applies to entire entry	NS Column 2
MT applies to: spin-forming ... machines combining the functions of spin-forming and flow-forming; and flow-forming machines that meet or exceed the parameters of 2B009.a and 2B109.	MT Column 1
NP applies to flow-forming machines, and spin-forming machines capable of flow-forming functions, that meet or exceed the parameters of 2B209.	NP Column 1
AT applies to entire entry	AT Column 1

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

LVS: N/A

GBS: N/A

LIST OF ITEMS CONTROLLED

Related Controls: (1) See ECCN 2D001 for ''software'' for items controlled under this entry. (2) See ECCNs 2E001 (''development''), 2E002 (''production''), and 2E101 (''use'') for technology for items controlled under this entry. (3) Also see ECCNs 2B109 and 2B209 for additional flow-forming machines for MT and NP reasons.

Related Definitions: N/A

Items:

a. Three or more axes which can be coordinated simultaneously for ''contouring control''; *and*

b. A roller force more than 60 kN.

Technical Note: For the purposes of 2B009, machines combining the function of spin-forming and flow-forming are regarded as flow-forming machines.

2B018 Equipment on the Wassenaar Arrangement Munitions List.

No commodities currently are controlled by this entry. Commodities formerly controlled by paragraphs .a through .d, .m, and .s of this entry are controlled in ECCN 0B606. Commodities formerly controlled by paragraphs .e through .l of this entry are controlled by ECCN 0B602. Commodities formerly controlled by paragraphs .o through .r of this entry are controlled by ECCN 0B501. Commodities formerly controlled by paragraph .n of this entry are controlled in ECCN 0B501 if they are ''specially designed'' for the ''production'' of the items controlled in ECCNs 0A501.a through .x, 0A506, 0A507, or 0A509 or USML Category I and controlled in

ECCN 0B602 if they are of the kind exclusively designed for use in the manufacture of items in ECCN 0A602 or USML Category II.

2B104 "Isostatic presses", other than those controlled by 2B004, having all of the following characteristics (see List of Items Controlled).

LICENSE REQUIREMENTS

Reason for Control: MT, NP, AT

Control(s)	Country Chart (See Supp. No. 1 to part 738)
MT applies to entire entry	MT Column 1.
NP applies to entire entry	NP Column 1.
AT applies to entire entry	AT Column 1.

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

LVS: N/A

GBS: N/A

LIST OF ITEMS CONTROLLED

Related Controls: (1) See ECCN 2D101 for ''software'' for items controlled under this entry. (2) See ECCNs 2E001 (''development''), 2E002 (''production''), and 2E101 (''use'') for technology for items controlled under this entry. (3) Also see ECCNs 2B004, 2B204, and 2B117.

Related Definitions: The inside chamber dimension is that of the chamber in which both the working temperature and the working pressure are achieved and does not include fixtures. That dimension will be the smaller of either the inside diameter of the pressure chamber or the inside diameter of the insulated chamber, depending on which of the two chambers is located inside the other.

Items: a. Maximum working pressure equal to or greater than 69 MPa;

b. Designed to achieve and maintain a controlled thermal environment of 873 K (600 °C) or greater; and

c. Possessing a chamber cavity with an inside diameter of 254 mm or greater.

2B105 Chemical vapor deposition (CVD) furnaces, other than those controlled by 2B005.a, designed or modified for the densification of carbon-carbon composites.

LICENSE REQUIREMENTS

*Reason for Control:*MT, AT

Control(s)	Country Chart (See Supp. No. 1 to part 738)
MT applies to entire entry	MT Column 1.
AT applies to entire entry	AT Column 1.

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

LVS: N/A

GBS: N/A

LIST OF ITEMS CONTROLLED

Related Controls: (1) See ECCN 2D101 for ''software'' for items controlled under this entry. (2) See ECCNs 2E001 (''development''), 2E002 (''production''), and 2E101 (''use'') for technology for items controlled under this entry. (3) Also see ECCNs 2B005, 2B117, 2B226 and 2B227.

Related Definitions: N/A

Items: The list of items controlled in contained in the ECCN heading.

2B109 Flow-forming machines, other than those controlled by 2B009, as follows (see List of Items Controlled).

LICENSE REQUIREMENTS

Reason for Control: MT, NP, AT

Control(s)	Country chart (see Supp. No. 1 to part 738)
MT applies to entire entry	MT Column 1
NP applies to items controlled by this entry that meet or exceed the technical parameters in 2B209.	NP Column 1
AT applies to entire entry	AT Column 1

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

LVS: N/A

GBS: N/A

LIST OF ITEMS CONTROLLED

Related Controls: (1) See ECCN 2D101 for ''software'' for items controlled under this entry. (2) See ECCNs 2E001 (''development''), 2E002 (''production''), and 2E101 (''use'') for technology for items controlled under this entry. (3) Also see ECCNs 2B009 and 2B209.

Related Definitions: N/A

Items: a. Flow-forming machines, usable in the ''production'' of propulsion components and equipment (e.g., motor cases and interstages) for ''missiles'', having all of the following:

a.1. Equipped with, or according to the manufacturer's technical specification are capable of being equipped with, ''numerical control'' units or a computer control, even when not equipped with such units at delivery; *and*

a.2. More than two axes which can be coordinated simultaneously for ''contouring control.''

b. ''Specially designed'' ''parts'' and ''components'' for flow-forming machines controlled in 2B009 for MT reasons or 2B109.a.

Technical Note: 1. Machines combining the function of spin-forming and flow-forming are for the purpose of 2B109 regarded as flow-forming machines.

2B116 Vibration test systems and equipment, usable for rockets, missiles, or unmanned aerial vehicles capable of achieving a "range" equal to or greater than 300 km and their subsystems, and "parts" and

"components" therefor, as follows (see List of Items Controlled).

LICENSE REQUIREMENTS

Reason for Control: MT, NP, AT

Control(s)	Country Chart (See Supp. No. 1 to part 738)
MT applies to entire entry	MT Column 1.
NP applies to electrodynamic vibration test systems in 2B116.a and to all items in 2B116.b, .c, and .d.	NP Column 1.
AT applies to entire entry	AT Column 1.

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

LVS: N/A

GBS: N/A

LIST OF ITEMS CONTROLLED

Related Controls: (1) See ECCN 2D101 for ''software'' for items controlled under this entry. (2) See ECCNs 2E001 (''development''), 2E002 (''production''), and 2E101 (''use'') for technology for items controlled under this entry. (3) Also see ECCNs 9B106 and 9B990.

Related Definitions: Vibration test systems incorporating a digital controller are those systems, the functions of which are, partly or entirely, automatically controlled by stored and digitally coded electrical signals.

Items: a. Vibration test systems employing feedback or closed loop techniques and incorporating a digital controller, capable of vibrating a system at an acceleration equal to or greater than 10 g rms between 20 Hz to 2,000 Hz while imparting forces equal to or greater than 50 kN (11,250 lbs.), measured 'bare table';

b. Digital controllers, combined with ''specially designed'' vibration test ''software'', with a 'real-time control bandwidth' greater than 5 kHz and designed for use with vibration test systems described in 2B116.a;

c. Vibration thrusters (shaker units), with or without associated amplifiers, capable of imparting a force equal to or greater than 50 kN (11,250 lbs.), measured 'bare table', and usable in vibration test systems described in 2B116.a;

d. Test piece support structures and electronic units designed to combine multiple shaker units into a complete shaker system capable of providing an effective combined force equal to or greater than 50 kN, measured 'bare table', and usable in vibration test systems described in 2B116.a.

Technical Notes: (1) 'Bare table' means a flat table, or surface, with no fixture or fitting.

(2) 'Real-time control bandwidth' is defined as the maximum rate at which a controller can execute complete cycles of sampling, processing data and transmitting control signals.

2B117 Equipment and process controls, other than those controlled by 2B004, 2B005.a, 2B104 or 2B105, designed or modified for the densification and pyrolysis of structural composite rocket nozzles and reentry vehicle nose tips.

LICENSE REQUIREMENTS

*Reason for Control:*MT, AT

Control(s)	Country Chart (See Supp. No. 1 to part 738)
MT applies to entire entry	MT Column 1.
AT applies to entire entry	AT Column 1.

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

LVS: N/A

GBS: N/A

LIST OF ITEMS CONTROLLED

Related Controls: (1) See ECCN 2D101 for ''software'' for items controlled under this entry. (2) See ECCNs 2E001 (''development''), 2E002 (''production''), and 2E101 (''use'') for technology for items controlled under this entry. (3) *Also see* ECCN s 2B004, 2B005, 2B104, 2B105, and 2B204.

Related Definitions: N/A

Items: The list of items controlled in contained in the ECCN heading.

2B119 Balancing machines and related equipment, as follows (see List of Items Controlled).

LICENSE REQUIREMENTS

Reason for Control: MT, AT

Control(s)	Country chart (see Supp. No. 1 to part 738)
MT applies to entire entry	MT Column 1.
AT applies to entire entry	AT Column 1.

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

LVS: N/A

GBS: N/A

LIST OF ITEMS CONTROLLED

Related Controls: See also 7B101.

Related Definitions: N/A

Items:

a. Balancing machines having all of the following characteristics:

a.1. Not capable of balancing rotors/assemblies having a mass greater than 3 kg;

a.2. Capable of balancing rotors/assemblies at speeds greater than 12,500 rpm;

a.3. Capable of correcting unbalance in two planes or more; and

a.4. Capable of balancing to a residual specific unbalance of 0.2 g mm per kg of rotor mass.

Note: 2B119.a. does not control balancing machines designed or modified for dental or other medical equipment.

b. Indicator heads designed or modified for use with machines specified in 2B119.a.

Note: Indicator heads are sometimes known as balancing instrumentation.

2B120 Motion simulators or rate tables (equipment capable of simulating motion), having all of the following characteristics (see List of Items Controlled).

LICENSE REQUIREMENTS

Reason for Control: MT, AT

Control(s)	Country chart (see Supp. No. 1 to part 738)
MT applies to entire entry	MT Column 1
AT applies to entire entry	AT Column 1

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

LVS: N/A

GBS: N/A

LIST OF ITEMS CONTROLLED

Related Controls: (1) Rate tables not controlled by 2B120 and providing the characteristics of a positioning table are to be evaluated according to 2B121. (2) Equipment that has the characteristics specified in 2B121, which also meets the characteristics of 2B120 will be treated as equipment specified in 2B120. (3) See also 2B008, 2B121, 7B101 and 7B994.

Related Definitions: N/A

Items: a. Two or more axes;

b. Designed or modified to incorporate sliprings or integrated non-contact devices capable of transferring electrical power, signal information, or both; *and*

c. Having any of the following characteristics:

c.1. For any single axis having all of the following:

c.1.a. Capable of rates of rotation of 400 degrees/s or more, or 30 degrees/s or less, *and*

c.1.b. A rate resolution equal to or less than 6 degrees/s and an accuracy equal to or less than 0.6 degrees/s; *or*

c.2. Having a worst-case rate stability equal to or better (less) than plus or minus 0.05% averaged over 10 degrees or more; *or*

c.3. A positioning ''accuracy'' equal to or better than 5 arc-second.

Note: 2B120 does not control rotary tables designed or modified for machine tools or for medical equipment. For controls on machine tool rotary tables see 2B008.

2B121 Positioning tables (equipment capable of precise rotary position in any axis), other than those controlled in 2B120, having all the following characteristics (See List of Items Controlled).

LICENSE REQUIREMENTS

Reason for Control: MT, AT

Control(s)	Country chart (see supp. No. 1 to part 738)
MT applies to entire entry	MT Column 1
AT applies to entire entry	AT Column 1

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

LVS: N/A

GBS: N/A

LIST OF ITEMS CONTROLLED

Related Controls: (1) Equipment that has the characteristics specified in 2B121, which also meets the characteristics of 2B120 will be treated as equipment specified in 2B120. (2) See also 2B008, 2B120, 7B101, and 7B994.

Related Definitions: N/A

Items: a. Two or more axes; *and*

b. A positioning ''accuracy'' equal to or better than 5 arc-second.

Note: 2B121 does not control rotary tables designed or modified for machine tools or for medical equipment. For controls on machine tool rotary tables see 2B008.

2B122 Centrifuges capable of imparting accelerations greater than 100 g and designed or modified to incorporate sliprings or integrated non-contact devices capable of transferring electrical power, signal information, or both.

LICENSE REQUIREMENTS

Reason for Control: MT, AT

Control(s)	Country chart (see Supp. No. 1 to part 738)
MT applies to entire entry	MT Column 1
AT applies to entire entry	AT Column 1

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

LVS: N/A

GBS: N/A

LIST OF ITEMS CONTROLLED

Related Controls: See also 7B101.

Related Definitions: N/A

Items: The list of items controlled is contained in the ECCN heading.

2B201 Machine tools, and any combination thereof, other than those controlled by 2B001, for removing or cutting metals, ceramics or "composites," which, according to manufacturer's technical specifications, can be equipped with electronic devices for simultaneous "contouring control" in two or more axes.

LICENSE REQUIREMENTS

Reason for Control: NP, AT

Control(s)	Country Chart (See Supp. No. 1 to part 738)
NP applies to entire entry	NP Column 1
AT applies to entire entry	AT Column 1

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

LVS: N/A

GBS: N/A

LIST OF ITEMS CONTROLLED

Related Controls: (1) See ECCNs 2D002 and 2D202 for ''software'' for items controlled by this entry. ''Numerical control'' units are controlled by their associated ''software''. (2) See ECCNs 2E001 (''development''), 2E002 (''production''), and 2E201 (''use'') for technology for items controlled under this entry. (3) Also see ECCNs 2B001 and 2B991.

Related Definitions: N/A

Items:

Note: 2B201 does not control special purpose machine tools limited to the manufacture of any of the following parts:

a. Gears;

b. Crank shafts or cam shafts;

c. Tools or cutters;

d. Extruder worms;

Technical Note: The identified positioning accuracy values in this entry are based on ISO 230/2 (2006), which equates to the values based on ISO 230/2 (1988) that are used by the Nuclear Supplier's Group (NSG). In 2B201.a and .b.1, this results in a change from 6 μm to 4.5 μm. In paragraph .b of the Note to 2B201.b, the resulting change is from 30 μm to 22.5 μm, In 2B201.c, the resulting change is from 4 μm to 3 μm.

a. Machine tools for turning, that have positioning accuracies according to ISO 230/2 (2006) with all compensations available better (less) than 4.5 μm along any linear axis (overall positioning) for machines capable of machining diameters greater than 35 mm;

Note to 2B201.a: 2B201.a does not control bar machines (Swissturn), limited to machining only bar feed thru, if maximum bar diameter is equal to or less than 42 mm and there is no capability of mounting chucks. Machines may have drilling and/or milling capabilities for machining parts with diameters less than 42 mm.

b. Machine tools for milling, having any of the following characteristics:

b.1. Positioning accuracies according to ISO 230/2 (2006) with ''all compensations available'' equal to or less (better) than 4.5 μm along any linear axis (overall positioning);

b.2. Two or more contouring rotary axes; *or*

b.3. Five or more axes which can be coordinated simultaneously for ''contouring control.''

Note to 2B201.b: 2B201.b does not control milling machines having the following characteristics:

a. X-axis travel greater than 2 m; and

b. Overall positioning accuracy according to ISO 230/2 (2006) on the x-axis more (worse) than 22.5 μm.

c. Machine tools for grinding, having any of the following characteristics:

c.1. Positioning accuracies according to ISO 230/2 (2006) with ''all compensations available'' equal to or less (better) than 3 μm along any linear axis (overall positioning);

c.2. Two or more contouring rotary axes; or

c.3. Five or more axes which can be coordinated simultaneously for ''contouring control.''

Note to 2B201.c: 2B201.c does not control the following grinding machines:

a. Cylindrical external, internal, and external-internal grinding machines having all of the following characteristics:

1. Limited to a maximum workpiece capacity of 150 mm outside diameter or length; and

2. Axes limited to x, z and c.

b. Jig grinders that do not have a z-axis or a w-axis with an overall positioning accuracy less (better) than 3 microns. Positioning accuracy is according to ISO 230/2 (2006).

Technical Note: 2B201.b.3 and c.3 include machines based on a parallel linear kinematic design (e.g. hexapods) that have 5 or more axes none of which are rotary axes.

2B204 "Isostatic presses", other than those controlled by 2B004 or 2B104, and related equipment, as follows (see List of Items Controlled).

LICENSE REQUIREMENTS

Reason for Control: NP, AT

Control(s)	Country Chart (See Supp. No. 1 to part 738)
NP applies to entire entry	NP Column 1
AT applies to entire entry	AT Column 1

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

LVS: N/A

GBS: N/A

LIST OF ITEMS CONTROLLED

Related Controls: (1) See ECCN 2D201 for ''software'' for items controlled under this entry. (2) See ECCNs 2E001 (''development''), 2E002 (''production''), and 2E201 (''use'') for technology for items controlled under this entry. (3) *Also see* ECCNs 2B004 and 2B104.

Related Definitions: The inside chamber dimension is that of the chamber in which both the working temperature and working pressure are achieved and does not include fixtures. That dimension will be the smaller of either the inside diameter of the pressure chamber or the inside diameter of the insulated chamber, depending on which of the two chambers is located inside the other.

Items: a. ''Isostatic presses'' having both of the following characteristics:

a.1. Capable of achieving a maximum working pressure of 69 MPa or greater; *and*

a.2. A chamber cavity with an inside diameter in excess of 152 mm;

b. Dies, molds and controls, ''specially designed'' for ''isostatic presses'' controlled by 2B204.a.

2B206 Dimensional inspection machines, instruments or systems, other than those described in 2B006, as follows (see List of Items Controlled).

LICENSE REQUIREMENTS

Reason for Control: NP, AT

Control(s)	Country chart (see Supp. No. 1 to part 738)
NP applies to entire entry	NP Column 1
AT applies to entire entry	AT Column 1

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

LVS: N/A

GBS: N/A

LIST OF ITEMS CONTROLLED

Related Controls: (1) See ECCNs *2D002* and *2D201* for ''software'' for items controlled under this entry. (2) See ECCNs *2E001* (''development''), *2E002* (''production''), and *2E201* (''use'') for technology for items controlled under this entry. (3) Also see ECCNs *2B006* and *2B996*.

Related Definitions: N/A

Items:

Control Notes to ECCN 2B206: (1) Machine tools that can be used as measuring machines are controlled by ECCN 2B206 if they meet or exceed the control parameters specified in this entry for the measuring machine function. (2) The machines described in ECCN 2B206 are controlled by this entry if they exceed the specified control threshold anywhere in their operating range.

Technical Note to ECCN 2B206: All parameters of measurement values in this entry represent plus/minus, i.e., not total band.

a. Computer controlled or numerically controlled coordinate measuring machines (CMM) with either of the following characteristics:

a.1. Having only two axes with a maximum permissible error of length measurement along any axis (one dimension), identified as any combination of $E_{0x\ MPE}$, $E_{0y\ MPE}$ or $E_{0z\ MPE}$, equal to or less (better) than (1.25 + L/1,000) μm (where L is the measured length in mm) at any point within the operating range of the machine (*i.e.*, within the length of the axis), according to ISO 10360–2 (2009); *or*

a.2. Having three or more axes with a three dimensional (volumetric) maximum permissible error of length measurement, identified as $E_{0,\ MPE}$, equal to or less (better) than (1.7 + L/800) μm (where L is the measured length in mm) at any point within the operating range of the machine (*i.e.*, within the length of the axis), according to ISO 10360–2 (2009).

Technical Note to 2B206.a.2: The $E_{0,\ MPE}$ *of the most accurate configuration of the CMM specified according to ISO 10360–2 (2009) by the manufacturer (e.g., best of the following: Probe, stylus length, motion parameters, environment) and with all compensations available shall be compared to the 1.7 + L/800 μm threshold.*

b. Systems for simultaneous linear-angular inspection of hemishells, having both of the following characteristics:

b.1. ''Measurement uncertainty'' along any linear axis equal to or less (better) than 3.5 μm per 5 mm; *and*

b.2. ''Angular position deviation'' equal to or less than 0.02°.

c. Linear displacement measuring systems having both of the following characteristics:

c.1. Containing a ''laser;'' *and*

c.2. Capable of maintaining, for at least 12 hours over a temperature range of ± 1 K around a standard temperature and a standard pressure, both:

c.2.a. A ''resolution'' over their full scale of 0.1 μm or better; *and*

c.2.b. A ''measurement uncertainty'' equal to or better (less) than (0.2 + L/2,000) μm (L is the measured length in millimeters).

Control Note to 2B206.c: 2B206.c does not control measuring interferometer systems, without closed or open loop feedback, containing a ''laser'' to measure slide movement errors of machine tools, dimensional inspection machines, or similar equipment.

Technical Note to 2B206.c: In 2B206.c, ''linear displacement'' means the change of distance between the measuring probe and the measured object.

d. Linear Variable Differential Transformer (LVDT) systems having all of the following:

d.1. Having any of the following:

d.1.a. ''Linearity'' equal to or less (better) than 0.1% measured from 0 to the full operating range, for LVDTs with a full operating range up to and including ±5 mm; *or*

d.1.b. ''Linearity'' equal to or less (better) than 0.1% measured from 0 to 5 mm for LVDTs with a 'full operating range' greater than ±5 mm; *and*

d.2. Drift equal to or less (better) than 0.1% per day at a standard ambient test room temperature ±1 K.

2B207 "Robots", "end-effectors" and control units, other than those controlled by 2B007, as follows (see List of Items Controlled).

LICENSE REQUIREMENTS

Reason for Control: NP, AT

Control(s)	Country Chart (See Supp. No. 1 to part 738)
NP applies to entire entry	NP Column 1
AT applies to entire entry	AT Column 1

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

LVS: N/A

GBS: N/A

LIST OF ITEMS CONTROLLED

Related Controls: (1) See ECCN 2D201 for ''software'' for items controlled under this entry. (2) See ECCNs 2E001 (''development''), 2E002 (''production''), and 2E201 (''use'') for technology for items controlled under this entry. (3) *Also see* ECCNs 2B007, 2B225, and 2B997.

Related Definitions: N/A

ECCN Controls: This entry does not control ''robots'' ''specially designed'' for non-nuclear industrial applications, such as automobile paint-spraying booths.

Items: a. ''Robots'' or ''end-effectors'' ''specially designed'' to comply with national safety standards applicable to handling high explosives (for example, meeting electrical code ratings for high explosives);

b. Control units ''specially designed'' for any of the ''robots'' or ''end-effectors'' controlled by 2B207.a.

2B209 Flow forming machines, spin forming machines capable of flow forming functions, other than those controlled by 2B009 or 2B109, and mandrels, as follows (see List of Items Controlled).

LICENSE REQUIREMENTS

Reason for Control: NP, AT

Control(s)	Country chart (see supp. No. 1 to part 738)
NP applies to entire entry	NP Column 1.
AT applies to entire entry	AT Column 1.

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

LVS: N/A

GBS: N/A

LIST OF ITEMS CONTROLLED

Related Controls: (1) See ECCN 2D201 for ''software'' for items controlled under this entry. (2) See ECCNs 2E001 (''development''), 2E002 (''production''), and 2E201 (''use'') for technology for items controlled under this entry. (3) Also see ECCNs 2B009 and 2B109.

Related Definitions: N/A

Items:

a. Machines having both of the following characteristics:

a.1. Three or more rollers (active or guiding); *and*

a.2. According to the manufacturer's technical specifications, can be equipped with ''numerical control'' units or a computer control;

Note: 2B209.a includes machines that have only a single roller designed to deform metal, plus two auxiliary rollers that support the mandrel, but do not participate directly in the deformation process.

b. Rotor-forming mandrels designed to form cylindrical rotors of inside diameter between 75 mm and 650 mm.

2B225 Remote manipulators that can be used to provide remote actions in radiochemical separation operations or hot cells, having either of the following characteristics (see List of Items Controlled).

LICENSE REQUIREMENTS

Reason for Control: NP, AT

Control(s)	Country Chart (See Supp. No. 1 to part 738)
NP applies to entire entry	NP Column 1
AT applies to entire entry	AT Column 1

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

LVS: N/A

GBS: N/A

LIST OF ITEMS CONTROLLED

Related Controls: (1) See ECCNs 2E001 (''development''), 2E002 (''production''), and 2E201 (''use'') for technology for items controlled under this entry. (2) *Also see* ECCNs 2B007 and 2B207. (3) Remote manipulators ''specially designed'' or prepared for use in fuel reprocessing or for use in a reactor are subject to the export licensing authority of the Nuclear Regulatory Commission (see 10 CFR part 110).

Related Definitions: N/A

Items: a. A capability of penetrating 0.6 m or more of hot cell wall (through-the-wall operation); *or*

b. A capability of bridging over the top of a hot cell wall with a thickness of 0.6 m or more (over-the-wall operation).

Technical Note: Remote manipulators provide translation of human operator actions to a remote operating arm and terminal fixture. They may be of ''master/slave'' type or operated by joystick or keypad.

2B226 Controlled atmosphere (vacuum or inert gas) induction furnaces, and power supplies therefor, as follows (see List of Items Controlled).

LICENSE REQUIREMENTS

Reason for Control: NP, AT

Control(s)	Country Chart (See Supp. No. 1 to part 738)
NP applies to entire entry	NP Column 1
AT applies to entire entry	AT Column 1

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

LVS: N/A

GBS: N/A

LIST OF ITEMS CONTROLLED

Related Controls: (1) See ECCNs 2E001 (''development''), 2E002 (''production''), and 2E201 (''use'') for technology for items controlled under this entry. (2) Also see ECCN 2B227 and Category 3B.
Related Definitions: N/A
ECCN Controls: 2B226.a does not control furnaces designed for the processing of semiconductor wafers.
Items: a. Furnaces having all of the following characteristics:

a.1. Capable of operation above 1,123 K (850 °C);

a.2. Induction coils 600 mm or less in diameter; *and*

a.3. Designed for power inputs of 5 kW or more;

b. Power supplies, with a specified power output of 5 kW or more, ''specially designed'' for furnaces controlled by 2B226.a.

2B227 Vacuum or other controlled atmosphere metallurgical melting and casting furnaces and related equipment, as follows (see List of Items Controlled).

LICENSE REQUIREMENTS
Reason for Control: NP, AT

Control(s)	Country Chart (See Supp. No. 1 to part 738)
NP applies to entire entry	NP Column 1
AT applies to entire entry	AT Column 1

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)
LVS: N/A
GBS: N/A
LIST OF ITEMS CONTROLLED
Related Controls: (1) See ECCN 2D201 for ''software'' for items controlled under this entry. (2) See ECCNs 2E001 (''development''), 2E002 (''production''), and 2E201 (''use'') for technology for items controlled under this entry. (2) Also see ECCN 2B226.
Related Definitions: N/A
Items: a. Arc remelt and casting furnaces having both of the following characteristics:

a.1. Consumable electrode capabilities between 1,000 cm^3 and 20,000 cm^3; *and*

a.2. Capable of operating with melting temperatures above 1,973 K (1,700 °C);

b. Electron beam melting furnaces and plasma atomization and melting furnaces, having both of the following characteristics:

b.1. A power of 50 kW or greater; *and*

b.2. Capable of operating with melting temperatures above 1,473 K (1,200 °C);

c. Computer control and monitoring systems specially configured for any of the furnaces controlled by 2B227.a or .b.

2B228 Rotor fabrication and assembly equipment, rotor straightening equipment, bellows-forming mandrels and dies, as follows (see List of Items Controlled).

LICENSE REQUIREMENTS
Reason for Control: NP, AT

Control(s)	Country chart (see supp. No. 1 to part 738)
NP applies to entire entry	NP Column 1.
AT applies to entire entry	AT Column 1.

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)
LVS: N/A
GBS: N/A
LIST OF ITEMS CONTROLLED
Related Controls: See ECCNs 2E001 (''development''), 2E002 (''production''), and 2E201 (''use'') for technology for items controlled under this entry.
Related Definitions: N/A
Items:

a. Rotor assembly equipment for assembly of gas centrifuge rotor tube sections, baffles, and end-caps;

Note: 2B228.a includes precision mandrels, clamps, and shrink fit machines.

b. Rotor straightening equipment for alignment of gas centrifuge rotor tube sections to a common axis;

Technical Note: The rotor straightening equipment in 2B228.b normally consists of precision measuring probes linked to a computer that subsequently controls the action of, for example, pneumatic rams used for aligning the rotor tube sections.

c. Bellows-forming mandrels and dies for producing single-convolution bellows.

Technical Note: In 2B228.c, the bellows have all of the following characteristics:

1. Inside diameter between 75 mm and 650 mm;

2. Length equal to or greater than 12.7 mm;

3. Single convolution depth greater than 2 mm; and

4. Made of high-strength aluminum alloys, maraging steel or high strength ''fibrous or filamentary materials''.

2B229 Centrifugal multiplane balancing machines, fixed or portable, horizontal or vertical, as follows (see List of Items Controlled).

LICENSE REQUIREMENTS
Reason for Control: NP, AT

Control(s)	Country Chart (See Supp. No. 1 to part 738)
NP applies to entire entry	NP Column 1
AT applies to entire entry	AT Column 1

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)
LVS: N/A
GBS: N/A
LIST OF ITEMS CONTROLLED
Related Controls: (1) See ECCN 2D201 for ''software'' for items controlled under this entry. (2) See ECCNs 2E001 (''development''), 2E002 (''production''), and 2E201

(''use'') for technology for items controlled under this entry.

Related Definitions: N/A

Items: a. Centrifugal balancing machines designed for balancing flexible rotors having a length of 600 mm or more and having all of the following characteristics:

a.1. Swing or journal diameter greater than 75 mm;

a.2. Mass capability of from 0.9 to 23 kg; *and*

a.3. Capable of balancing speed of revolution greater than 5,000 r.p.m.;

b. Centrifugal balancing machines designed for balancing hollow cylindrical rotor ''parts'' or ''components'' and having all of the following characteristics:

b.1. Journal diameter greater than 75 mm;

b.2. Mass capability of from 0.9 to 23 kg;

b.3. A minimum achievable residual specific unbalance equal to or less than 10 g-mm/kg per plane; *and*

b.4. Belt drive type.

2B230 All types of "pressure transducers" capable of measuring absolute pressures and having all of the characteristics described in this ECCN (see List of Items Controlled).

LICENSE REQUIREMENTS

Reason for Control: NP, AT

Control(s)	Country Chart (See Supp. No. 1 to part 738)
NP applies to entire entry	NP Column 1
AT applies to entire entry	AT Column 1

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

LVS: N/A

GBS: N/A

LIST OF ITEMS CONTROLLED

Related Controls: See ECCNs 2E001 (''development''), 2E002 (''production''), and 2E201 (''use'') for technology for items controlled under this entry.

Related Definitions: (1) For purposes of this entry, ''pressure transducers'' are devices that convert pressure measurements into a signal. (2) For purposes of this entry, ''accuracy'' includes non-linearity, hysteresis and repeatability at ambient temperature.

Items: a. Pressure sensing elements made of or protected by aluminum, aluminum alloy, aluminum oxide (alumina or sapphire), nickel, nickel alloy with more than 60% nickel by weight, or fully fluorinated hydrocarbon polymers;

b. Seals, if any, essential for sealing the pressure sensing element, and in direct contact with the process medium, made of or protected by aluminum, aluminum alloy, aluminum oxide (alumina or sapphire), nickel, nickel alloy with more than 60% nickel by weight, or fully fluorinated hydrocarbon polymers; and

c. Either of the following characteristics:

c.1. A full scale of less 13 kPa and an ''accuracy'' of better than ±1% of full scale; *or*

c.2. A full scale of 13 kPa or greater and an ''accuracy'' of better than ±130 Pa when measuring at 13 kPa.

2B231 Vacuum pumps having all of the characteristics described in this ECCN (see List of Items Controlled).

LICENSE REQUIREMENTS

Reason for Control: NP, AT

Control(s)	Country Chart (See Supp. No. 1 to part 738)
NP applies to entire entry	NP Column 1
AT applies to entire entry	AT Column 1

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

LVS: N/A

GBS: N/A

LIST OF ITEMS CONTROLLED

Related Controls: (1) See ECCNs 2E001 (''development''), 2E002 (''production''), and 2E201 (''use'') for ''technology'' for items controlled under this entry. (2) Also see bellows-sealed scroll-type compressors and bellows-sealed scroll-type vacuum pumps controlled under ECCN 2B233. (3) Vacuum pumps ''specially designed'' or prepared for the separation of uranium isotopes are subject to the export licensing authority of the Nuclear Regulatory Commission (see 10 CFR part 110).

Related Definitions: (1) The pumping speed is determined at the measurement point with nitrogen gas or air. (2) The ultimate vacuum is determined at the input of the pump with the input of the pump blocked off.

Items: a. Input throat size equal to or greater than 380 mm;

b. Pumping speed equal to or greater than 15 m^3/s; *and*

c. Capable of producing an ultimate vacuum better than 13.3 mPa.

2B232 High-velocity gun systems (propellant, gas, coil, electromagnetic, and electrothermal types, and other advanced systems) capable of accelerating projectiles to 1.5 km/s or greater.

LICENSE REQUIREMENTS

Reason for Control: NP, AT

Control(s)	Country Chart (See Supp. No. 1 to part 738)
NP applies to entire entry	NP Column 1
AT applies to entire entry	AT Column 1

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

LVS: N/A

GBS: N/A

LIST OF ITEMS CONTROLLED

Related Controls: See ECCNs 2E001 (''development''), 2E002 (''production''), and 2E201 (''use'') for technology for items controlled under this entry.
Related Definitions: N/A
Items: The list of items controlled is contained in the ECCN heading.

2B233 Bellows-sealed scroll-type compressors and bellows-sealed scroll-type vacuum pumps having all of the characteristics described in this ECCN (see List of Items Controlled).
LICENSE REQUIREMENTS
Reason for Control: NP, AT

Control(s)	Country chart (see Supp. No. 1 to part 738)
NP applies to entire entry	NP Column 1
AT applies to entire entry	AT Column 1

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)
LVS: N/A
GBS: N/A
LIST OF ITEMS CONTROLLED
Related Controls: (1) See ECCNs 2E001 (''development''), 2E002 (''production''), and 2E201 (''use'') for ''technology'' for items controlled under this entry. (2) Also see vacuum pumps controlled under ECCN 2B231. (3) Vacuum pumps ''specially designed'' or prepared for the separation of uranium isotopes are subject to the export licensing authority of the Nuclear Regulatory Commission (see 10 CFR part 110).
Related Definitions: N/A
Items: a. Capable of an inlet volume flow rate of 50 m^3/h or greater;

b. Capable of a pressure ratio of 2:1 or greater; *and*

c. Having all surfaces that come in contact with the process gas made from any of the following:

c.1. Aluminum or aluminum alloy;
c.2. Aluminum oxide;
c.3. Stainless steel;
c.4. Nickel or nickel alloy;
c.5. Phosphor bronze; *or*
c.6. Fluoropolymers.

Technical Notes: 1. In a scroll compressor or vacuum pump, crescent-shaped pockets of gas are trapped between one or more pairs of intermeshed spiral vanes, or scrolls, one of which moves while the other remains stationary. The moving scroll orbits the stationary scroll; it does not rotate. As the moving scroll orbits the stationary scroll, the gas pockets diminish in size (i.e., they are compressed) as they move toward the outlet port of the machine.

2. In a bellows-sealed scroll compressor or vacuum pump, the process gas is totally isolated from the lubricated parts of the pump and from the external atmosphere by a metal bellows. One end of the bellows is attached to the moving scroll and the other end is attached to the stationary housing of the pump.

3. Fluoropolymers include, but are not limited to, the following materials:

a. Polytetrafluoroethylene (PTFE);
b. Fluorinated Ethylene Propylene (FEP);
c. Perfluoroalkoxy (PFA);
d. Polychlorotrifluoroethylene (PCTFE); and
e. Vinylidene fluoride-hexafluoropropylene copolymer.

2B350 Chemical manufacturing facilities and equipment, except valves controlled by 2A226, as follows (see List of Items Controlled).
LICENSE REQUIREMENTS
Reason for Control: CB, AT

Control(s)	Country Chart (See Supp. No. 1 to part 738)
CB applies to entire entry	CB Column 2
AT applies to entire entry	AT Column 1

LICENSE REQUIREMENT NOTE: *This ECCN does not control equipment that is both: (1) ''Specially Designed'' for use in civil applications e.g., food processing, pulp and paper processing, or water purification) and (2) inappropriate, by the nature of its design, for use in storing, processing, producing or conducting and controlling the flow of the chemical weapons precursors controlled by 1C350.*
LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)
LVS: $2,000 for all Country Group B destinations, except those also listed under Country Group D:3 (see Supplement No. 1 to part 740 of the EAR).
GBS: N/A
LIST OF ITEMS CONTROLLED
Related Controls: See also ECCNs 2A226, 2A992, 2A993, 2B231, and 2B999.
Related Definitions: For purposes of this entry the term 'chemical warfare agents' includes those agents ''subject to the ITAR'' (see 22 CFR parts 120 through 130).
Items: a. Reaction vessels, reactors and prefabricated repair assemblies therefor, as follows:

a.1. Reaction vessels or reactors, with or without agitators, with total internal (geometric) volume greater than 0.1 m^3 (100 liters) and less than 20 m^3 (20,000 liters), where all surfaces that come in direct contact with the chemical(s) being processed or contained are made from any of the following materials:

a.1.a Alloys with more than 25% nickel and 20% chromium by weight;

a.1.b. Nickel or alloys with more than 40% nickel by weight;

a.1.c. Fluoropolymers (polymeric or elastomeric materials with more than 35% fluorine by weight);

a.1.d. Glass (including vitrified or enameled coating or glass lining);

a.1.e. Tantalum or tantalum alloys;
a.1.f. Titanium or titanium alloys;
a.1.g. Zirconium or zirconium alloys; *or*
a.1.h. Niobium (columbium) or niobium alloys;
a.2. Prefabricated repair assemblies, and their specially designed components, that:
a.2.a. Are designed for mechanical attachment to glass-lined reaction vessels or reactors described in 2B350.a.1; *and*
a.2.b. Have metallic surfaces that are made from tantalum or tantalum alloys and come in direct contact with the chemical(s) being processed.
b. Agitators designed for use in reaction vessels or reactors described in 2B350.a.1, and impellers, blades or shafts designed for such agitators, where all surfaces that come in direct contact with the chemical(s) being processed or contained are made from any of the following materials:
b.1. Alloys with more than 25% nickel and 20% chromium by weight;
b.2. Nickel or alloys with more than 40% nickel by weight;
b.3. Fluoropolymers (polymeric or elastomeric materials with more than 35% fluorine by weight);
b.4. Glass (including vitrified or enameled coatings or glass lining);
b.5. Tantalum or tantalum alloys;
b.6. Titanium or titanium alloys;
b.7. Zirconium or zirconium alloys; *or*
b.8. Niobium (columbium) or niobium alloys.
c. Storage tanks, containers, receivers and prefabricated repair assemblies therefor, as follows:
c.1. Storage tanks, containers or receivers with a total internal (geometric) volume greater than 0.1 m^3 (100 liters) where all surfaces that come in direct contact with the chemical(s) being processed or contained are made from any of the following materials:
c.1.a. Alloys with more than 25% nickel and 20% chromium by weight;
c.1.b. Nickel or alloys with more than 40% nickel by weight;
c.1.c. Fluoropolymers (polymeric or elastomeric materials with more than 35% fluorine by weight);
c.1.d. Glass (including vitrified or enameled coatings or glass lining);
c.1.e. Tantalum or tantalum alloys;
c.1.f. Titanium or titanium alloys;
c.1.g. Zirconium or zirconium alloys; *or*
c.1.h. Niobium (columbium) or niobium alloys;
c.2. Prefabricated repair assemblies, and their specially designed components, that:
c.2.a. Are designed for mechanical attachment to glass-lined storage tanks, containers or receivers described in 2B350.c.1; *and*
c.2.b. Have metallic surfaces that are made from tantalum or tantalum alloys and come in direct contact with the chemical(s) being processed.
d. Heat exchangers or condensers with a heat transfer surface area of less than 20 m^2, but greater than 0.15 m^2, and tubes, plates, coils or blocks (cores) designed for such heat exchangers or condensers, where all surfaces that come in direct contact with the chemical(s) being processed are made from any of the following materials:
d.1. Alloys with more than 25% nickel and 20% chromium by weight;
d.2. Nickel or alloys with more than 40% nickel by weight;
d.3. Fluoropolymers (polymeric or elastomeric materials with more than 35% fluorine by weight);
d.4. Glass (including vitrified or enameled coatings or glass lining);
d.5. Tantalum or tantalum alloys;
d.6. Titanium or titanium alloys;
d.7. Zirconium or zirconium alloys;
d.8. Niobium (columbium) or niobium alloys;
d.9. Graphite or carbon-graphite;
d.10. Silicon carbide; *or*
d.11. Titanium carbide.
e. Distillation or absorption columns of internal diameter greater than 0.1 m, and liquid distributors, vapor distributors or liquid collectors designed for such distillation or absorption columns, where all surfaces that come in direct contact with the chemical(s) being processed are made from any of the following materials:
e.1. Alloys with more than 25% nickel and 20% chromium by weight;
e.2. Nickel or alloys with more than 40% nickel by weight;
e.3. Fluoropolymers (polymeric or elastomeric materials with more than 35% fluorine by weight);
e.4. Glass (including vitrified or enameled coatings or glass lining);
e.5. Tantalum or tantalum alloys;
e.6. Titanium or titanium alloys;
e.7. Zirconium or zirconium alloys;
e.8. Niobium (columbium) or niobium alloys; *or*
e.9. Graphite or carbon-graphite.
f. Remotely operated filling equipment in which all surfaces that come in direct contact with the chemical(s) being processed are made from any of the following materials:
f.1. Alloys with more than 25% nickel and 20% chromium by weight; *or*
f.2. Nickel or alloys with more than 40% nickel by weight.
g. Valves, as follows:
g.1. Valves having both of the following characteristics:
g.1.a. A nominal size greater than 1.0 cm (⅜ in.); *and*
g.1.b. All surfaces that come in direct contact with the chemical(s) being produced, processed, or contained are made from materials identified in Technical Note 1 to 2B350.*g*.

g.2. Valves, except for valves controlled by 2B350.g.1, having all of the following characteristics:

g.2.a. A nominal size equal to or greater than 2.54 cm (1 inch) and equal to or less than 10.16 cm (4 inches);

g.2.b. Casings (valve bodies) or preformed casing liners controlled by 2B350.g.3, in which all surfaces that come in direct contact with the chemical(s) being produced, processed, or contained are made from materials identified in Technical Note 1 to 2B350.g; *and*

g.2.c. A closure element designed to be interchangeable.

g.3. Casings (valve bodies) and preformed casing liners having both of the following characteristics:

g.3.a. Designed for valves in 2B350.g.1 or .g.2; *and*

g.3.b. All surfaces that come in direct contact with the chemical(s) being produced, processed, or contained are made from materials identified in Technical Note 1 to 2B350.g.

Technical Note 1 to 2B350.g: All surfaces of the valves controlled by 2B350.g.1, and the casings (valve bodies) and preformed casing liners controlled by 2B350.g.3, that come in direct contact with the chemical(s) being produced, processed, or contained are made from the following materials:

a. Alloys with more than 25% nickel and 20% chromium by weight;

b. Nickel or alloys with more than 40% nickel by weight;

c. Fluoropolymers (polymeric or elastomeric materials with more than 35% fluorine by weight);

d. Glass (including vitrified or enameled coating or glass lining);

e. Tantalum or tantalum alloys;

f. Titanium or titanium alloys;

g. Zirconium or zirconium alloys;

h. Niobium (columbium) or niobium alloys; or

i. Ceramic materials, as follows:

i.1. Silicon carbide with a purity of 80% or more by weight;

i.2. Aluminum oxide (alumina) with a purity of 99.9% or more by weight; or

i.3. Zirconium oxide (zirconia).

Technical Note 2 to 2B350.g: The 'nominal size' is defined as the smaller of the inlet and outlet port diameters.

h. Multi-walled piping incorporating a leak detection port, in which all surfaces that come in direct contact with the chemical(s) being processed or contained are made from any of the following materials:

h.1. Alloys with more than 25% nickel and 20% chromium by weight;

h.2. Nickel or alloys with more than 40% nickel by weight;

h.3. Fluoropolymers (polymeric or elastomeric materials with more than 35% fluorine by weight);

h.4. Glass (including vitrified or enameled coatings or glass lining);

h.5. Tantalum or tantalum alloys;

h.6. Titanium or titanium alloys;

h.7. Zirconium or zirconium alloys;

h.8. Niobium (columbium) or niobium alloys; *or*

h.9. Graphite or carbon-graphite.

i. Multiple-seal and seal-less pumps with manufacturer's specified maximum flow-rate greater than 0.6 m^3/hour (600 liters/hour), or vacuum pumps with manufacturer's specified maximum flow-rate greater than 5 m^3/hour (5,000 liters/hour) (under standard temperature (273 K (0 °C)) and pressure (101.3 kPa) conditions), and casings (pump bodies), preformed casing liners, impellers, rotors or jet pump nozzles designed for such pumps, in which all surfaces that come into direct contact with the chemical(s) being processed are made from any of the following materials:

i.1. Alloys with more than 25% nickel and 20% chromium by weight;

i.2. Nickel or alloys with more than 40% nickel by weight;

i.3. Fluoropolymers (polymeric or elastomeric materials with more than 35% fluorine by weight);

i.4. Glass (including vitrified or enameled coatings or glass lining);

i.5. Tantalum or tantalum alloys;

i.6. Titanium or titanium alloys;

i.7. Zirconium or zirconium alloys;

i.8. Niobium (columbium) or niobium alloys.

i.9. Graphite or carbon-graphite;

i.10. Ceramics; *or*

i.11. Ferrosilicon (high silicon iron alloys).

Technical Note to 2B350.i: The seals referred to in 2B350.i come into direct contact with the chemical(s) being processed (or are designed to do so), and provide a sealing function where a rotary or reciprocating drive shaft passes through a pump body.

j. Incinerators designed to destroy chemical warfare agents, chemical weapons precursors controlled by 1C350, or chemical munitions having ''specially designed'' waste supply systems, special handling facilities and an average combustion chamber temperature greater than 1000 °C in which all surfaces in the waste supply system that come into direct contact with the waste products are made from or lined with any of the following materials:

j.1. Alloys with more than 25% nickel and 20% chromium by weight;

j.2. Nickel or alloys with more than 40% nickel by weight; *or*

j.3. Ceramics.

Technical Note 1: Carbon-graphite is a composition consisting primarily of graphite and amorphous carbon, in which the graphite is 8 percent or more by weight of the composition.

Technical Note 2: For the items listed in 2B350, the term 'alloy,' when not accompanied

by a specific elemental concentration, is understood as identifying those alloys where the identified metal is present in a higher percentage by weight than any other element.

Technical Note 3: The materials used for gaskets, packing, seals, screws or washers, or other materials performing a sealing function, do not determine the control status of the items in this ECCN, provided that such components are designed to be interchangeable.

Note: See Categories V and XIV of the United States Munitions List for all chemicals that are ''subject to the ITAR'' (see 22 CFR parts 120 through 130).

2B351 Toxic gas monitors and monitoring systems, and their dedicated detecting "parts" and "components" (*i.e.,* DETECTORS, SENSOR DEVICES, AND REPLACEABLE SENSOR CARTRIDGES), AS FOLLOWS, EXCEPT THOSE SYSTEMS AND DETECTORS CONTROLLED BY ECCN 1A004.C (SEE LIST OF ITEMS CONTROLLED).

LICENSE REQUIREMENTS

Reason for Control: CB, AT

Control(s)	Country Chart *(see Supp. No. 1 to part 738)*
CB applies to entire entry	CB Column 2.
AT applies to entire entry	AT Column 1.

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

LVS: N/A

GBS: N/A

LIST OF ITEMS CONTROLLED

Related Controls: See ECCN 2D351 for ''software'' for toxic gas monitors and monitoring systems, and their dedicated detecting ''parts'' and ''components,'' controlled by this ECCN. Also see ECCN 1A004, which controls chemical detection systems and ''specially designed'' ''parts'' and ''components'' therefor that are ''specially designed'' or modified for detection or identification of chemical warfare agents, but not ''specially designed'' for military use, and ECCN 1A995, which controls certain detection equipment, ''parts'' and ''components'' not controlled by ECCN 1A004 or by this ECCN.

Related Definitions: (1) For the purposes of this entry, the term ''dedicated'' means committed entirely to a single purpose or device. (2) For the purposes of this entry, the term ''continuous operation'' describes the capability of the equipment to operate on line without human intervention. The intent of this entry is to control toxic gas monitors and monitoring systems capable of collection and detection of samples in environments such as chemical plants, rather than those used for batch-mode operation in laboratories.

Items:

a. Designed for continuous operation and usable for the detection of chemical warfare agents or precursor chemicals controlled by 1C350 'minimum detection limit' of 0.3 mg/m^3; *or*

b. Designed for the detection of cholinesterase-inhibiting activity.

Technical note: The 'minimum detection limit' of toxic gas monitors or monitoring systems is the lowest detectable concentration of the analyte required to produce a signal greater than three times the standard deviation of the toxic gas monitor's or monitoring system's signal when measuring a blank sample.

In the case of toxic gas monitors or monitoring systems having a deadband or programmed zero suppression, the 'minimum detection limit' is the lowest detectable concentration required to produce a reading.

2B352 Equipment Capable of Use in Handling Biological Materials, as Follows (See List of Items Controlled).

LICENSE REQUIREMENTS

Reason for Control: CB, AT

Control(s)	Country Chart *(see Supp. No. 1 to part 738)*
CB applies to entire entry	CB Column 2.
AT applies to entire entry	AT Column 1.

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

LVS: N/A

GBS: N/A

LIST OF ITEMS CONTROLLED

Related Controls: See ECCNs 1A004 and 1A995 for protective equipment that is not covered by this entry. Also see ECCN 9A120 for controls on certain ''UAV'' systems designed or modified to dispense an aerosol and capable of carrying elements of a payload in the form of a particulate or liquid, other than fuel ''parts'' or ''components'' of such vehicles, of a volume greater than 20 liters.

Related Definitions: (1) ''Lighter than air vehicles''—balloons and airships that rely on hot air or on lighter-than-air gases, such as helium or hydrogen, for their lift. (2) ''UAVs''—Unmanned Aerial Vehicles. (3) ''VMD''—Volume Median Diameter.

Items:

a. Containment facilities and related equipment, as follows:

a.1. Complete containment facilities at P3 or P4 containment level.

Technical Note to 2B352.a.1: P3 or P4 (BL3, BL4, L3, L4) containment levels are as specified in the WHO Laboratory Biosafety Manual (3rd edition, Geneva, 2004).

a.2. Equipment designed for fixed installation in containment facilities specified in paragraph a.1 of this ECCN, as follows:

a.2.a. Double-door pass-through decontamination autoclaves;

a.2.b. Breathing air suit decontamination showers;

a.2.c. Mechanical-seal or inflatable-seal walkthrough doors.

b. Fermenters and components as follows:

b.1. Fermenters capable of cultivation of micro-organisms or of live cells for the production of viruses or toxins, without the propagation of aerosols, having a total internal volume of 20 liters or greater.

b.2. Components designed for such fermenters, as follows:

b.2.a. Cultivation chambers designed to be sterilized or disinfected in situ;

b.2.b. Cultivation chamber holding devices; *or*

b.2.c. Process control units capable of simultaneously monitoring and controlling two or more fermentation system parameters (*e.g.*, temperature, pH, nutrients, agitation, dissolved oxygen, air flow, foam control).

Technical Notes to 2B352.b: 1. Fermenters include bioreactors (including single-use (disposable) bioreactors), chemostats and continuous-flow systems.

2. Cultivation chamber holding devices controlled by 2B352.b.2.b include single-use cultivation chambers with rigid walls.

c. Centrifugal separators capable of continuous separation, without the propagation of aerosols, having a flow rate greater than 100 liters per hour, as follows:

c.1. Centrifugal separators having all of the following characteristics:

c.1.a. One or more sealing joints within the steam containment area;

c.1.b. Components of polished stainless steel or titanium; *and*

c.1.c. Capable of in-situ steam sterilization in a closed state.

c.2. Single-use centrifugal separators, in which all components that come in direct contact with the substances being processed are disposable or single-use.

Technical Note to 2B352.c: Centrifugal separators and single-use centrifugal separators include decanters.

d. Cross (tangential) flow filtration equipment and ''accessories'', as follows:

d.1. Cross (tangential) flow filtration equipment capable of separation of micro-organisms, viruses, toxins or cell cultures having all of the following characteristics:

d.1.a. A total filtration area equal to or greater than 1 square meter (1 m^2); *and*

d.1.b. Having any of the following characteristics:

d.1.b.1. Capable of being sterilized or disinfected in-situ; *or*

d.1.b.2. Using disposable or single-use filtration ''parts'' or ''components''.

N.B.: 2B352.d.1 does not control reverse osmosis and hemodialysis equipment, as specified by the manufacturer.

d.2. Cross (tangential) flow filtration ''parts'' or ''components'' (*e.g.*, modules, elements, cassettes, cartridges, units or plates) with filtration area equal to or greater than 0.2 square meters (0.2 m^2) for each ''part'' or ''component'' and designed for use in cross (tangential) flow filtration equipment controlled by 2B352.d.1.

Technical Note: In this ECCN, ''sterilized'' denotes the elimination of all viable microbes from the equipment through the use of either physical (e.g., steam) or chemical agents. ''Disinfected'' denotes a process to reduce the number of microorganisms, but not usually of bacterial spores, through the use of chemical agents, without necessarily killing or removing all organisms.

e. Steam, gas or vapor sterilizable freeze-drying equipment with a condenser capacity of 10 kg of ice or greater in 24 hours (10 liters of water or greater in 24 hours) and less than 1000 kg of ice in 24 hours (less than 1,000 liters of water in 24 hours).

f. Spray-drying equipment capable of drying toxins or pathogenic microorganisms having all of the following characteristics:

f.1. A water evaporation capacity of ≥0.4 kg/h and ≤400 kg/h;

f.2. The ability to generate a typical mean product particle size of ≤10 micrometers with existing fittings or by minimal modification of the spray-dryer with atomization nozzles enabling generation of the required particle size; *and*

f.3. Capable of being sterilized or disinfected in situ.

g. Protective and containment equipment, as follows:

g.1. Protective full or half suits, or hoods dependent upon a tethered external air supply and operating under positive pressure.

Technical Note to 2B352.g.1: 2B352.g.1 does not control suits designed to be worn with self-contained breathing apparatus.

g.2. Biocontainment chambers, isolators, or biological safety cabinets having all of the following characteristics, for normal operation:

g.2.a. Fully enclosed workspace where the operator is separated from the work by a physical barrier;

g.2.b. Able to operate at negative pressure;

g.2.c. Means to safely manipulate items in the workspace; *and*

g.2.d. Supply and exhaust air to and from the workspace is high-efficiency particulate air (HEPA) filtered.

Note 1 to 2B352.g.2: 2B352.g.2 controls class III biosafety cabinets, as specified in the WHO Laboratory Biosafety Manual (3rd edition, Geneva, 2004) or constructed in accordance with national standards, regulations or guidance.

Note 2 to 2B352.g.2: 2B352.g.2 controls any isolator having all of the characteristics described

in 2B352.g.2.a through g.2.d, regardless of its intended use and its designation, except for medical isolators ''specially designed'' for barrier nursing or transportation of infected patients.

h. Aerosol inhalation equipment designed for aerosol challenge testing with microorganisms, viruses or toxins, as follows:

h.1. Whole-body exposure chambers having a capacity of 1 cubic meter or greater;

h.2. Nose-only exposure apparatus utilizing directed aerosol flow and having a capacity for the exposure of 12 or more rodents, or two or more animals other than rodents, and closed animal restraint tubes designed for use with such apparatus.

i. Spraying or fogging systems and ''parts'' and ''components'' therefor, as follows:

i.1. Complete spraying or fogging systems, ''specially designed'' or modified for fitting to aircraft, ''lighter than air vehicles,'' or ''UAVs,'' capable of delivering, from a liquid suspension, an initial droplet ''VMD'' of less than 50 microns at a flow rate of greater than 2 liters per minute;

i.2. Spray booms or arrays of aerosol generating units, ''specially designed'' or modified for fitting to aircraft, ''lighter than air vehicles,'' or ''UAVs,'' capable of delivering, from a liquid suspension, an initial droplet ''VMD'' of less than 50 microns at a flow rate of greater than 2 liters per minute;

i.3. Aerosol generating units ''specially designed'' for fitting to the systems as specified in paragraphs i.1 and i.2 of this ECCN.

Technical Notes to 2B352.i: 1. Aerosol generating units are devices ''specially designed'' or modified for fitting to aircraft and include nozzles, rotary drum atomizers and similar devices.

2. This ECCN does not control spraying or fogging systems, ''parts'' and ''components,'' as specified in 2B352.i, that are demonstrated not to be capable of delivering biological agents in the form of infectious aerosols.

3. Droplet size for spray equipment or nozzles ''specially designed'' for use on aircraft or ''UAVs'' should be measured using either of the following methods (pending the adoption of internationally accepted standards):

a. Doppler laser method,

b. Forward laser diffraction method.

j. Nucleic acid assemblers and synthesizers that are both:

j.1 Partly or entirely automated; *and*

j.2. Designed to generate continuous nucleic acids greater than 1.5 kilobases in length with error rates less than 5% in a single run.

k. Peptide synthesizers that are both:

k.1 Partly or entirely automated; *and*

k.2 Capable of generating peptides at a 'system synthesis scale' of 1 mmol or greater.

Technical Note to 2B352.k: 'System synthesis scale' denotes the maximum amount of peptide (mmol) that can be produced by the instrument using the largest compatible reaction vessels (L). For multiple peptides produced in parallel, this is the sum of the largest compatible reaction vessels (L).

N.B. to paragraph .k: See ECCN 2B350 for other chemical reaction vessels or reactors.

2B910 Additive manufacturing equipment, designed to produce metal or metal alloy components, having all of the following (see List of Items Controlled), and "specially designed" "components" therefor.

LICENSE REQUIREMENTS

Reason for Control: NS, RS, AT

Control(s)	Country Chart (see Supp. No. 1 to part 738)
NS applies to entire entry	Worldwide control. *See § 742.4(a)(5) and (b)(10) of the EAR.*
RS applies to entire entry	Worldwide control. *See § 742.6(a)(10) and (b)(11) of the EAR.*
AT applies to entire entry	AT Column 1.

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

LVS: N/A

GBS: N/A

IEC: Yes, see §740.2(a)(22) and §740.24 of the EAR.

SPECIAL CONDITIONS FOR STA

STA: License Exception STA may not be used to ship any item in this ECCN to any of the destinations listed in Country Group A:5 or A:6 (See Supplement No.1 to part 740 of the EAR).

LIST OF ITEMS CONTROLLED

Related Controls: For related ''technology'' see ECCN 2E910.

Related Definitions: N/A

Items:

a. Having at least one of the following consolidation sources:

a.1. ''Laser'';

a.2. Electron beam; *or*

a.3. Electric arc;

b. Having a controlled process atmosphere of any of the following:

b.1. Inert gas; *or*

b.2. Vacuum (equal to or less than 100 Pa);

c. Having any of the following 'in-process monitoring' equipment in a 'co-axial configuration' or 'paraxial configuration':

c.1. Imaging camera with a peak response in the wavelength range exceeding 380 nm but not exceeding 14,000 nm;

c.2. Pyrometer designed to measure temperatures greater than 1,273.15K (1,000 °C); *or*

c.3. Radiometer or spectrometer with a peak response in the wavelength range exceeding 380 nm but not exceeding 3,000 nm; *and*

d. A closed loop control system designed to modify the consolidation source parameters, build path, or equipment settings during the build cycle in response to feedback from 'in-

process monitoring' equipment specified in 2B910.c.

Technical Notes: For the purposes of 2B910:

1. 'In-process monitoring', also known as in-situ process monitoring, pertains to the observation and measurement of the additive manufacturing process including electromagnetic, or thermal, emissions from the melt pool.

2. 'Co-axial configuration', also known as on-axis or inline configuration, pertains to one or more sensors that are mounted in an optical path shared by the ''laser'' consolidation source.

3. 'Paraxial configuration' pertains to one or more sensors that are physically mounted onto or integrated into the ''laser'', electron beam, or electric arc consolidation source component.

4. For both 'co-axial configuration' and 'paraxial configuration', the field of view of the sensor(s) is fixed to the moving reference frame of the consolidation source and moves in the same scan trajectories of the consolidation source throughout the build process.

2B991 Numerical control units for machine tools and "numerically controlled" machine tools, n.e.s. (see List of Items Controlled).

LICENSE REQUIREMENTS

Reason for Control: AT

Control(s)	Country chart (See Supp. No. 1 to part 738)
AT applies to entire entry	AT Column 1

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

LVS: N/A

GBS: N/A

LIST OF ITEMS CONTROLLED

Related Controls: See also ECCNs 2B001 and 2B201.

Related Definitions: N/A

Items: a. ''Numerical control'' units for machine tools:

a.1. Having four interpolating axes that can be coordinated simultaneously for ''contouring control;'' or

a.2. Having two or more axes that can be coordinated simultaneously for ''contouring control'' and a minimum programmable increment better (less) than 0.001 mm;

a.3. ''Numerical control'' units for machine tools having two, three or four interpolating axes that can be coordinated simultaneously for ''contouring control,'' and capable of receiving directly (on-line) and processing computer-aided-design (CAD) data for internal preparation of machine instructions; *or*

b. ''Motion control boards'' ''specially designed'' for machine tools and having any of the following characteristics:

b.1. Interpolation in more than four axes;

b.2. Capable of ''real-time processing'' of data to modify tool path, feed rate and spindle data, during the machining operation, by any of the following:

b.2.a. Automatic calculation and modification of part program data for machining in two or more axes by means of measuring cycles and access to source data; *or*

b.2.b. ''Adaptive control'' with more than one physical variable measured and processed by means of a computing model (strategy) to change one or more machining instructions to optimize the process.

b.3. Capable of receiving and processing CAD data for internal preparation of machine instructions; *or*

c. ''Numerically controlled'' machine tools that, according to the manufacturer's technical specifications, can be equipped with electronic devices for simultaneous ''contouring control'' in two or more axes and that have both of the following characteristics:

c.1. Two or more axes that can be coordinated simultaneously for contouring control; *and*

c.2. Positioning accuracies according to ISO 230/2 (2006), with all compensations available:

c.2.a. Better than 15 μm along any linear axis (overall positioning) for grinding machines;

c.2.b. Better than 15 μm along any linear axis (overall positioning) for milling machines; *or*

c.2.c. Better than 15 μm along any linear axis (overall positioning) for turning machines; *or*

d. Machine tools, as follows, for removing or cutting metals, ceramics or composites, that, according to the manufacturer's technical specifications, can be equipped with electronic devices for simultaneous ''contouring control'' in two or more axes:

d.1. Machine tools for turning, grinding, milling or any combination thereof, having two or more axes that can be coordinated simultaneously for ''contouring control'' and having any of the following characteristics:

d.1.a. One or more contouring ''tilting spindles;''

Note: 2B991.d.1.a. applies to machine tools for grinding or milling only.

d.1.b. ''Camming'' (axial displacement) in one revolution of the spindle less (better) than 0.0006 mm total indicator reading (TIR);

Note: 2B991.d.1.b. applies to machine tools for turning only.

d.1.c. ''Run out'' (out-of-true running) in one revolution of the spindle less (better) than 0.0006 mm total indicator reading (TIR);

d.1.d. The ''positioning accuracies'', with all compensations available, are less (better) than: 0.001° on any rotary axis;

d.2. Electrical discharge machines (EDM) of the wire feed type that have five or more axes that can be coordinated simultaneously for ''contouring control.''

2B992 Non-"numerically controlled" machine tools for generating optical quality surfaces, (see List of Items Controlled) and "specially designed" "parts" and "components" therefor.

LICENSE REQUIREMENTS

Reason for Control: AT

Control(s)	Country Chart (See Supp. No. 1 to part 738)
AT applies to entire entry	AT Column 1

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

LVS: N/A

GBS: N/A

LIST OF ITEMS CONTROLLED

Related Controls: N/A

Related Definitions: N/A

Items: a. Turning machines using a single point cutting tool and having all of the following characteristics:

a.1. Slide positioning accuracy less (better) than 0.0005 mm per 300 mm of travel;

a.2. Bidirectional slide positioning repeatability less (better) than 0.00025 mm per 300 mm of travel;

a.3. Spindle ''run out'' and ''camming'' less (better) than 0.0004 mm total indicator reading (TIR);

a.4. Angular deviation of the slide movement (yaw, pitch and roll) less (better) than 2 seconds of arc, TIR, over full travel; *and*

a.5. Slide perpendicularity less (better) than 0.001 mm per 300 mm of travel;

Technical Note: The bidirectional slide positioning repeatability (R) of an axis is the maximum value of the repeatability of positioning at any position along or around the axis determined using the procedure and under the conditions specified in part 2.11 of ISO 230/2: 1988.

b. Fly cutting machines having all of the following characteristics:

b.1. Spindle ''run out'' and ''camming'' less (better) than 0.0004 mm TIR; *and*

b.2. Angular deviation of slide movement (yaw, pitch and roll) less (better) than 2 seconds of arc, TIR, over full travel.

2B993 Gearmaking and/or finishing machinery not controlled by 2B003 capable of producing gears to a quality level of better than AGMA 11.

LICENSE REQUIREMENTS

Reason for Control: AT

Control(s)	Country Chart (See Supp. No. 1 to part 738)
AT applies to entire entry	AT Column 1

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

LVS: N/A

GBS: N/A

LIST OF ITEMS CONTROLLED

Related Controls: N/A

Related Definitions: N/A

Items: The list of items controlled is contained in the ECCN heading.

2B996 Dimensional inspection or measuring systems or equipment not controlled by 2B006 or 2B206, as follows (see List of Items Controlled).

LICENSE REQUIREMENTS

Reason for Control: AT

Control(s)	Country Chart (See Supp. No. 1 to part 738)
AT applies to entire entry	AT Column 1

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

LVS: N/A

GBS: N/A

LIST OF ITEMS CONTROLLED

Related Controls: N/A

Related Definitions: N/A

Items: a. Manual dimensional inspection machines, having both of the following characteristics:

a.1. Two or more axes; *and*

a.2. A measurement uncertainty equal to or less (better) than (3 + L/300) micrometer in any axes (L measured length in mm).

2B997 "Robots" not controlled by 2B007 or 2B207 that are capable of employing feedback information in real-time processing from one or more sensors to generate or modify "programs" or to generate or modify numerical program data.

LICENSE REQUIREMENTS

Reason for Control: AT

Control(s)	Country Chart (See Supp. No. 1 to part 738)
AT applies to entire entry	AT Column 1

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

LVS: N/A

GBS: N/A

LIST OF ITEMS CONTROLLED

Related Controls: N/A

Related Definitions: N/A

Items: The list of items controlled is contained in the ECCN heading.

2B998 Assemblies, circuit boards or inserts "specially designed" for machine tools controlled by 2B991, or for equipment controlled by 2B993, 2B996 or 2B997.

LICENSE REQUIREMENTS

Reason for Control: AT

Control(s)	Country Chart (See Supp. No. 1 to part 738)
AT applies to entire entry	AT Column 1

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

LVS: N/A

GBS: N/A

LIST OF ITEMS CONTROLLED

Related Controls: This entry does not control measuring interferometer systems, without closed or open loop feedback, containing a laser to measure slide movement errors of machine-tools, dimensional inspection machines or similar equipment.

Related Definition: N/A

Items: a. Spindle assemblies, consisting of spindles and bearings as a minimal assembly, with radial (''run out'') or axial (''camming'') axis motion in one revolution of the spindle less (better) than 0.0006 mm total indicator reading (TIR);

b. Single point diamond cutting tool inserts, having all of the following characteristics:

b.1. Flawless and chip-free cutting edge when magnified 400 times in any direction;

b.2. Cutting radius from 0.1 to 5 mm inclusive; *and*

b.3. Cutting radius out-of-roundness less (better) than 0.002 mm TIR.

c. ''Specially designed'' printed circuit boards with mounted ''parts'' or ''components'' capable of upgrading, according to the manufacturer's specifications, ''numerical control'' units, machine tools or feedback devices to or above the levels specified in ECCNs 2B991, 2B993, 2B996, 2B997, or 2B998.

2B999 Specific Processing Equipment, n.e.s., as Follows (See List of Items Controlled).

LICENSE REQUIREMENTS

Reason for Control: RS, AT

Control(s)	Country chart (see supp. no. 1 to part 738)
RS applies to entire entry except 2B999.h.2	A license is required for items controlled by this entry, other than 2B999.h.2, for export or reexport to Pakistan or transfer within Pakistan for regional stability reasons. The Commerce Country Chart is not designed to determine RS license requirements for this entry. See §742.6(a)(12) of the EAR for additional information.
AT applies to entire entry	A license is required for items controlled by this entry to North Korea for anti-terrorism reasons. The Commerce Country Chart is not designed to determine AT licensing requirements for this entry. See §742.19 of the EAR for additional information.

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

LVS: N/A

GBS: N/A

LIST OF ITEMS CONTROLLED

Related Controls: (1) See also 1B233, 2A992, 2A993, 2B001.f, 2B004, 2B009, 2B104, 2B109, 2B204, 2B209, 2B228, 2B229, 2B231, and 2B350. (2) Certain nuclear related processing equipment is subject to the export licensing authority of the Nuclear Regulatory Commission (see *10 CFR part 110*).

Related Definitions: N/A

Items:

a. Isostatic presses, n.e.s.

b. Bellows manufacturing equipment, including hydraulic forming equipment and bellows forming dies.

c. Laser welding machines.

d. MIG welders.

e. E-beam welders.

f. Monel equipment, including valves, piping, tanks and vessels.

g. 304 and 316 stainless steel valves, piping, tanks and vessels.

Note: Fittings are considered part of ''piping'' for purposes of 2B999.g.

h. Mining and drilling equipment, as follows:

h.1. Large boring equipment capable of drilling holes greater than two feet in diameter.

h.2. Large earth-moving equipment used in the mining industry.

i. Electroplating equipment designed for coating parts with nickel or aluminum.

j. Pumps designed for industrial service and for use with an electrical motor of 5 HP or greater.

k. Vacuum valves, piping, flanges, gaskets and related equipment ''specially designed'' for use in high-vacuum service, n.e.s.

l. Spin forming and flow forming machines, n.e.s.

m. Centrifugal multiplane balancing machines, n.e.s.

n. Austenitic stainless-steel plate, valves, piping, tanks and vessels.

C. ''MATERIALS'' [RESERVED]

D. ''SOFTWARE''

2D001 "Software", other than that controlled by 2D002, as follows (See list of Items Controlled).

LICENSE REQUIREMENTS

Reason for Control: NS, MT, NP, AT

Control(s)	Country Chart (See Supp. No. 1 to part 738)
NS applies to entire entry	NS Column 1
MT applies to "software" for equipment controlled by 2B004 and 2B009 for MT reasons.	MT Column 1
NP applies to "specially designed" or modified "software" for equipment controlled by 2B001 for NP reasons, and to "specially designed" "software" for equipment controlled by 2B004, 2B006, 2B007, or 2B009 for NP reasons.	NP Column 1
AT applies to entire entry	AT Column 1

REPORTING REQUIREMENTS See §743.1 of the EAR for reporting requirements for exports under License Exceptions, and Validated End-User authorizations

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

TSR: Yes, except N/A for MT

SPECIAL CONDITIONS FOR STA

STA: License Exception STA may not be used to ship or transmit ''software'', other than that specified by ECCN 2D002, ''specially designed'' for the ''development'' or ''production'' of equipment as follows: ECCN 2B001 entire entry; or ''Numerically controlled'' or manual machine tools as specified in 2B003 to any of the destinations listed in Country Group A:6 (See Supplement No. 1 to part 740 of the EAR).

LIST OF ITEMS CONTROLLED

Related Controls: (1) See ECCNs 2E001 (''development'') and 2E101 (''use'') for technology for ''software'' controlled under this entry. (2) *Also see* ECCNs 2D101 and 2D201.

Related Definitions: N/A

Items: a. ''Software'' ''specially designed'' or modified for the ''development'' or ''production'' of equipment controlled by 2A001 or 2B001 to 2B009;

b. ''Software'' ''specially designed'' or modified for the ''use'' of equipment specified by 2A001.c., 2B001, or 2B003 to 2B009.

Note: 2D001 does not apply to part programming ''software'' that generates ''numerical control'' codes for machining various parts.

2D002 "Software" for electronic devices, even when residing in an electronic device or system, enabling such devices or systems to function as a "numerical control" unit, capable of coordinating simultaneously more than 4 axes for "contouring control".

LICENSE REQUIREMENTS

Reason for Control: NS, NP, AT

Control(s)	Country Chart (See Supp. No. 1 to part 738)
NS applies to entire entry	NS Column 1.
NP applies to entire entry	NP Column 1.
AT applies to entire entry	AT Column 1.

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

TSR: Yes

LIST OF ITEMS CONTROLLED

Related Controls: (1) See ECCNs 2E001 (''development'') and 2E201 (''use'') for technology for ''software'' controlled under this entry. (2) Also see ECCN 2D202.

Related Definitions: N/A

Items:

Note 1: 2D002 does not control ''software'' ''specially designed'' or modified for the operation of items not specified by Category 2.

Note 2: 2D002 does not control ''software'' for items specified by 2B002. See 2D001 and 2D003 for ''software'' for items specified by 2B002.

Note 3: 2D002 does not apply to ''software'' that is exported with, and the minimum necessary for the operation of, items not specified by Category 2.

The list of items controlled is contained in the ECCN heading.

2D003 "Software", designed or modified for the operation of equipment specified by 2B002, that converts optical design, workpiece measurements and material removal functions into "numerical control" commands to achieve the desired workpiece form.

LICENSE REQUIREMENTS

Reason for Control: NS, AT

Control(s)	Country Chart (See Supp. No. 1 to part 738)
NS applies to entire entry	NS Column 2.
AT applies to entire entry	AT Column 1.

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

TSR: Yes.

LIST OF ITEMS CONTROLLED

Related Controls: See ECCN *2E001* (''development'') for technology for ''software'' controlled under this entry.

Related Definitions: N/A

Items: The list of items controlled is contained in the ECCN heading.

2D018 "Software" for the "development," "production," or "use" of equipment controlled by 2B018.

No software is currently controlled under this entry. See ECCNs 0D501, 0D602, and 0D606 for software formerly controlled under this entry.

2D101 "Software" "specially designed" or modified for the "use" of equipment controlled by 2B104, 2B105, 2B109, 2B116, 2B117, or 2B119 to 2B122.

LICENSE REQUIREMENTS

Reason for Control: MT, NP, AT

Control(s)	Country Chart (See Supp. No. 1 to part 738)
MT applies to entire entry	MT Column 1.
NP applies to "software" "specially designed" for the use" of items controlled by 2B104, 2B109, or 2B116 for NP reasons.	NP Column 1.
AT applies to entire entry	AT Column 1.

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

TSR: N/A

LIST OF ITEMS CONTROLLED

Related Controls: (1) See ECCNs 2E001 (''development'') and 2E101 (''use'') for technology for ''software'' controlled under this entry. (2) *Also see* ECCN 9D004.

Related Definitions: N/A

Items: The list of items controlled is contained in the ECCN heading.

2D201 "Software" "specially designed" or modified for the "use" of equipment controlled by 2B204, 2B206, 2B207, 2B209, 2B227, or 2B229.

LICENSE REQUIREMENTS

Reason for Control: NP, AT

Control(s)	Country Chart (See Supp. No. 1 to part 738)
NP applies to entire entry	NP Column 1
AT applies to entire entry	AT Column 1

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

TSR: N/A

LIST OF ITEMS CONTROLLED

Related Controls: (1) See ECCNs 2E001 (''development'') and 2E201 (''use'') for technology for ''software'' controlled under this entry. (2) Also see ECCNs 2D002 and 2D202.

Related Definitions: N/A

ECCN Controls: ''Software'' ''specially designed'' or modified for systems controlled by 2B206.b includes ''software'' for simultaneous measurements of wall thickness and contour.

Items: The list of items controlled is contained in the ECCN heading.

2D202 "Software" "specially designed" or modified for the "development", "production" or "use" of equipment controlled by 2B201.

LICENSE REQUIREMENTS

Reason for Control: NP, AT

Control(s)	Country Chart (See Supp. No. 1 to part 738)
NP applies to entire entry	NP Column 1
AT applies to entire entry	AT Column 1

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

TSR: N/A

LIST OF ITEMS CONTROLLED

Related Controls: N/A

Related Definitions: N/A

ECCN Controls: ECCN 2D202 does not control part programming ''software'' that generates ''numerical control'' command codes, but does not allow direct use of equipment for machining various parts.

Items: The list of items controlled is contained in the ECCN heading.

2D290 "Software" "specially designed" or modified for the "development," "production," or "use" of items controlled by 2A290 or 2A291.

LICENSE REQUIREMENTS

Reason for Control: NP, AT

Control(s)	Country Chart (See Supp. No. 1 to part 738)
NP applies to entire entry	NP Column 2
AT applies to entire entry	AT Column 1

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

TSR: N/A

LIST OF ITEMS CONTROLLED

Related Controls: See ECCN 2E001 (''development'') for technology for ''software'' controlled under this entry.

Related Definitions: N/A

Items: The list of items controlled is contained in the ECCN heading.

2D351 Dedicated "software" for toxic gas monitors and monitoring systems, and their dedicated detecting "parts" and "components," controlled by ECCN 2B351.

LICENSE REQUIREMENTS

Reason for Control: CB, AT

Control(s)	Country Chart (See Supp. No. 1 to part 738)
CB applies to entire entry	CB Column 2
AT applies to entire entry	AT Column 1

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

TSR: N/A

LIST OF ITEMS CONTROLLED

Related Controls: N/A

Related Definitions: (1) For the purposes of this entry, the term ''dedicated'' means committed entirely to a single purpose or device. (2) See Section 772.1 of the EAR for the definitions of ''software,'' ''program,'' and ''microprogram.''
Items: The list of items controlled is contained in the ECCN heading.

2D352 "Software" designed for nucleic acid assemblers and synthesizers controlled by 2B352.j that is capable of designing and building functional genetic elements from digital sequence data.

LICENSE REQUIREMENTS
Reason for Control: CB, AT

Control(s)	Country chart (see Supp. No. 1 to part 738)
CB applies to entire entry	CB Column 2.
AT applies to entire entry	AT Column 1.

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)
TSR: N/A
LIST OF ITEMS CONTROLLED
Related Controls: See ECCN 1E001 for ''development'' or ''production ''technology'' for genetic elements controlled by ECCN 1C353.
Related Definitions: See Section 772.1 of the EAR for the definitions of ''software,'' ''program,'' and ''microprogram.''
Items: The list of items controlled is contained in the ECCN heading.

2D910 "Software", not specified elsewhere, "specially designed" or modified for the "development" or "production" of equipment specified in ECCN 2B910.

LICENSE REQUIREMENTS
Reason for Control: NS, RS, AT

Control(s)	Country chart (see Supp. No. 1 to part 738)
NS applies to entire entry	Worldwide control. *See § 742.4(a)(5) and (b)(10) of the EAR.*
RS applies to entire entry	Worldwide control. *See § 742.6(a)(10) and (b)(11) of the EAR.*
AT applies to entire entry	AT Column 1.

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)
TSR: N/A
IEC: Yes, see §740.2(a)(22) and §740.24 of the EAR.
SPECIAL CONDITIONS FOR STA
STA: License Exception STA may not be used to ship any item in this ECCN to any of the destinations listed in Country Group A:5 or A:6 (See Supplement No. 1 to part 740 of the EAR).
LIST OF ITEMS CONTROLLED
Related Controls: N/A
Related Definitions: N/A
Items: The list of items controlled is contained in the ECCN heading.

2D983 "Software" "specially designed" or modified for the "development", "production" or "use" of equipment controlled by 2A983.

LICENSE REQUIREMENTS
*Reason for Control:*RS, AT

Control(s)	Country Chart (See Supp. No. 1 to part 738)
RS applies to entire entry	RS Column 2
AT applies to entire entry	AT Column 1

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)
TSR: N/A
LIST OF ITEMS CONTROLLED
Related Controls: N/A
Related Definitions: N/A
Items: The list of items controlled is contained in the ECCN heading.

2D984 "Software" "required" for the "development", "production" or "use" of concealed object detection equipment controlled by 2A984.

LICENSE REQUIREMENTS
Reason for Control: RS, AT

Control(s)	Country Chart (See Supp. No. 1 to part 738)
RS applies to entire entry	RS Column 2.
AT applies to entire entry	AT Column 1.

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)
TSR: N/A
LIST OF ITEMS CONTROLLED
Related Controls: (1) ''Software'' ''required'' for the ''development,'' ''production'' or ''use'' of concealed object detection equipment operating in the frequency range from 30 GHz to 3000 GHz and having a spatial resolution less than 0.5 milliradian (a lower milliradian number means a more accurate image resolution) at a standoff distance of 100 meters is ''subject to the ITAR'' (see 22 CFR parts 120 through 130). (2) ''Software'' ''required'' for the ''development'', ''production'' or ''use'' of concealed object detection equipment operating in the frequency range from 30 GHz to 3000 GHz and having a spatial resolution greater than 1 milliradian spatial resolution (a higher milliradian number means a less accurate image resolution) at a standoff distance of 100 meters is designated as EAR99. (3) See ECCNs 2A984 and 2E984 for related commodity and technology controls.
Related Definitions: N/A

Items: The list of items controlled is contained in the ECCN heading.

2D991 "Software" "specially designed" for the "development", "production", or "use" of equipment controlled by 2B991, 2B993, or 2B996, 2B997, and 2B998.

LICENSE REQUIREMENTS

Reason for Control: AT

Control(s)	Country Chart (See Supp. No. 1 to part 738)
AT applies to entire entry	AT Column 1

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

TSR: N/A

LIST OF ITEMS CONTROLLED

Related Controls: N/A

Related Definitions: N/A

Items: The list of items controlled is contained in the ECCN heading.

2D992 Specific "software", as follows (see List of Items Controlled).

LICENSE REQUIREMENTS

Reason for Control: AT

Control(s)	Country chart (See Supp. No. 1 to part 738)
AT applies to entire entry	AT Column 1

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

TSR: N/A

LIST OF ITEMS CONTROLLED

Related Controls: N/A

Related Definitions: N/A

Items: a. ''Software'' to provide ''adaptive control'' and having both of the following characteristics:

a.1. For ''flexible manufacturing units'' (FMUs) which consist at least of equipment described in b.1 and b.2 of the definition of ''flexible manufacturing unit'' contained in part 772 of the EAR; *and*

a.2. Capable of generating or modifying, in ''real-time processing'', programs or data by using the signals obtained simultaneously by means of at least two detection techniques, such as:

a.2.a. Machine vision (optical ranging);

a.2.b. Infrared imaging;

a.2.c. Acoustical imaging (acoustical ranging);

a.2.d. Tactile measurement;

a.2.e. Inertial positioning;

a.2.f. Force measurement; *and*

a.2.g. Torque measurement.

Note: 2D992.a does not control ''software'' which only provides rescheduling of functionally identical equipment within ''flexible manufacturing units'' using pre-stored part programs and a pre-stored strategy for the distribution of the part programs.

b. Reserved.

2D993 "Software" "specially designed" or modified for the "development," "production," or "use" of items controlled by 2A992 or 2A993.

LICENSE REQUIREMENTS

Reason for Control: AT

Control(s)	Country chart (see supp. no. 1 to part 738)
AT applies to entire entry	AT Column 1

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

TSR: N/A

LIST OF ITEMS CONTROLLED

Related Controls: See ECCN 2E001 (''development'') for ''technology'' for ''software'' controlled under this entry.

Related Definitions: N/A

Items: The list of items controlled is contained in the ECCN heading.

2D994 "Software" "specially designed" for the "development" or "production" of portable electric generators controlled by 2A994.

LICENSE REQUIREMENTS

Reason for Control: AT

Control(s): AT applies to entire entry. A license is required for items controlled by this entry to Iran and North Korea for anti-terrorism reasons. The Commerce Country Chart is not designed to determine licensing requirements for this entry. See part 746 of the EAR for additional information on Iran. See §742.19 of the EAR for additional information on North Korea.

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

TSR: N/A

LIST OF ITEMS CONTROLLED

Related Controls: N/A

Related Definitions: N/A

Items: The list of items controlled is contained in the ECCN heading.

E. ''TECHNOLOGY''

2E001 "Technology" according to the General Technology Note for the "development" of equipment or "software" controlled by 2A (except 2A983, 2A984, 2A991, or 2A994), 2B (except 2B991, 2B993, 2B996, 2B997, 2B998, or 2B999), or 2D (except 2D983, 2D984, 2D991, 2D992, or 2D994).

LICENSE REQUIREMENTS

Reason for Control: NS, MT, NP, CB, AT

Control(s)	Country chart (see Supp. No. 1 to part 738)
NS applies to ''technology'' for items controlled by 2A001, 2B001 to 2B009, 2D001 or 2D002.	NS Column 1.
MT applies to ''technology'' for items controlled by 2B004, 2B009, 2B104, 2B105, 2B109, 2B116, 2B117, 2B119 to 2B122, 2D001, or 2D101 for MT reasons.	MT Column 1.
NP applies to ''technology'' for items controlled by 2A225, 2A226, 2B001, 2B004, 2B006, 2B007, 2B009, 2B104, 2B109, 2B116, 2B201, 2B204, 2B206, 2B207, 2B209, 2B225 to 2B233, 2D001, 2D002, 2D101, 2D201, or 2D202 for NP reasons.	NP Column 1.
NP applies to ''technology'' for items controlled by 2A290, 2A291, or 2D290 for NP reasons.	NP Column 2.
CB applies to ''technology'' for equipment controlled by 2B350 to 2B352, valves controlled by 2A226 having the characteristics of those controlled by 2B350.g, and software controlled by 2D351 or 2D352.	CB Column 2.
AT applies to entire entry	AT Column 1.

REPORTING REQUIREMENTS

See §743.1 of the EAR for reporting requirements for exports under License Exceptions, and Validated End-User authorizations.

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

TSR: Yes, except N/A for MT

SPECIAL CONDITIONS FOR STA

STA: License Exception STA may not be used to ship or transmit ''technology'' according to the General Technology Note for the ''development'' of ''software'' specified in the License Exception STA paragraph in the License Exception section of ECCN 2D001 or for the ''development'' of equipment as follows: ECCN 2B001 entire entry; or ''Numerically controlled'' or manual machine tools as specified in 2B003 to any of the destinations listed in Country Group A:6 (See Supplement No. 1 to part 740 of the EAR).

LIST OF ITEMS CONTROLLED

Related Controls: See also 2E101, 2E201, and 2E301

Related Definitions: N/A

Items:

The list of items controlled is contained in the ECCN heading.

Note 1 to 2E001: ECCN 2E001 includes ''technology'' for the integration of probe systems into coordinate measurement machines specified by 2B006.a.

2E002 "Technology" according to the General Technology Note for the "production" of equipment controlled by 2A (except 2A983, 2A984, 2A991, or 2A994), or 2B (except 2B991, 2B993, 2B996, 2B997, 2B998, or 2B999).

LICENSE REQUIREMENTS

Reason for Control: NS, MT, NP, CB, AT

Control(s)	Country chart (see Supp. No. 1 to part 738)
NS applies to ''technology'' for equipment controlled by 2A001, 2B001 to 2B009.	NS Column 1
MT applies to ''technology'' for equipment controlled by 2B004, 2B009, 2B104, 2B105, 2B109, 2B116, 2B117, or 2B119 to 2B122 for MT reasons.	MT Column 1
NP applies to ''technology'' for equipment controlled by 2A225, 2A226, 2B001, 2B004, 2B006, 2B007, 2B009, 2B104, 2B109, 2B116, 2B201, 2B204, 2B206, 2B207, 2B209, 2B225 to 2B233 for NP reasons.	NP Column 1
NP applies to ''technology'' for equipment controlled by 2A290 or 2A291 for NP reasons.	NP Column 2
CB applies to ''technology'' for equipment Controlled by 2B350 to 2B352 and for valves controlled by 2A226 having the characteristics of those controlled by 2B350.g.	CB Column 2
AT applies to entire entry	AT Column 1

REPORTING REQUIREMENTS

See §743.1 of the EAR for reporting requirements for exports under License Exceptions, and Validated End-User authorizations.

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

TSR: Yes, except N/A for MT

SPECIAL CONDITIONS FOR STA

STA: License Exception STA may not be used to ship or transmit ''technology'' according to the General Technology Note for the ''production'' of equipment as follows: ECCN 2B001 entire entry; or ''Numerically controlled'' or manual machine tools as specified in 2B003 to any of the destinations listed in Country Group A:6 (See Supplement No. 1 to part 740 of the EAR).

LIST OF ITEMS CONTROLLED

Related Controls: N/A

Related Definitions: N/A

Items:

The list of items controlled is contained in the ECCN heading.

2E003 Other "technology", as follows (see List of Items Controlled).

LICENSE REQUIREMENTS

Reason for Control: NS, AT

Control(s)	Country chart (see Supp. No. 1 to part 738)
NS applies to entire entry	NS Column 1.
AT applies to entire entry	AT Column 1.

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

TSR: Yes, except 2E003.b, .e and .f

LIST OF ITEMS CONTROLLED

Related Controls: (1) See 2E001, 2E002, and 2E101 for ''development'' and ''use'' technology for equipment that are designed or modified for densification of carbon-carbon composites, structural composite rocket nozzles and reentry vehicle nose tips. (2) See 2E903 for ''technology'', not specified elsewhere, for the ''development'' or ''production'' of coating systems (as defined in 2E903).

Related Definitions: N/A

Items:

a. [Reserved]

b. ''Technology'' for metal-working manufacturing processes, as follows:

b.1. ''Technology'' for the design of tools, dies or fixtures ''specially designed'' for any of the following processes:

b.1.a. ''Superplastic forming'';

b.1.b. ''Diffusion bonding''; *or*

b.1.c. 'Direct-acting hydraulic pressing';

b.2. [Reserved]

N.B.: For ''technology'' for metal-working manufacturing processes for gas turbine engines and components, see 9E003 and USML Category XIX.

Technical Note: For the purposes of 2E003.b.1.c, 'direct-acting hydraulic pressing' is a deformation process which uses a fluid-filled flexible bladder in direct contact with the workpiece.

c. ''Technology'' for the ''development'' or ''production'' of hydraulic stretch-forming machines and dies therefor, for the manufacture of airframe structures;

d. [Reserved]

e. ''Technology'' for the ''development'' of integration ''software'' for incorporation of expert systems for advanced decision support of shop floor operations into ''numerical control'' units;

f. ''Technology'' for the application of inorganic overlay coatings or inorganic surface modification coatings (specified in column 3 of the following table) to non-electronic substrates (specified in column 2 of the following table), by processes specified in column 1 of the following table and defined in the Technical Note.

CATEGORY 2E—MATERIALS PROCESSING TABLE; DEPOSITION TECHNIQUES

1. Coating process (1) [1]	2. Substrate	3. Resultant coating
A. Chemical Vapor Deposition (CVD)	''Superalloys''	Aluminides for internal passages
	Ceramics (19) and Low-expansion glasses (14).	Silicides Carbides Dielectric layers (15) Diamond Diamond-like carbon (17)
	Carbon-carbon, Ceramic, and Metal ''matrix'' ''composites''.	Silicides Carbides Refractory metals, Mixtures thereof (4) Dielectric layers (15) Aluminides Alloyed aluminides (2) Boron nitride
	Cemented tungsten carbide (16), Silicon Carbide (18).	Carbides Tungsten Mixtures thereof (4) Dielectric layers (15)
	Molybdenum and Molybdenum alloys	Dielectric layers (15)
	Beryllium and Beryllium alloys	Dielectric layers (15) Diamond Diamond-like carbon (17)
	Sensor window materials (9)	Dielectric layers (15) Diamond Diamond-like carbon (17)
B. Thermal Evaportation Physical Vapor		
1. Physical Vapor Deposition (PVD): Deposition (TE-PVD) Electron-Beam (EB-PVD).	''Superalloys''	Alloyed silicides Alloyed aluminides (2) McrAlX (5) Modified zirconia (12) Silicides Aluminides Mixtures thereof (4)
	Ceramics (19) and Low-expansion glasses (14).	Dielectric layers (15)

CATEGORY 2E—MATERIALS PROCESSING TABLE; DEPOSITION TECHNIQUES—Continued

1. Coating process (1) [1]	2. Substrate	3. Resultant coating
	Corrosion resistant steel (7)	MCrAIX (5) Modified zirconia (12) Mixtures thereof (4)
	Carbon-carbon, Ceramic and Metal ''matrix'' ''composites''.	Silicides Carbides Refractory metals Mixtures thereof (4) Dielectric layers (15) Boron nitride
	Cemented tungsten carbide (16), Silicon carbide (18).	Carbides Tungsten Mixtures thereof (4) Dielectric layers (15)
	Molybdenum and Molybdenum alloys	Dielectric layers (15)
	Beryllium and Beryllium alloys	Dielectric layers (15) Borides Beryllium
	Sensor window materials (9)	Dielectric layers (15)
	Titanium alloys (13)	Borides Nitrides
2. Ion assisted resistive heating. Physical Vapor Deposition (PVD) (Ion Plating).	Ceramics (19) and Low-expansion glasses (14).	Dielectric layers (15) Diamond-like carbon (17)
	Carbon-carbon, Ceramic and Metal ''matrix'' ''composites''.	Dielectric layers (15)
	Cemented tungsten carbide (16), Silicon carbide.	Dielectric layers (15)
	Molybdenum and Molybdenum alloys	Dielectric layers (15)
	Beryllium and Beryllium alloys	Dielectric layers (15)
	Sensor window materials (9)	Dielectric layers (15) Diamond-like carbon (17)
3. Physical Vapor Deposition (PVD): ''Laser'' Vaporization.	Ceramics (19) and Low-expansion glasses (14).	Silicides Dielectric layers (15) Diamond-like carbon (17)
	Carbon-carbon, Ceramic and Metal ''matrix'' ''composites''.	Dielectric layers (15)
	Cemented tungsten carbide (16), Silicon carbide.	Dielectric layers (15)
	Molybdenum and Molybdenum alloys	Dielectric layers (15)
	Beryllium and Beryllium alloys	Dielectric layers (15)
	Sensor window materials (9)	Dielectric layers (15) Diamond-like carbon
4. Physical Vapor Deposition (PVD): Cathodic Arc Discharge.	''Superalloys''	Alloyed silicides Alloyed Aluminides (2) MCrAIX (5)
	Polymers (11) and Organic ''matrix'' ''composites''.	Borides Carbides Nitrides Diamond-like carbon (17)
C. Pack cementation (see A above for out-of-pack cementation) (10).	Carbon-carbon, Ceramic and Metal ''matrix'' ''composites''.	Silicides Carbides Mixtures thereof (4)
	Titanium alloys (13)	Silicides Aluminides Alloyed aluminides (2)
	Refractory metals and alloys (8)	Silicides Oxides
D. Plasma spraying	''Superalloys''	MCrAIX (5) Modified zirconia (12) Mixtures thereof (4) Abradable Nickel-Graphite Abradable materials containing Ni-Cr-Al Abradable Al-Si-Polyester Alloyed aluminides (2)
	Aluminum alloys (6)	MCrAIX (5) Modified zirconia (12) Silicides Mixtures thereof (4)

CATEGORY 2E—MATERIALS PROCESSING TABLE; DEPOSITION TECHNIQUES—Continued

1. Coating process (1) [1]	2. Substrate	3. Resultant coating
	Refractory metals and alloys (8), Carbides, Corrosion resistant steel (7).	Aluminides Silicides MCrAlX (5) Modified zirconia (12) Mixtures thereof (4)
	Titanium alloys (13)	Carbides Aluminides Silicides Alloyed aluminides (2)
	Abradable, Nickel-Graphite	Abradable materials containing Ni-Cr-Al Abradable Al-Si-Polyester
E. Slurry Deposition	Refractory metals and alloys (8)	Fused silicides Fused aluminides except for resistance heating elements
	Carbon-carbon, Ceramic and Metal ''matrix'' ''composites''.	Silicides Carbides Mixtures thereof (4)
F. Sputter Deposition	''Superalloys''	Alloyed silicides Alloyed aluminides (2) Noble metal modified aluminides (3) McrAlX (5) Modified zirconia (12) Platinum Mixtures thereof (4)
	Ceramics and Low-expansion glasses (14).	Silicides Platinum Mixtures thereof (4) Dielectric layers (15) Diamond-like carbon (17)
	Titanium alloys (13)	Borides Nitrides Oxides Silicides Aluminides Alloyed aluminides (2) Carbides
	Carbon-carbon, Ceramic and Metal ''matrix'' ''Composites''.	Silicides Carbides Refractory metals Mixtures thereof (4) Dielectric layers (15) Boron nitride
	Cemented tungsten carbide (16), Silicon carbide (18).	Carbides Tungsten Mixtures thereof (4) Dielectric layers (15) Boron nitride
	Molybdenum and Molybdenum alloys	Dielectric layers (15)
	Beryllium and Beryllium alloys	Borides Dielectric layers (15) Beryllium
	Sensor window materials (9)	Dielectric layers (15) Diamond-like carbon (17)
	Refractory metals and alloys (8)	Aluminides Silicides Oxides Carbides
G. Ion Implantation	High temperature bearing steels	Additions of Chromium, Tantalum, or Niobium (Columbium)
	Titanium alloys (13)	Borides Nitrides
	Beryllium and Beryllium alloys	Borides
	Cemented tungsten carbide (16)	Carbides Nitrides

[1] The numbers in parenthesis refer to the Notes following this Table.

Notes to Table on Deposition Techniques 1. The term 'coating process' includes coating repair and refurbishing as well as original coating. 2. The term 'alloyed aluminide coating' includes single or multiple-step coatings in which an element or elements are deposited prior to or during application of the aluminide coating, even if these elements are deposited by another

coating process. It does not, however, include the multiple use of single-step pack cementation processes to achieve alloyed aluminides.

3. The term 'noble metal modified aluminide' coating includes multiple-step coatings in which the noble metal or noble metals are laid down by some other coating process prior to application of the aluminide coating.

4. The term 'mixtures thereof' includes infiltrated material, graded compositions, co-deposits and multilayer deposits and are obtained by one or more of the coating processes specified in the Table.

5. MCrAlX refers to a coating alloy where M equals cobalt, iron, nickel or combinations thereof and X equals hafnium, yttrium, silicon, tantalum in any amount or other intentional additions over 0.01% by weight in various proportions and combinations, except:

a. CoCrAlY coatings which contain less than 22% by weight of chromium, less than 7% by weight of aluminum and less than 2% by weight of yttrium;

b. CoCrAlY coatings which contain 22 to 24% by weight of chromium, 10 to 12% by weight of aluminum and 0.5 to 0.7% by weight of yttrium; or

c. NiCrAlY coatings which contain 21 to 23% by weight of chromium, 10 to 12% by weight of aluminum and 0.9 to 1.1% by weight of yttrium.

6. The term 'aluminum alloys' refers to alloys having an ultimate tensile strength of 190 MPa or more measured at 293 K (20 °C).

7. The term 'corrosion resistant steel' refers to AISI (American Iron and Steel Institute) 300 series or equivalent national standard steels.

8. 'Refractory metals and alloys' include the following metals and their alloys: niobium (columbium), molybdenum, tungsten and tantalum.

9. 'Sensor window materials', as follows: alumina, silicon, germanium, zinc sulfide, zinc selenide, gallium arsenide, diamond, gallium phosphide, sapphire and the following metal halides: sensor window materials of more than 40 mm diameter for zirconium fluoride and hafnium fluoride.

10. Category 2 does not include ''technology'' for single-step pack cementation of solid airfoils.

11. 'Polymers', as follows: Polyimide, polyester, polysulfide, polycarbonates and polyurethanes.

12. 'Modified zirconia' refers to additions of other metal oxides, (e.g., calcia, magnesia, yttria, hafnia, rare earth oxides) to zirconia in order to stabilize certain crystallographic phases and phase compositions. Thermal barrier coatings made of zirconia, modified with calcia or magnesia by mixing or fusion, are not controlled.

13. 'Titanium alloys' refers only to aerospace alloys having an ultimate tensile strength of 900 MPa or more measured at 293 K (20 °C).

14. 'Low-expansion glasses' refers to glasses which have a coefficient of thermal expansion of 1×10^{-7} K^{-1} or less measured at 293 K (20 °C).

15. 'Dielectric layers' are coatings constructed of multi-layers of insulator materials in which the interference properties of a design composed of materials of various refractive indices are used to reflect, transmit or absorb various wavelength bands. Dielectric layers refers to more than four dielectric layers or dielectric/metal ''composite'' layers.

16. 'Cemented tungsten carbide' does not include cutting and forming tool materials consisting of tungsten carbide/(cobalt, nickel), titanium carbide/(cobalt, nickel), chromium carbide/nickel-chromium and chromium carbide/nickel.

17. ''Technology'' for depositing diamond-like carbon on any of the following is not controlled: magnetic disk drives and heads, equipment for the manufacture of disposables, valves for faucets, acoustic diaphragms for speakers, engine parts for automobiles, cutting tools, punching-pressing dies, office automation equipment, microphones, medical devices or molds, for casting or molding of plastics, manufactured from alloys containing less than 5% beryllium.

18. 'Silicon carbide' does not include cutting and forming tool materials.

19. Ceramic substrates, as used in this entry, does not include ceramic materials containing 5% by weight, or greater, clay or cement content, either as separate constituents or in combination.

Technical Note to Table on Deposition Techniques: Processes specified in Column 1 of the Table are defined as follows:

a. Chemical Vapor Deposition (CVD) is an overlay coating or surface modification coating process wherein a metal, alloy, ''composite'', dielectric or ceramic is deposited upon a heated substrate. Gaseous reactants are decomposed or combined in the vicinity of a substrate resulting in the deposition of the desired elemental, alloy or compound material on the substrate. Energy for this decomposition or chemical reaction process may be provided by the heat of the substrate, a glow discharge plasma, or ''laser'' irradiation.

Note 1: CVD includes the following processes: Directed gas flow out-of-pack deposition, pulsating CVD, controlled nucleation thermal decomposition (CNTD), plasma enhanced or plasma assisted CVD processes.

Note 2: Pack denotes a substrate immersed in a powder mixture.

Note 3: The gaseous reactants used in the out-of-pack process are produced using the same basic reactions and parameters as the pack cementation process, except that the substrate to be coated is not in contact with the powder mixture.

b. Thermal Evaporation-Physical Vapor Deposition (TE–PVD) is an overlay coating process conducted in a vacuum with a pressure less than 0.1 Pa wherein a source of thermal energy is used to vaporize the coating material. This process results in the condensation, or deposition, of the evaporated species onto appropriately positioned substrates. The addition of gases to the vacuum chamber during the coating process to synthesize compound coatings is an

ordinary modification of the process. The use of ion or electron beams, or plasma, to activate or assist the coating's deposition is also a common modification in this technique. The use of monitors to provide in-process measurement of optical characteristics and thickness of coatings can be a feature of these processes. Specific TE–PVD processes are as follows:

1. Electron Beam PVD uses an electron beam to heat and evaporate the material which forms the coating;

2. Ion Assisted Resistive Heating PVD employs electrically resistive heating sources in combination with impinging ion beam(s) to produce a controlled and uniform flux of evaporated coating species;

3. ''Laser'' Vaporization uses either pulsed or continuous wave ''laser'' beams to vaporize the material which forms the coating;

4. Cathodic Arc Deposition employs a consumable cathode of the material which forms the coating and has an arc discharge established on the surface by a momentary contact of a ground trigger. Controlled motion of arcing erodes the cathode surface creating a highly ionized plasma. The anode can be either a cone attached to the periphery of the cathode, through an insulator, or the chamber. Substrate biasing is used for non line-of-sight deposition;

Note: This definition does not include random cathodic arc deposition with non-biased substrates.

5. Ion Plating is a special modification of a general TE–PVD process in which a plasma or an ion source is used to ionize the species to be deposited, and a negative bias is applied to the substrate in order to facilitate the extraction of the species from the plasma. The introduction of reactive species, evaporation of solids within the process chamber, and the use of monitors to provide in-process measurement of optical characteristics and thicknesses of coatings are ordinary modifications of the process.

c. Pack Cementation is a surface modification coating or overlay coating process wherein a substrate is immersed in a powder mixture (a pack), that consists of:

1. The metallic powders that are to be deposited (usually aluminum, chromium, silicon or combinations thereof);

2. An activator (normally a halide salt); and

3. An inert powder, most frequently alumina.

Note: The substrate and powder mixture is contained within a retort which is heated to between 1,030 K (757 °C) to 1,375 K (1,102 °C) for sufficient time to deposit the coating.

d. Plasma Spraying is an overlay coating process wherein a gun (spray torch) which produces and controls a plasma accepts powder or wire coating materials, melts them and propels them towards a substrate, whereon an integrally bonded coating is formed. Plasma spraying constitutes either low pressure plasma spraying or high velocity plasma spraying.

≤Note 1: Low pressure means less than ambient atmospheric pressure.

Note 2: High velocity refers to nozzle-exit gas velocity exceeding 750 m/s calculated at 293 K (20 °C) at 0.1 MPa.

e. Slurry Deposition is a surface modification coating or overlay coating process wherein a metallic or ceramic powder with an organic binder is suspended in a liquid and is applied to a substrate by either spraying, dipping or painting, subsequent air or oven drying, and heat treatment to obtain the desired coating.

f. Sputter Deposition is an overlay coating process based on a momentum transfer phenomenon, wherein positive ions are accelerated by an electric field towards the surface of a target (coating material). The kinetic energy of the impacting ions is sufficient to cause target surface atoms to be released and deposited on an appropriately positioned substrate.

Note 1: The Table refers only to triode, magnetron or reactive sputter deposition which is used to increase adhesion of the coating and rate of deposition and to radio frequency (RF) augmented sputter deposition used to permit vaporization of non-metallic coating materials.

Note 2: Low-energy ion beams (less than 5 keV) can be used to activate the deposition.

g. Ion Implantation is a surface modification coating process in which the element to be alloyed is ionized, accelerated through a potential gradient and implanted into the surface region of the substrate. This includes processes in which ion implantation is performed simultaneously with electron beam physical vapor deposition or sputter deposition.

Accompanying Technical Information to Table on Deposition Techniques:

1. Technical information for pretreatments of the substrates listed in the Table, as follows:

a. Chemical stripping and cleaning bath cycle parameters, as follows:

1. Bath composition;

a. For the removal of old or defective coatings corrosion product or foreign deposits;

b. For preparation of virgin substrates;

2. Time in bath;

3. Temperature of bath;

4. Number and sequences of wash cycles;

b. Visual and macroscopic criteria for acceptance of the cleaned part;

c. Heat treatment cycle parameters, as follows:

1. Atmosphere parameters, as follows:

a. Composition of the atmosphere;

b. Pressure of the atmosphere;

2. Temperature for heat treatment;

3. Time of heat treatment;

d. Substrate surface preparation parameters, as follows:

1. Grit blasting parameters, as follows:

a. Grit composition;

b. Grit size and shape;

c. Grit velocity;

2. Time and sequence of cleaning cycle after grit blast;

3. Surface finish parameters;

4. Application of binders to promote adhesion;

e. Masking technique parameters, as follows:

1. Material of mask;

2. Location of mask;
2. Technical information for in situ quality assurance techniques for evaluation of the coating processes listed in the Table, as follows:
a. Atmosphere parameters, as follows:
1. Composition of the atmosphere;
2. Pressure of the atmosphere;
b. Time parameters;
c. Temperature parameters;
d. Thickness parameters;
e. Index of refraction parameters;
f. Control of composition;
3. Technical information for post deposition treatments of the coated substrates listed in the Table, as follows:
a. Shot peening parameters, as follows:
1. Shot composition;
2. Shot size;
3. Shot velocity;
b. Post shot peening cleaning parameters;
c. Heat treatment cycle parameters, as follows:
1. Atmosphere parameters, as follows:
a. Composition of the atmosphere;
b. Pressure of the atmosphere;
2. Time-temperature cycles;
d. Post heat treatment visual and macroscopic criteria for acceptance of the coated substrates;
4. Technical information for quality assurance techniques for the evaluation of the coated substrates listed in the Table, as follows:
a. Statistical sampling criteria;
b. Microscopic criteria for:
1. Magnification;
2. Coating thickness, uniformity;
3. Coating integrity;
4. Coating composition;
5. Coating and substrates bonding;
6. Microstructural uniformity.
c. Criteria for optical properties assessment (measured as a function of wavelength):
1. Reflectance;
2. Transmission;
3. Absorption;
4. Scatter;
5. Technical information and parameters related to specific coating and surface modification processes listed in the Table, as follows:
a. For Chemical Vapor Deposition (CVD):
1. Coating source composition and formulation;
2. Carrier gas composition;
3. Substrate temperature;
4. Time-temperature-pressure cycles;
5. Gas control and part manipulation;
b. For Thermal Evaporation-Physical Vapor Deposition (PVD):
1. Ingot or coating material source composition;
2. Substrate temperature;
3. Reactive gas composition;
4. Ingot feed rate or material vaporization rate;
5. Time-temperature-pressure cycles;
6. Beam and part manipulation;
7. ''Laser'' parameters, as follows:
a. Wave length;
b. Power density;
c. Pulse length;
d. Repetition ratio;
e. Source;
c. For Pack Cementation:
1. Pack composition and formulation;
2. Carrier gas composition;
3. Time-temperature-pressure cycles;
d. For Plasma Spraying:
1. Powder composition, preparation and size distributions;
2. Feed gas composition and parameters;
3. Substrate temperature;
4. Gun power parameters;
5. Spray distance;
6. Spray angle;
7. Cover gas composition, pressure and flow rates;
8. Gun control and part manipulation;
e. For Sputter Deposition:
1. Target composition and fabrication;
2. Geometrical positioning of part and target;
3. Reactive gas composition;
4. Electrical bias;
5. Time-temperature-pressure cycles;
6. Triode power;
7. Part manipulation;
f. For Ion Implantation:
1. Beam control and part manipulation;
2. Ion source design details;
3. Control techniques for ion beam and deposition rate parameters;
4. Time-temperature-pressure cycles.
g. For Ion Plating:
1. Beam control and part manipulation;
2. Ion source design details;
3. Control techniques for ion beam and deposition rate parameters;
4. Time-temperature-pressure cycles;
5. Coating material feed rate and vaporization rate;
6. Substrate temperature;
7. Substrate bias parameters.

2E018 "Technology" for the "use" of equipment controlled by 2B018.

LICENSE REQUIREMENTS
Reason for Control: NS, MT, AT, UN

Control(s)	Country Chart (See Supp. No. 1 to part 738)
NS applies to entire entry	NS Column 1.
MT applies to "technology" for equipment controlled by 2B018 for MT reasons.	MT Column 1.
AT applies to entire entry	AT Column 1.
UN applies to entire entry.	See §746.1(b) for UN controls.

TSR: Yes.
LIST OF ITEMS CONTROLLED
Related Controls: N/A
Related Definitions: N/A
Items: The list of items controlled is contained in the ECCN heading.

2E101 "Technology" according to the General Technology Note for the "use" of equipment or "software" controlled by

2B004, 2B009, 2B104, 2B105, 2B109, 2B116, 2B117, 2B119 to 2B122, 2D001, 2D002 or 2D101.

LICENSE REQUIREMENTS

Reason for Control: MT, NP, AT

Control(s)	Country Chart (See Supp. No. 1 to part 738)
MT applies to ''technology'' for items controlled by 2B004, 2B009, 2B104, 2B105, 2B109, 2B116, 2B117, 2B119 to 2B122, 2D001, or 2D101 for MT reasons.	MT Column 1
NP applies to ''technology'' for items controlled by 2B004, 2B009, 2B104, 2B109, 2B116, 2D001, 2D002 or 2D101 for NP reasons.	NP Column 1
AT applies to entire entry.	AT Column 1

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

TSR: N/A

LIST OF ITEMS CONTROLLED

Related Controls: (1) This entry controls only ''technology'' for 2B009 and 2B109 for spin forming machines combining the functions of spin forming and flow forming, and flow forming machines. (2) Also see 2E201.

Related Definitions: N/A

Items: The list of items controlled is contained in the ECCN heading.

2E201 "Technology" according to the General Technology Note for the "use" of equipment or "software" controlled by 2A225, 2A226, 2B001, 2B006, 2B007.b, 2B007.c, 2B201, 2B204, 2B206, 2B207, 2B209, 2B225 to 2B233, 2D002, 2D201 or 2D202 for NP reasons.

LICENSE REQUIREMENTS

Reason for Control: NP, CB, AT

Control(s)	Country Chart (See Supp. No. 1 to part 738)
NP applies to entire entry	NP Column 1.
CB applies to ''technology'' for valves controlled by 2A226 that meet or exceed the technical parameters in 2B350.g.	CB Column 2.
AT applies to entire entry	AT Column 1.

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

TSR: N/A

LIST OF ITEMS CONTROLLED

Related Controls: Also see 2E290 and 2E991.

Related Definitions: N/A

Items: The list of items controlled is contained in the ECCN heading.

2E290 "Technology" according to the General Technology Note for the "use" of equipment controlled by 2A290 or 2A291.

LICENSE REQUIREMENTS

Reason for Control: NP, AT

Control(s)	Country chart (see supp. no. 1 to part 738)
NP applies to entire entry	NP Column 2
AT applies to entire entry	AT Column 1

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

TSR: N/A

LIST OF ITEMS CONTROLLED

Related Controls: N/A

Related Definitions: N/A

Items: The list of items controlled is contained in the ECCN heading.

2E301 "Technology" according to the "General Technology Note" for the "use" of items controlled by 2B350, 2B351 and 2B352.

LICENSE REQUIREMENTS

Reason for Control: CB, AT

Control(s)	Country Chart (See Supp. No. 1 to part 738)
CB applies to entire entry	CB Column 2.
AT applies to entire entry	AT Column 1.

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

TSR: N/A

LIST OF ITEMS CONTROLLED

Related Controls: N/A

Related Definitions: N/A

Items: The lists of items controlled are contained in the ECCN headings.

2E903 "Technology", not specified elsewhere, for the "development" or "production" of 'coating systems' having all of the following: (see List of Items Controlled).

LICENSE REQUIREMENTS

Reason for Control: NS, RS, AT

Control(s)	Country chart (see Supp. No. 1 to part 738)
NS applies to entire entry	Worldwide control. *See § 742.4(a)(5) and (b)(10) of the EAR.*
RS applies to entire entry	Worldwide control. *See § 742.6(a)(10) and (b)(11) of the EAR.*
AT applies to entire entry	AT Column 1.

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

TSR: N/A

IEC: Yes, see §740.2(a)(22) and §740.24 of the EAR.

SPECIAL CONDITIONS FOR STA

STA: License Exception STA may not be used to ship any item in this ECCN to any of the destinations listed in Country Group A:5 or A:6 (See Supplement No.1 to part 740 of the EAR).

LIST OF ITEMS CONTROLLED

Related Controls: N/A

Related Definitions: N/A

Items:

a. Designed to protect ceramic ''matrix'' ''composite'' materials specified by ECCN 1C007 from corrosion; *and*

b. Designed to operate at temperatures exceeding 1,373.15 K (1,100 °C).

Technical Note: For the purposes of 2E903, 'coating systems' consist of one or more layers (e.g., bond, interlayer, top coat) of material deposited on the substrate.

2E910 "Technology", not specified elsewhere, "specially designed" or modified for the "development" or "production" of equipment specified in ECCN 2B910.

LICENSE REQUIREMENTS

Reason for Control: NS, RS, AT

Control(s)	Country chart (see Supp. No. 1 to part 738)
NS applies to entire entry	Worldwide control. *See § 742.4(a)(5) and (b)(10) of the EAR.*
RS applies to entire entry	Worldwide control. *See § 742.6(a)(10) and (b)(11) of the EAR.*
AT applies to entire entry	AT Column 1.

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

TSR: N/A

IEC: Yes, see §740.2(a)(22) and §740.24 of the EAR.

SPECIAL CONDITIONS FOR STA

STA: License Exception STA may not be used to ship any item in this ECCN to any of the destinations listed in Country Group A:5 or A:6 (See Supplement No.1 to part 740 of the EAR).

LIST OF ITEMS CONTROLLED

Related Controls: N/A

Related Definitions: N/A

Items: The list of items controlled is contained in the ECCN heading.

2E983 "Technology" "specially designed" or modified for the "development", "production" or "use" of equipment controlled by 2A983, or the "development" of software controlled by 2D983.

LICENSE REQUIREMENTS

*Reason for Control:*RS, AT

Control(s)	Country Chart (See Supp. No. 1 to part 738)
RS applies to entire entry	RS Column 2
AT applies to entire entry	AT Column 1

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

TSR: N/A

LIST OF ITEMS CONTROLLED

Related Controls: N/A

Related Definitions: N/A

Items: The list of items controlled is contained in the ECCN heading.

2E984 "Technology" "required" for the "development", "production" or "use" of equipment controlled by 2A984 or "required" for the "development" of "software" controlled by 2D984.

LICENSE REQUIREMENTS

Reason for Control: RS, AT

Control(s)	Country Chart (See Supp. No. 1 to part 738)
RS applies to entire entry	RS Column 2.
AT applies to entire entry	AT Column 1.

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

TSR: N/A

LIST OF ITEMS CONTROLLED

Related Controls: (1) ''Technology'' ''required'' for the ''development,'' ''production'' or ''use'' of concealed object detection equipment operating in the frequency range from 30 GHz to 3000 GHz and having a spatial resolution less than 0.5 milliradian (a lower milliradian number means a more accurate image resolution) at a standoff distance of 100 meters or ''required'' for the ''development'' of ''software'' ''required'' for the ''development,'' ''production'' or ''use'' of concealed object detection equipment operating in the frequency range from 30 GHz to 3000 GHz and having a spatial resolution less than 0.5 milliradian at a standoff distance of 100 meters is ''subject to the ITAR'' (see 22 CFR parts 120 through 130). (2) ''Technology'' ''required'' for the ''development'', ''production'' or ''use'' of concealed object detection equipment operating in the frequency range from 30 GHz to 3000 GHz and having a spatial resolution greater than 1 milliradian spatial resolution (a higher milliradian number means a less accurate image resolution) at a standoff distance of 100 meters or ''required'' for the ''development'' of ''software'' ''required'' for the ''development'', ''production'' or ''use'' of concealed object detection equipment operating in the frequency range from 30 GHz to 3000 GHz and having a spatial resolution greater than 1 milliradian spatial resolution (a higher milliradian number means a less accurate image resolution) at a standoff distance of 100 meters is designated as EAR99. (3) See ECCNs 2A984 and 2D984 for related commodity and software controls.

Related Definitions: N/A

Items: The list of items controlled is contained in the ECCN heading.

2E991 "Technology" for the "use" of equipment controlled by 2B991, 2B993, 2B996, or 2B997.

LICENSE REQUIREMENTS

Reason for Control: AT

Control(s)	Country Chart (See Supp. No. 1 to part 738)
AT applies to entire entry	AT Column 1

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

TSR: N/A

LIST OF ITEMS CONTROLLED

Related Controls: N/A

Related Definitions: N/A

Items: The list of items controlled is contained in the ECCN heading.

2E993 "Technology" according to the General Technology Note for the "use" of equipment controlled by 2A992 or 2A993.

LICENSE REQUIREMENTS

Reason for Control: AT

Control(s)	Country chart (see supp. no. 1 to part 738)
AT applies to entire entry	AT Column 1

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

TSR: N/A

LIST OF ITEMS CONTROLLED

Related Controls: N/A

Related Definitions: N/A

Items: The list of items controlled is contained in the ECCN heading.

2E994 "Technology" for the "use" of portable electric generators controlled by 2A994.

LICENSE REQUIREMENTS

Reason for Control: AT

Control(s): AT applies to entire entry. A license is required for items controlled by this entry to Iran and North Korea for anti-terrorism reasons. The Commerce Country Chart is not designed to determine licensing requirements for this entry. See part 746 of the EAR for additional information on Iran. See §742.19 of the EAR for additional information on North Korea.

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

TSR: N/A

LIST OF ITEMS CONTROLLED

Related Controls: N/A

Related Definitions: N/A

Items: The list of items controlled is contained in the ECCN heading.

EAR99 Items Subject to the EAR That Are *Not* Elsewhere Specified in This CCL Category *or* in Any Other Category in the CCL Are Designated by the Number EAR99.

CATEGORY 3—ELECTRONICS

A. ''END ITEMS,'' ''EQUIPMENT,'' ''ACCESSORIES,'' ''ATTACHMENTS,'' ''PARTS,'' ''COMPONENTS,'' AND ''SYSTEMS''

Note 1: The control status of equipment and ''components'' described in 3A001(other than those described in 3A001.a.3 to 3A001.a.10, 3A001.a.12 to 3A001.a.14, 3A001.b.12, or 3A001.z), 3A002, 3A901, which are ''specially designed'' for or which have the same functional characteristics as other equipment is determined by the control status of the other equipment.

Note 2: The control status of integrated circuits described in 3A001.a.3 to 3A001.a.9, 3A001.a.12 to 3A001.a.14, 3A001.z or 3A901 that are unalterably programmed or designed for a specific function for other equipment is determined by the control status of the other equipment.

N.B.: When the manufacturer or applicant cannot determine the control status of the other equipment, the control status of the integrated circuits is determined in 3A001.a.3 to 3A001.a.9, or 3A001.a.12 to 3A001.a.14, 3A001.z and 3A901.

Note 3: The status of wafers (finished or unfinished), in which the function has been determined, is to be evaluated against the parameters of items in 3A.

3A001 Electronic items as follows (see List of Items Controlled).

Reason for Control: NS, RS, MT, NP, AT

Control(s)	Country Chart (see Supp. No. 1 to part 738)
NS applies to "Monolithic Microwave Integrated Circuit" ("MMIC") amplifiers in 3A001.b.2 and discrete microwave transistors in 3A001.b.3, except those 3A001.b.2 and b.3 items being exported or reexported for use in civil telecommunications applications.	NS Column 1.
NS applies to entire entry	NS Column 2.

Control(s)	Country Chart (see Supp. No. 1 to part 738)
RS applies "Monolithic Microwave Integrated Circuit" ("MMIC") amplifiers in 3A001.b.2 and discrete microwave transistors in 3A001.b.3, except those 3A001.b.2 and b.3 items being exported or reexported for use in civil telecommunications applications.	RS Column 1.
RS applies to 3A001.z.1.a, z.2.a, z.3.a, z.4.a.	To or within any destination worldwide. *See* §742.6(a)(6)(iii)(A) of the EAR.
RS applies to 3A001.z.1.b, z.2.b, z.3.b, z.4.b.	To or within destinations specified in Country Groups D:1, D:4, and D:5 of supplement no. 1 to part 740 of the EAR, excluding any destination also specified in Country Groups A:5 or A:6. *See* §742.6(a)(6)(iii)(B) of the EAR.
MT applies to 3A001.a.1.a when usable in "missiles"; and to 3A001.a.5.a when "designed or modified" for military use, hermetically sealed and rated for operation in the temperature range from below −54 °C to above +125 °C; and 3A001.z.2.	MT Column 1.
NP applies to pulse discharge capacitors in 3A001.e.2 and superconducting solenoidal electromagnets in 3A001.e.3 that meet or exceed the technical parameters in 3A201.a and 3A201.b, respectively; and 3A001.z.3.	NP Column 1.
AT applies to entire entry	AT Column 1.

REPORTING REQUIREMENTS: See §743.1 of the EAR for reporting requirements for exports under 3A001.b.2 or b.3 under License Exceptions, and Validated End-User authorizations.

License Requirements: See §744.17 of the EAR for additional license requirements for microprocessors having a processing speed of 5 GFLOPS or more and an arithmetic logic unit with an access width of 32 bit or more, including those incorporating ''information security'' functionality, and associated ''software'' and ''technology'' for the ''production'' or ''development'' of such microprocessors.

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

LVS: N/A for MT, NP; N/A for ''Monolithic Microwave Integrated Circuit'' (''MMIC'') amplifiers in 3A001.b.2, discrete microwave transistors in 3A001.b.3, except those that are being exported or reexported for use in civil telecommunications applications; N/A for and 3A001.z.

Yes for:

$1500: 3A001.c.

$3000: 3A001.b.1, b.2 (exported or reexported for use in civil telecommunications applications), b.3 (exported or reexported for use in civil telecommunications applications), b.9, .d, .e, .f, and .g.

$5000: 3A001.a (except a.1.a and a.5.a when controlled for MT), b.4 to b.7, and b.12.

GBS: Yes for 3A001.a.1.b, a.2 to a.14 (except .a.5.a when controlled for MT), b.2 (exported or reexported for use in civil telecommunications applications), b.8 (except for ''vacuum electronic devices'' exceeding 18 GHz), b.9., b.10, .g, .h, .i, and z.1.b (exported or reexported for use in civil telecommunications applications).

NAC/ACA: Yes, for 3A001.z.

AIA: Yes for 3A001.z.1.a, z.2.a, z.3.a, z.4.a

ACM: Yes for 3A001.z

LPP: Yes for 3A001.z.1.a, z.2.a, z.3.a, z.4.a

Note: See §740.2(a)(9)(ii) of the EAR for license exception restrictions for ECCN 3A001.z.

SPECIAL CONDITIONS FOR STA

STA: License Exception STA may not be used to ship any item in 3A001.b.2 or b.3, except those that are being exported or reexported for use in civil telecommunications applications, or 3A001.z to any of the destinations listed in Country Group A:5 or A:6 (See Supplement No. 1 to part 740 of the EAR).

LIST OF ITEMS CONTROLLED

Related Controls: (1) See Category XV of the USML for certain ''space-qualified'' electronics and Category XI of the USML for certain ASICs, 'transmit/receive modules,' 'transmit modules,' or 'MMICs' ''subject to the ITAR.'' (2) See also 3A090, 3A101, 3A201, 3A611, 3A901 for cryogenic CMOS integrated circuits and parametric signal amplifiers or quantum limited amplifiers not controlled by 3A001, 3A991, and 9A515.

Related Definitions: 'Microcircuit' means a device in which a number of passive or active elements are considered as indivisibly associated on or within a continuous structure to perform the function of a circuit. For the purposes of integrated circuits in 3A001.a.1, 5×10^3 Gy(Si) = 5×10^5 Rads (Si); 5×10^6 Gy (Si)/s = 5×10^8 Rads (Si)/s.

Items:

a. General purpose integrated circuits, as follows:

Note 1: Integrated circuits include the following types:

—*''Monolithic integrated circuits'';*
—*''Hybrid integrated circuits'';*
—*''Multichip integrated circuits'';*
—*''Film type integrated circuits'', including silicon-on-sapphire integrated circuits;*
—*''Optical integrated circuits'';*
—*''Three dimensional integrated circuits'';*
—*''Monolithic Microwave Integrated Circuits'' (''MMICs'').*

a.1. Integrated circuits designed or rated as radiation hardened to withstand any of the following:

a.1.a. A total dose of 5×10^3 Gy (Si), or higher;

a.1.b. A dose rate upset of 5×10^6 Gy (Si)/s, or higher; *or*

a.1.c. A fluence (integrated flux) of neutrons (1 MeV equivalent) of 5×10^{13} n/cm^2 or higher on silicon, or its equivalent for other materials;

Note: 3A001.a.1.c does not apply to Metal Insulator Semiconductors (MIS).

a.2. ''Microprocessor microcircuits,'' ''microcomputer microcircuits,'' microcontroller microcircuits, storage integrated circuits manufactured from a compound semiconductor, analog-to-digital converters, integrated circuits that contain analog-to-digital converters and store or process the digitized data, digital-to-analog converters, electro-optical or ''optical integrated circuits'' designed for ''signal processing'', field programmable logic devices, custom integrated circuits for which either the function is unknown or the control status of the equipment in which the integrated circuit will be used in unknown, Fast Fourier Transform (FFT) processors, Static Random-Access Memories (SRAMs), or 'non-volatile memories,' having any of the following:

Technical Note: For the purposes of 3A001.a.2, 'non-volatile memories' are memories with data retention over a period of time after a power shutdown.

a.2.a. Rated for operation at an ambient temperature above 398 K (+125 °C);

a.2.b. Rated for operation at an ambient temperature below 218 K (−55 °C); *or*

a.2.c. Rated for operation over the entire ambient temperature range from 218 K (−55 °C) to 398 K (+125 °C);

N.B.: For cryogenic CMOS integrated circuits not specified by 3A001.a.2, see 3A901.a.

Note: 3A001.a.2 does not apply to integrated circuits designed for civil automobile or railway train applications.

a.3. ''Microprocessor microcircuits'', ''microcomputer microcircuits'' and microcontroller microcircuits, manufactured from a compound semiconductor and operating at a clock frequency exceeding 40 MHz;

Note: 3A001.a.3 includes digital signal processors, digital array processors and digital coprocessors.

a.4. [Reserved]

a.5. Analog-to-Digital Converter (ADC) and Digital-to-Analog Converter (DAC) integrated circuits, as follows:

a.5.a. ADCs having any of the following:

a.5.a.1. A resolution of 8 bit or more, but less than 10 bit, with a ''sample rate'' greater than 1.3 Giga Samples Per Second (GSPS);

a.5.a.2. A resolution of 10 bit or more, but less than 12 bit, with a ''sample rate'' greater than 600 Mega Samples Per Second (MSPS);

a.5.a.3. A resolution of 12 bit or more, but less than 14 bit, with a ''sample rate'' greater than 400 MSPS;

a.5.a.4. A resolution of 14 bit or more, but less than 16 bit, with a ''sample rate'' greater than 250 MSPS; *or*

a.5.a.5. A resolution of 16 bit or more with a ''sample rate'' greater than 65 MSPS;

N.B.: For integrated circuits that contain analog-to-digital converters and store or process the digitized data see 3A001.a.14.

Technical Notes: For the purposes of 3A001.a.5.a:

1. A resolution of n bit corresponds to a quantization of 2^n levels.

2. The resolution of the ADC is the number of bits of the digital output that represents the measured analog input. Effective Number of Bits (ENOB) is not used to determine the resolution of the ADC.

3. For ''multiple channel ADCs'', the ''sample rate'' is not aggregated and the ''sample rate'' is the maximum rate of any single channel.

4. For ''interleaved ADCs'' or for ''multiple channel ADCs'' that are specified to have an interleaved mode of operation, the ''sample rates'' are aggregated and the ''sample rate'' is the maximum combined total rate of all of the interleaved channels.

a.5.b. Digital-to-Analog Converters (DAC) having any of the following:

a.5.b.1. A resolution of 10-bit or more but less than 12-bit, with an 'adjusted update rate' of exceeding 3,500 MSPS; *or*

a.5.b.2. A resolution of 12-bit or more and having any of the following:

a.5.b.2.a. An 'adjusted update rate' exceeding 1,250 MSPS but not exceeding 3,500 MSPS, and having any of the following:

a.5.b.2.a.1. A settling time less than 9 ns to arrive at or within 0.024% of full scale from a full scale step; *or*

a.5.b.2.a.2. A 'Spurious Free Dynamic Range' (SFDR) greater than 68 dBc (carrier) when synthesizing a full scale analog signal of 100 MHz or the highest full scale analog signal frequency specified below 100 MHz; *or*

a.5.b.2.b. An 'adjusted update rate' exceeding 3,500 MSPS;

Technical Notes: For the purposes of 3A001.a.5.b:

1. 'Spurious Free Dynamic Range' (SFDR) is defined as the ratio of the RMS value of the carrier frequency (maximum signal component) at the input of the DAC to the RMS value of the next largest noise or harmonic distortion component at its output.

2. SFDR is determined directly from the specification table or from the characterization plots of SFDR versus frequency.

3. A signal is defined to be full scale when its amplitude is greater than −3 dBfs (full scale).

4. 'Adjusted update rate' for DACs is:

a. For conventional (non-interpolating) DACs, the 'adjusted update rate' is the rate at which the digital signal is converted to an analog signal and the output analog values are changed by the DAC. For DACs where the interpolation mode may be bypassed (interpolation factor of one), the DAC should be considered as a conventional (non-interpolating) DAC.

b. For interpolating DACs (oversampling DACs), the 'adjusted update rate' is defined as the DAC update rate divided by the smallest interpolating factor. For interpolating DACs, the 'adjusted update rate' may be referred to by different terms including:

- *input data rate*
- *input word rate*
- *input sample rate*
- *maximum total input bus rate*
- *maximum DAC clock rate for DAC clock input*

a.6. Electro-optical and ''optical integrated circuits'', designed for ''signal processing'' and having all of the following:

a.6.a. One or more than one internal ''laser'' diode;

a.6.b. One or more than one internal light detecting element; *and*

a.6.c. Optical waveguides;

a.7. 'Field programmable logic devices' having any of the following:

a.7.a. A maximum number of single-ended digital input/outputs of greater than 700; *or*

a.7.b. An 'aggregate one-way peak serial transceiver data rate' of 500 Gb/s or greater;

Note: 3A001.a.7 includes:

—Complex Programmable Logic Devices (CPLDs);

—Field Programmable Gate Arrays (FPGAs);

—Field Programmable Logic Arrays (FPLAs);

—Field Programmable Interconnects (FPICs).

N.B.: For integrated circuits having field programmable logic devices that are combined with an analog-to-digital converter, see 3A001.a.14.

Technical Notes: For the purposes of 3A001.a.7:

1. Maximum number of digital input/outputs in 3A001.a.7.a is also referred to as maximum user input/outputs or maximum available input/outputs, whether the integrated circuit is packaged or bare die.

2. 'Aggregate one-way peak serial transceiver data rate' is the product of the peak serial one-way transceiver data rate times the number of transceivers on the FPGA.

a.8. [Reserved]

a.9. [Reserved]

a.10. Custom integrated circuits for which the function is unknown, or the control status of the equipment in which the integrated circuits will be used is unknown to the manufacturer, having any of the following:

a.10.a. More than 1,500 terminals;

a.10.b. A typical ''basic gate propagation delay time'' of less than 0.02 ns; *or*

a.10.c. An operating frequency exceeding 3 GHz;

a.11. Digital integrated circuits, other than those described in 3A001.a.3 to 3A001.a.10 and 3A001.a.12, based upon any compound semiconductor and having any of the following:

a.11.a. An equivalent gate count of more than 3,000 (2 input gates); *or*

a.11.b. A toggle frequency exceeding 1.2 GHz;

a.12. Fast Fourier Transform (FFT) processors having a rated execution time for an N-point complex FFT of less than $(N \log_2 N)/20{,}480$ ms, where N is the number of points;

Technical Note: For the purposes of 3A001.a.12, when N is equal to 1,024 points, the formula in 3A001.a.12 gives an execution time of 500 µs.

a.13. Direct Digital Synthesizer (DDS) integrated circuits having any of the following:

a.13.a. A Digital-to-Analog Converter (DAC) clock frequency of 3.5 GHz or more and a DAC resolution of 10 bit or more, but less than 12 bit; *or*

a.13.b. A DAC clock frequency of 1.25 GHz or more and a DAC resolution of 12 bit or more;

Technical Note: For the purposes of 3A001.a.13, the DAC clock frequency may be specified as the master clock frequency or the input clock frequency.

a.14. Integrated circuits that perform or are programmable to perform all of the following:

a.14.a. Analog-to-digital conversions meeting any of the following:

a.14.a.1. A resolution of 8 bit or more, but less than 10 bit, with a ''sample rate'' greater than 1.3 Giga Samples Per Second (GSPS);

a.14.a.2. A resolution of 10 bit or more, but less than 12 bit, with a ''sample rate'' greater than 1.0 GSPS;

a.14.a.3. A resolution of 12 bit or more, but less than 14 bit, with a ''sample rate'' greater than 1.0 GSPS;

a.14.a.4. A resolution of 14 bit or more, but less than 16 bit, with a ''sample rate'' greater than 400 Mega Samples Per Second (MSPS); *or*

a.14.a.5. A resolution of 16 bit or more with a ''sample rate'' greater than 180 MSPS; *and*

a.14.b. Any of the following:

a.14.b.1. Storage of digitized data; *or*

a.14.b.2. Processing of digitized data;

N.B.: 1: For analog-to-digital converter integrated circuits see 3A001.a.5.a.

N.B.: 2: For field programmable logic devices see 3A001.a.7.

Technical Notes: For the purposes of 3A001.a.14:

1. A resolution of n bit corresponds to a quantization of 2^n levels.

2. The resolution of the ADC is the number of bits of the digital output of the ADC that represents the measured analog input. Effective Number of Bits (ENOB) is not used to determine the resolution of the ADC.

3. For integrated circuits with non- interleaving ''multiple channel ADCs'', the ''sample rate'' is not aggregated and the ''sample rate'' is the maximum rate of any single channel.

4. For integrated circuits with ''interleaved ADCs'' or with ''multiple channel ADCs'' that are specified to have an interleaved mode of operation, the ''sample rates'' are aggregated and the ''sample rate'' is the maximum combined total rate of all of the interleaved channels.

b. Microwave or millimeter wave items, as follows:

Technical Note: For the purposes of 3A001.b, the parameter peak saturated power output may also be referred to on product data sheets as output power, saturated power output, maximum power output, peak power output, or peak envelope power output.

N.B.: For parametric signal amplifiers or Quantum-limited amplifiers (QLAs) not specified by 3A001.b, see ECCN 3A901.b.

b.1. ''Vacuum electronic devices'' and cathodes, as follows:

Note 1: 3A001.b.1 does not control ''vacuum electronic devices'' designed or rated for operation in any frequency band and having all of the following:

a. Does not exceed 31.8 GHz; and

b. Is ''allocated by the ITU'' for radio-communications services, but not for radio-determination.

Note 2: 3A001.b.1 does not control non-''space-qualified'' ''vacuum electronic devices'' having all the following:

a. An average output power equal to or less than 50 W; and

b. Designed or rated for operation in any frequency band and having all of the following:

1. Exceeds 31.8 GHz but does not exceed 43.5 GHz; and

2. Is ''allocated by the ITU'' for radio-communications services, but not for radio-determination.

b.1.a. Traveling-wave ''vacuum electronic devices,'' pulsed or continuous wave, as follows:

b.1.a.1. Devices operating at frequencies exceeding 31.8 GHz;

b.1.a.2. Devices having a cathode heater with a turn on time to rated RF power of less than 3 seconds;

b.1.a.3. Coupled cavity devices, or derivatives thereof, with a ''fractional bandwidth'' of more than 7% or a peak power exceeding 2.5 kW;

b.1.a.4. Devices based on helix, folded waveguide, or serpentine waveguide circuits, or derivatives thereof, having any of the following:

b.1.a.4.a. An ''instantaneous bandwidth'' of more than one octave, and average power (expressed in kW) times frequency (expressed in GHz) of more than 0.5;

b.1.a.4.b. An ''instantaneous bandwidth'' of one octave or less, and average power (expressed in kW) times frequency (expressed in GHz) of more than 1;

b.1.a.4.c. Being ''space-qualified''; *or*

b.1.a.4.d. Having a gridded electron gun;

b.1.a.5. Devices with a ''fractional bandwidth'' greater than or equal to 10%, with any of the following:

b.1.a.5.a. An annular electron beam;

b.1.a.5.b. A non-axisymmetric electron beam; *or*

b.1.a.5.c. Multiple electron beams;

b.1.b. Crossed-field amplifier ''vacuum electronic devices'' with a gain of more than 17 dB;

b.1.c. Thermionic cathodes, designed for ''vacuum electronic devices,'' producing an emission current density at rated operating conditions exceeding 5 A/cm^2 or a pulsed (non-continuous) current density at rated operating conditions exceeding 10 A/cm^2;

b.1.d. ''Vacuum electronic devices'' with the capability to operate in a 'dual mode.'

Technical Note: For the purposes of 3A001.b.1.d, 'dual mode' means the ''vacuum electronic device'' beam current can be intentionally changed between continuous-wave and pulsed mode operation by use of a grid and produces a peak pulse output power greater than the continuous-wave output power.

b.2. ''Monolithic Microwave Integrated Circuit'' (''MMIC'') amplifiers that any of the following:

N.B.: For ''MMIC'' amplifiers that have an integrated phase shifter see 3A001.b.12.

b.2.a. Rated for operation at frequencies exceeding 2.7 GHz up to and including 6.8 GHz with a ''fractional bandwidth'' greater than 15%, and having any of the following:

b.2.a.1. A peak saturated power output greater than 75 W (48.75 dBm) at any frequency exceeding 2.7 GHz up to and including 2.9 GHz;

b.2.a.2. A peak saturated power output greater than 55 W (47.4 dBm) at any frequency exceeding 2.9 GHz up to and including 3.2 GHz;

b.2.a.3. A peak saturated power output greater than 40 W (46 dBm) at any frequency exceeding 3.2 GHz up to and including 3.7 GHz; *or*

b.2.a.4. A peak saturated power output greater than 20 W (43 dBm) at any frequency exceeding 3.7 GHz up to and including 6.8 GHz;

b.2.b. Rated for operation at frequencies exceeding 6.8 GHz up to and including 16 GHz with a ''fractional bandwidth'' greater than 10%, and having any of the following:

b.2.b.1. A peak saturated power output greater than 10 W (40 dBm) at any frequency exceeding 6.8 GHz up to and including 8.5 GHz; *or*

b.2.b.2. A peak saturated power output greater than 5 W (37 dBm) at any frequency exceeding 8.5 GHz up to and including 16 GHz;

b.2.c. Rated for operation with a peak saturated power output greater than 3 W (34.77 dBm) at any frequency exceeding 16 GHz up to and including 31.8 GHz, and with a ''fractional bandwidth'' of greater than 10%;

b.2.d. Rated for operation with a peak saturated power output greater than 0.1 nW (−70 dBm) at any frequency exceeding 31.8 GHz up to and including 37 GHz;

b.2.e. Rated for operation with a peak saturated power output greater than 1 W (30 dBm) at any frequency exceeding 37 GHz up to and including 43.5 GHz, and with a ''fractional bandwidth'' of greater than 10%;

b.2.f. Rated for operation with a peak saturated power output greater than 31.62 mW (15 dBm) at any frequency exceeding 43.5 GHz up to and including 75 GHz, and with a ''fractional bandwidth'' of greater than 10%;

b.2.g. Rated for operation with a peak saturated power output greater than 10 mW (10 dBm) at any frequency exceeding 75 GHz up to and including 90 GHz, and with a ''fractional bandwidth'' of greater than 5%; *or*

b.2.h. Rated for operation with a peak saturated power output greater than 0.1 nW (−70 dBm) at any frequency exceeding 90 GHz;

Note 1: [Reserved]

Note 2: The control status of the ''MMIC'' whose rated operating frequency includes frequencies listed in more than one frequency range, as defined by 3A001.b.2.a through 3A001.b.2.h, is determined by the lowest peak saturated power output control threshold.

Note 3: Notes 1 and 2 following the Category 3 heading for product group A. Systems, Equipment, and Components mean that 3A001.b.2 does not control ''MMICs'' if they are ''specially designed'' for other applications, e.g., telecommunications, radar, automobiles.

b.3. Discrete microwave transistors that are any of the following:

b.3.a. Rated for operation at frequencies exceeding 2.7 GHz up to and including 6.8 GHz and having any of the following:

b.3.a.1. A peak saturated power output greater than 400 W (56 dBm) at any frequency exceeding 2.7 GHz up to and including 2.9 GHz;

b.3.a.2. A peak saturated power output greater than 205 W (53.12 dBm) at any frequency exceeding 2.9 GHz up to and including 3.2 GHz;

b.3.a.3. A peak saturated power output greater than 115 W (50.61 dBm) at any frequency exceeding 3.2 GHz up to and including 3.7 GHz; *or*

b.3.a.4. A peak saturated power output greater than 60 W (47.78 dBm) at any frequency exceeding 3.7 GHz up to and including 6.8 GHz;

b.3.b. Rated for operation at frequencies exceeding 6.8 GHz up to and including 31.8 GHz and having any of the following:

b.3.b.1. A peak saturated power output greater than 50 W (47 dBm) at any frequency exceeding 6.8 GHz up to and including 8.5 GHz;

b.3.b.2. A peak saturated power output greater than 15 W (41.76 dBm) at any frequency exceeding 8.5 GHz up to and including 12 GHz;

b.3.b.3. A peak saturated power output greater than 40 W (46 dBm) at any frequency exceeding 12 GHz up to and including 16 GHz; *or*

b.3.b.4. A peak saturated power output greater than 7 W (38.45 dBm) at any frequency exceeding 16 GHz up to and including 31.8 GHz;

b.3.c. Rated for operation with a peak saturated power output greater than 0.5 W (27 dBm) at any frequency exceeding 31.8 GHz up to and including 37 GHz;

b.3.d. Rated for operation with a peak saturated power output greater than 1 W (30 dBm) at any frequency exceeding 37 GHz up to and including 43.5 GHz;

b.3.e. Rated for operation with a peak saturated power output greater than 0.1 nW (−70 dBm) at any frequency exceeding 43.5 GHz; *or*

b.3.f. Other than those specified by 3A001.b.3.a to 3A001.b.3.e and rated for operation with a peak saturated power output greater than 5 W (37.0 dBm) at all frequencies exceeding 8.5 GHz up to and including 31.8 GHz;

Note 1: The control status of a transistor in 3A001.b.3.a through 3A001.b.3.e, whose rated operating frequency includes frequencies listed in more than one frequency range, as defined by 3A001.b.3.a through 3A001.b.3.e, is determined by the lowest peak saturated power output control threshold.

Note 2: 3A001.b.3 includes bare dice, dice mounted on carriers, or dice mounted in packages. Some discrete transistors may also be referred to as power amplifiers, but the status of these discrete transistors is determined by 3A001.b.3.

b.4. Microwave solid state amplifiers and microwave assemblies/modules containing microwave solid state amplifiers, that are any of the following:

b.4.a. Rated for operation at frequencies exceeding 2.7 GHz up to and including 6.8 GHz with a ''fractional bandwidth'' greater than 15%, and having any of the following:

b.4.a.1. A peak saturated power output greater than 500 W (57 dBm) at any frequency exceeding 2.7 GHz up to and including 2.9 GHz;

b.4.a.2. A peak saturated power output greater than 270 W (54.3 dBm) at any frequency exceeding 2.9 GHz up to and including 3.2 GHz;

b.4.a.3. A peak saturated power output greater than 200 W (53 dBm) at any frequency exceeding 3.2 GHz up to and including 3.7 GHz; *or*

b.4.a.4. A peak saturated power output greater than 90 W (49.54 dBm) at any frequency exceeding 3.7 GHz up to and including 6.8 GHz;

b.4.b. Rated for operation at frequencies exceeding 6.8 GHz up to and including 31.8 GHz with a ''fractional bandwidth'' greater than 10%, and having any of the following:

b.4.b.1. A peak saturated power output greater than 70 W (48.45 dBm) at any frequency exceeding 6.8 GHz up to and including 8.5 GHz;

b.4.b.2. A peak saturated power output greater than 50 W (47 dBm) at any frequency exceeding 8.5 GHz up to and including 12 GHz;

b.4.b.3. A peak saturated power output greater than 30 W (44.77 dBm) at any frequency exceeding 12 GHz up to and including 16 GHz; *or*

b.4.b.4. A peak saturated power output greater than 20 W (43 dBm) at any frequency exceeding 16 GHz up to and including 31.8 GHz;

b.4.c. Rated for operation with a peak saturated power output greater than 0.5 W (27 dBm) at any frequency exceeding 31.8 GHz up to and including 37 GHz;

b.4.d. Rated for operation with a peak saturated power output greater than 2 W (33 dBm) at any frequency exceeding 37 GHz up to and including 43.5 GHz, and with a ''fractional bandwidth'' of greater than 10%;

b.4.e. Rated for operation at frequencies exceeding 43.5 GHz and having any of the following:

b.4.e.1. A peak saturated power output greater than 0.2 W (23 dBm) at any frequency exceeding 43.5 GHz up to and including 75 GHz, and with a ''fractional bandwidth'' of greater than 10%;

b.4.e.2. A peak saturated power output greater than 20 mW (13 dBm) at any frequency exceeding 75 GHz up to and including 90 GHz, and with a ''fractional bandwidth'' of greater than 5%; *or*

b.4.e.3. A peak saturated power output greater than 0.1 nW (−70 dBm) at any frequency exceeding 90 GHz; *or*

b.4.f. [Reserved]

N.B.: 1. For ''MMIC'' amplifiers see 3A001.b.2.

2. For 'transmit/receive modules' and 'transmit modules' see 3A001.b.12.

3. For converters and harmonic mixers, designed to extend the operating or frequency range of signal analyzers, signal generators, network analyzers or microwave test receivers, see 3A001.b.7.

Note 1: [Reserved]

Note 2: The control status of an item whose rated operating frequency includes frequencies listed in more than one frequency range, as defined by 3A001.b.4.a through 3A001.b.4.e, is determined by the lowest peak saturated power output control threshold.

b.5. Electronically or magnetically tunable band-pass or band-stop filters, having more than 5 tunable resonators capable of tuning across a 1.5:1 frequency band (f_{max}/f_{min}) in less than 10 ms and having any of the following:

b.5.a. A band-pass bandwidth of more than 0.5% of center frequency; *or*

b.5.b. A band-stop bandwidth of less than 0.5% of center frequency;

b.6. [Reserved]

b.7. Converters and harmonic mixers, that are any of the following:

b.7.a. Designed to extend the frequency range of ''signal analyzers'' beyond 90 GHz;

b.7.b. Designed to extend the operating range of signal generators as follows:

b.7.b.1. Beyond 90 GHz;

b.7.b.2. To an output power greater than 100 mW (20 dBm) anywhere within the frequency range exceeding 43.5 GHz but not exceeding 90 GHz;

b.7.c. Designed to extend the operating range of network analyzers as follows:

b.7.c.1. Beyond 110 GHz;

b.7.c.2. To an output power greater than 31.62 mW (15 dBm) anywhere within the frequency range exceeding 43.5 GHz but not exceeding 90 GHz;

b.7.c.3. To an output power greater than 1 mW (0 dBm) anywhere within the frequency range exceeding 90 GHz but not exceeding 110 GHz; *or*

b.7.d. Designed to extend the frequency range of microwave test receivers beyond 110 GHz;

b.8. Microwave power amplifiers containing ''vacuum electronic devices'' controlled by 3A001.b.1 and having all of the following:

b.8.a. Operating frequencies above 3 GHz;

b.8.b. An average output power to mass ratio exceeding 80 W/kg; *and*

b.8.c. A volume of less than 400 cm^3;

Note: 3A001.b.8 does not control equipment designed or rated for operation in any frequency band which is ''allocated by the ITU'' for radiocommunications services, but not for radio-determination.

b.9. Microwave Power Modules (MPM) consisting of, at least, a traveling-wave ''vacuum electronic device,'' a ''Monolithic Microwave Integrated Circuit'' (''MMIC'') and an integrated electronic power conditioner and having all of the following:

b.9.a. A 'turn-on time' from off to fully operational in less than 10 seconds;

b.9.b. A volume less than the maximum rated power in Watts multiplied by 10 cm^3/W; *and*

b.9.c. An ''instantaneous bandwidth'' greater than 1 octave ($f_{max} > 2f_{min}$) and having any of the following:

b.9.c.1. For frequencies equal to or less than 18 GHz, an RF output power greater than 100 W; *or*

b.9.c.2. A frequency greater than 18 GHz;

Technical Notes: For the purposes of 3A001.b.9:

1. To calculate the volume in 3A001.b.9.b, the following example is provided: for a maximum rated power of 20 W, the volume would be: 20 W $\times$ *10 cm³/W = 200 cm³.*

2. The 'turn-on time' in 3A001.b.9.a refers to the time from fully-off to fully operational, i.e., it includes the warm-up time of the MPM.

b.10. Oscillators or oscillator assemblies, specified to operate with a single sideband (SSB) phase noise, in dBc/Hz, less (better) than $-(126 + 20\log_{10}F - 20\log_{10}f)$ anywhere within the range of 10 Hz $\leq F \leq$ 10 kHz;

Technical Note: For the purposes of 3A001.b.10, F is the offset from the operating frequency in Hz and f is the operating frequency in MHz.

b.11. 'Frequency synthesizer' ''electronic assemblies'' having a ''frequency switching time'' as specified by any of the following:

b.11.a. Less than 143 ps;

b.11.b. Less than 100 μs for any frequency change exceeding 2.2 GHz within the synthesized frequency range exceeding 4.8 GHz but not exceeding 31.8 GHz;

b.11.c. [Reserved]

b.11.d. Less than 500 μs for any frequency change exceeding 550 MHz within the synthesized frequency range exceeding 31.8 GHz but not exceeding 37 GHz;

b.11.e. Less than 100 μs for any frequency change exceeding 2.2 GHz within the synthesized frequency range exceeding 37 GHz but not exceeding 75 GHz;

b.11.f. Less than 100 μs for any frequency change exceeding 5.0 GHz within the synthesized frequency range exceeding 75 GHz but not exceeding 90 GHz; *or*

b.11.g. Less than 1 ms within the synthesized frequency range exceeding 90 GHz;

Technical Note: For the purposes of 3A001.b.11, a 'frequency synthesizer' is any kind of frequency source, regardless of the actual technique used, providing a multiplicity of simultaneous or alternative output frequencies, from one or more outputs, controlled by, derived from or disciplined by a lesser number of standard (or master) frequencies.

N.B.: For general purpose ''signal analyzers'', signal generators, network analyzers and microwave test receivers, see 3A002.c, 3A002.d, 3A002.e and 3A002.f, respectively.

b.12. 'Transmit/receive modules, 'transmit/receive MMICs, 'transmit modules,' and 'transmit MMICs,' rated for operation at frequencies above 2.7 GHz and having all of the following:

b.12.a. A peak saturated power output (in watts), P_{sat}, greater than 505.62 divided by the maximum operating frequency (in GHz) squared [$P_{sat} > 505.62$ W*GHz^2/f_{GHz}^2] for any channel;

b.12.b. A ''fractional bandwidth'' of 5% or greater for any channel;

b.12.c. Any planar side with length d (in cm) equal to or less than 15 divided by the lowest operating frequency in GHz [$d \leq 15$cm*GHz*N/f_{GHz}] where N is the number of transmit or transmit/receive channels; *and*

b.12.d. An electronically variable phase shifter per channel;

Technical Notes: For the purposes of 3A001.b.12:

1. A 'transmit/receive module' is a multifunction ''electronic assembly'' that provides bi-directional amplitude and phase control for transmission and reception of signals.

2. A 'transmit module' is an ''electronic assembly'' that provides amplitude and phase control for transmission of signals.

3. A 'transmit/receive MMIC' is a multifunction ''MMIC'' that provides bi-directional amplitude and phase control for transmission and reception of signals.

4. A 'transmit MMIC' is a ''MMIC'' that provides amplitude and phase control for transmission of signals.

*5. 2.7 GHz should be used as the lowest operating frequency (f_{GHz}) in the formula in 3A001.b.12.c for transmit/receive or transmit modules that have a rated operation range extending downward to 2.7 GHz and below [d≤15cm*GHz*N/2.7 GHz].*

6. 3A001.b.12 applies to 'transmit/receive modules' or 'transmit modules' with or without a heat sink. The value of d in 3A001.b.12.c does not include any portion of the 'transmit/receive module' or 'transmit module' that functions as a heat sink.

7. 'Transmit/receive modules' or 'transmit modules,' 'transmit/receive MMICs' or 'transmit MMICs' may or may not have N integrated radiating antenna elements where N is the number of transmit or transmit/receive channels.

c. Acoustic wave devices as follows and ''specially designed'' ''components'' therefor:

c.1. Surface acoustic wave and surface skimming (shallow bulk) acoustic wave devices, having any of the following:

c.1.a. A carrier frequency exceeding 6 GHz;

c.1.b. A carrier frequency exceeding 1 GHz, but not exceeding 6 GHz and having any of the following:

c.1.b.1. A 'frequency side-lobe rejection' exceeding 65 dB;

c.1.b.2. A product of the maximum delay time and the bandwidth (time in μs and bandwidth in MHz) of more than 100;

c.1.b.3. A bandwidth greater than 250 MHz; *or*

c.1.b.4. A dispersive delay of more than 10 μs; *or*

c.1.c. A carrier frequency of 1 GHz or less and having any of the following:

c.1.c.1. A product of the maximum delay time and the bandwidth (time in μs and bandwidth in MHz) of more than 100;

c.1.c.2. A dispersive delay of more than 10 μs; *or*

c.1.c.3. A 'frequency side-lobe rejection' exceeding 65 dB and a bandwidth greater than 100 MHz;

Technical Note: For the purposes of 3A001.c.1, 'frequency side-lobe rejection' is the maximum rejection value specified in data sheet.

c.2. Bulk (volume) acoustic wave devices that permit the direct processing of signals at frequencies exceeding 6 GHz;

c.3. Acoustic-optic ''signal processing'' devices employing interaction between acoustic waves (bulk wave or surface wave) and light waves that permit the direct processing of signals or images, including spectral analysis, correlation or convolution;

Note: 3A001.c does not control acoustic wave devices that are limited to a single band pass, low pass, high pass or notch filtering, or resonating function.

d. Electronic devices and circuits containing ''components,'' manufactured from ''superconductive'' materials, ''specially designed'' for operation at temperatures below the ''critical temperature'' of at least one of the ''superconductive'' constituents and having any of the following:

d.1. Current switching for digital circuits using ''superconductive'' gates with a product of delay time per gate (in seconds) and power dissipation per gate (in watts) of less than 10^{-14} J; *or*

d.2. Frequency selection at all frequencies using resonant circuits with Q-values exceeding 10,000;

e. High energy devices as follows:

e.1. 'Cells' as follows:

e.1.a 'Primary cells' having any of the following at 20 °C:

e.1.a.1. 'Energy density' exceeding 550 Wh/kg and a 'continuous power density' exceeding 50 W/kg; *or*

e.1.a.2. 'Energy density' exceeding 50 Wh/kg and a 'continuous power density' exceeding 350 W/kg;

e.1.b. 'Secondary cells' having an 'energy density' exceeding 350 Wh/kg at 20 °C;

Technical Notes: 1. For the purposes of 3A001.e.1, 'energy density' (Wh/kg) is calculated from the nominal voltage multiplied by the nominal capacity in ampere-hours (Ah) divided by the mass in kilograms. If the nominal capacity is not stated, energy density is calculated from the nominal voltage squared then multiplied by the discharge duration in hours divided by the discharge load in Ohms and the mass in kilograms.

2. For the purposes of 3A001.e.1, a 'cell' is defined as an electrochemical device, which has positive and negative electrodes, an electrolyte, and is a source of electrical energy. It is the basic building block of a battery.

3. For the purposes of 3A001.e.1.a, a 'primary cell' is a 'cell' that is not designed to be charged by any other source.

4. For the purposes of 3A001.e.1.b, a 'secondary cell' is a 'cell' that is designed to be charged by an external electrical source.

5. For the purposes of 3A001.e.1.a, 'continuous power density' (W/kg) is calculated from the nominal voltage multiplied by the specified maximum continuous discharge current in ampere (A) divided by the mass in kilograms. 'Continuous power density' is also referred to as specific power.

Note: 3A001.e does not control batteries, including single-cell batteries.

e.2. High energy storage capacitors as follows:

e.2.a. Capacitors with a repetition rate of less than 10 Hz (single shot capacitors) and having all of the following:

e.2.a.1. A voltage rating equal to or more than 5 kV;

e.2.a.2. An energy density equal to or more than 250 J/kg; *and*

e.2.a.3. A total energy equal to or more than 25 kJ;

e.2.b. Capacitors with a repetition rate of 10 Hz or more (repetition rated capacitors) and having all of the following:

e.2.b.1. A voltage rating equal to or more than 5 kV;

e.2.b.2. An energy density equal to or more than 50 J/kg;

e.2.b.3. A total energy equal to or more than 100 J; *and*

e.2.b.4. A charge/discharge cycle life equal to or more than 10,000;

e.3. ''Superconductive'' electromagnets and solenoids, ''specially designed'' to be fully charged or discharged in less than one second and having all of the following:

Note: 3A001.e.3 does not control ''superconductive'' electromagnets or solenoids ''specially designed'' for Magnetic Resonance Imaging (MRI) medical equipment.

e.3.a. Energy delivered during the discharge exceeding 10 kJ in the first second;

e.3.b. Inner diameter of the current carrying windings of more than 250 mm; *and*

e.3.c. Rated for a magnetic induction of more than 8 T or ''overall current density'' in the winding of more than 300 A/mm^2;

e.4. Solar cells, cell-interconnect-coverglass (CIC) assemblies, solar panels, and solar arrays, which are ''space-qualified,'' having a minimum average efficiency exceeding 20% at an operating temperature of 301 K (28 °C) under simulated 'AM0' illumination with an irradiance of 1,367 Watts per square meter (W/m^2);

Technical Note: For the purposes of 3A001.e.4, 'AM0', or 'Air Mass Zero', refers to the spectral irradiance of sun light in the earth's outer atmosphere when the distance between the earth and sun is one astronomical unit (AU).

f. Rotary input type absolute position encoders having an ''accuracy'' equal to or

less (better) than 1.0 second of arc and ''specially designed'' encoder rings, discs or scales therefor;

g. Solid-state pulsed power switching thyristor devices and 'thyristor modules', using either electrically, optically, or electron radiation controlled switch methods and having any of the following:

g.1. A maximum turn-on current rate of rise (di/dt) greater than 30,000 A/μs and off-state voltage greater than 1,100 V; *or*

g.2. A maximum turn-on current rate of rise (di/dt) greater than 2,000 A/μs and having all of the following:

g.2.a. An off-state peak voltage equal to or greater than 3,000 V; *and*

g.2.b. A peak (surge) current equal to or greater than 3,000 A;

Note 1: 3A001.g. includes:

—Silicon Controlled Rectifiers (SCRs)
—Electrical Triggering Thyristors (ETTs)
—Light Triggering Thyristors (LTTs)
—Integrated Gate Commutated Thyristors (IGCTs)
—Gate Turn-off Thyristors (GTOs)
—MOS Controlled Thyristors (MCTs)
—Solidtrons

Note 2: 3A001.g does not control thyristor devices and 'thyristor modules' incorporated into equipment designed for civil railway or ''civil aircraft'' applications.

Technical Note: For the purposes of 3A001.g, a 'thyristor module' contains one or more thyristor devices.

h. Solid-state power semiconductor switches, diodes, or 'modules', having all of the following:

h.1. Rated for a maximum operating junction temperature greater than 488 K (215 °C);

h.2. Repetitive peak off-state voltage (blocking voltage) exceeding 300 V; *and*

h.3. Continuous current greater than 1 A.

Technical Note: For the purposes of 3A001.h, 'modules' contain one or more solid-state power semiconductor switches or diodes.

Note 1: Repetitive peak off-state voltage in 3A001.h includes drain to source voltage, collector to emitter voltage, repetitive peak reverse voltage and peak repetitive off-state blocking voltage.

Note 2: 3A001.h includes:

—Junction Field Effect Transistors (JFETs)
—Vertical Junction Field Effect Transistors (VJFETs)
—Metal Oxide Semiconductor Field Effect Transistors (MOSFETs)
—Double Diffused Metal Oxide Semiconductor Field Effect Transistor (DMOSFET)
—Insulated Gate Bipolar Transistor (IGBT)
—High Electron Mobility Transistors (HEMTs)
—Bipolar Junction Transistors (BJTs)
—Thyristors and Silicon Controlled Rectifiers (SCRs)
—Gate Turn-Off Thyristors (GTOs)
—Emitter Turn-Off Thyristors (ETOs)
—PiN Diodes
—Schottky Diodes

Note 3: 3A001.h does not apply to switches, diodes, or 'modules', incorporated into equipment designed for civil automobile, civil railway, or ''civil aircraft'' applications.

i. Intensity, amplitude, or phase electro-optic modulators, designed for analog signals and having any of the following:

i.1. A maximum operating frequency of more than 10 GHz but less than 20 GHz, an optical insertion loss equal to or less than 3 dB and having any of the following:

i.1.a. A 'half-wave voltage' ('Vπ') less than 2.7 V when measured at a frequency of 1 GHz or below; *or*

i.1.b. A 'Vπ' of less than 4 V when measured at a frequency of more than 1 GHz; *or*

i.2. A maximum operating frequency equal to or greater than 20 GHz, an optical insertion loss equal to or less than 3 dB and having any of the following:

i.2.a. A 'Vπ' less than 3.3 V when measured at a frequency of 1 GHz or below; *or*

i.2.b. A 'Vπ' less than 5 V when measured at a frequency of more than 1 GHz.

Note: 3A001.i includes electro-optic modulators having optical input and output connectors (e.g., fiber-optic pigtails).

Technical Note: For the purposes of 3A001.i, a 'half-wave voltage' ('Vπ') is the applied voltage necessary to make a phase change of 180 degrees in the wavelength of light propagating through the optical modulator.

j. through y. [Reserved]

z. Any commodity described in 3A001 that meets or exceeds the performance parameters in 3A090, as follows:

z.1.a ''Monolithic Microwave Integrated Circuit'' (''MMIC'') amplifiers described in 3A001.b.2 and discrete microwave transistors in 3A001.b.3 that also meet or exceed the performance parameters in ECCN 3A090.a, except those 3A001.b.2 and b.3 items being exported or reexported for use in civil telecommunications applications;

z.1.b ''Monolithic Microwave Integrated Circuit'' (''MMIC'') amplifiers described in 3A001.b.2 and discrete microwave transistors in 3A001.b.3 that also meet or exceed the performance parameters in ECCN 3A090.b, except those 3A001.b.2 and b.3 items being exported or reexported for use in civil telecommunications applications;

z.2.a Commodities that are described in 3A001.a.1.a when usable in ''missiles'' that also meet or exceed the performance parameters in ECCN 3A090.a; and to 3A001.a.5.a when ''designed or modified'' for military use, hermetically sealed and rated for operation in the temperature range from below −54 °C to above +125 °C and that also meet or exceed the performance parameters in ECCN 3A090.a;

z.2.b Commodities that are described in 3A001.a.1.a when usable in ''missiles'' that also meet or exceed the performance parameters in ECCN 3A090.b; and to 3A001.a.5.a

when ''designed or modified'' for military use, hermetically sealed and rated for operation in the temperature range from below −54 °C to above +125 °C and that also meet or exceed the performance parameters in ECCN 3A090.b;

z.3.a. Pulse discharge capacitors described in 3A001.e.2 and superconducting solenoidal electromagnets in 3A001.e.3 that meet or exceed the technical parameters in 3A201.a and 3A201.b, respectively and that also meet or exceed the performance parameters in ECCN 3A090.a;

z.3.b Pulse discharge capacitors described in 3A001.e.2 and superconducting solenoidal electromagnets in 3A001.e.3 that meet or exceed the technical parameters in 3A201.a and 3A201.b, respectively and that also meet or exceed the performance parameters in ECCN 3A090.b;

z.4.a. All other commodities specified in this ECCN that meet or exceed the performance parameters of ECCN 3A090.a; or

z.4.b All other commodities specified in this ECCN that meet or exceed the performance parameters of ECCN 3A090.b.

3A002 General purpose "electronic assemblies," modules and equipment, as follows (see List of Items Controlled).

LICENSE REQUIREMENTS

Reason for Control: NS, MT, AT

Control(s)	Country chart (see supp. No. 1 to part 738)
NS applies to entire entry	NS Column 2
MT applies to 3A002.h when the parameters in 3A101.a.2.b are met or exceeded.	MT Column 1
AT applies to entire entry	AT Column 1

Reporting Requirements: See §743.1 of the EAR for reporting requirements for exports under License Exceptions, and Validated End-User authorizations.

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

LVS: $3000: 3A002.a, .e, .f, and .g

$5000: 3A002.c to .d, and .h (unless controlled for MT);

GBS: Yes, for 3A002.h (unless controlled for MT)

SPECIAL CONDITIONS FOR STA

STA: License Exception STA may not be used to ship any item in 3A002.g.1 to any of the destinations listed in Country Group A:6 (See Supplement No. 1 to part 740 of the EAR).

LIST OF ITEMS CONTROLLED

Related Controls: See Category XV(e)(9) of the USML for certain ''space-qualified'' atomic frequency standards ''subject to the ITAR'' (see 22 CFR parts 120 through 130). See also 3A101, 3A992 and 9A515.x.

Related Definitions: Constant percentage bandwidth filters are also known as octave or fractional octave filters.

Items:

a. Recording equipment and oscilloscopes, as follows:

a.1. to a.5. [Reserved]

N.B.: For waveform digitizers and transient recorders, see 3A002.h.

a.6. Digital data recorders having all of the following:

a.6.a. A sustained 'continuous throughput' of more than 6.4 Gbit/s to disk or solid-state drive memory; *and*

a.6.b. ''Signal processing'' of the radio frequency signal data while it is being recorded;

Technical Notes: For the purposes of 3A002.a.6:

1. For recorders with a parallel bus architecture, the 'continuous throughput' rate is the highest word rate multiplied by the number of bits in a word.

2. 'Continuous throughput' is the fastest data rate the instrument can record to disk or solid-state drive memory without the loss of any information while sustaining the input digital data rate or digitizer conversion rate.

a.7. Real-time oscilloscopes having a vertical root-mean-square (rms) noise voltage of less than 2% of full-scale at the vertical scale setting that provides the lowest noise value for any input 3dB bandwidth of 60 GHz or greater per channel;

Note: 3A002.a.7 does not apply to equivalent-time sampling oscilloscopes.

b. [Reserved]

c. ''Signal analyzers'' as follows:

c.1. ''Signal analyzers'' having a 3 dB resolution bandwidth (RBW) exceeding 40 MHz anywhere within the frequency range exceeding 31.8 GHz but not exceeding 37 GHz;

c.2. ''Signal analyzers'' having a Displayed Average Noise Level (DANL) less (better) than −150 dBm/Hz anywhere within the frequency range exceeding 43.5 GHz but not exceeding 90 GHz;

c.3. ''Signal analyzers'' having a frequency exceeding 90 GHz;

c.4. ''Signal analyzers'' having all of the following:

c.4.a. 'Real-time bandwidth' exceeding 170 MHz; *and*

c.4.b. Having any of the following:

c.4.b.1. 100% probability of discovery, with less than a 3 dB reduction from full amplitude due to gaps or windowing effects, of signals having a duration of 15 μs or less; *or*

c.4.b.2. A 'frequency mask trigger' function, with 100% probability of trigger (capture) for signals having a duration of 15 μs or less;

Technical Notes: 1. For the purposes of 3A002.c.4.a, 'real-time bandwidth' is the widest frequency range for which the analyzer can continuously transform time-domain data entirely into frequency-domain results, using a Fourier or other discrete time transform that

processes every incoming time point, without a reduction of measured amplitude of more than 3 dB below the actual signal amplitude caused by gaps or windowing effects, while outputting or displaying the transformed data.

2. For the purposes of 3A002.c.4.b.1., probability of discovery is also referred to as probability of intercept or probability of capture.

3. For the purposes of 3A002.c.4.b.1, the duration for 100% probability of discovery is equivalent to the minimum signal duration necessary for the specified level measurement uncertainty.

4. For the purposes of 3A002.c.4.b.2, a 'frequency mask trigger' is a mechanism where the trigger function is able to select a frequency range to be triggered on as a subset of the acquisition bandwidth while ignoring other signals that may also be present within the same acquisition bandwidth. A 'frequency mask trigger' may contain more than one independent set of limits.

Note: 3A002.c.4 does not apply to those ''signal analyzers'' using only constant percentage bandwidth filters (also known as octave or fractional octave filters).

c.5. [Reserved]

d. Signal generators having any of the following:

d.1. Specified to generate pulse-modulated signals having all of the following, anywhere within the frequency range exceeding 31.8 GHz but not exceeding 37 GHz:

d.1.a. 'Pulse duration' of less than 25 ns; *and*

d.1.b. On/off ratio equal to or exceeding 65 dB;

d.2. An output power exceeding 100 mW (20 dBm) anywhere within the frequency range exceeding 43.5 GHz but not exceeding 90 GHz;

d.3. A ''frequency switching time'' as specified by any of the following:

d.3.a. [Reserved]

d.3.b. Less than 100 μs for any frequency change exceeding 2.2 GHz within the frequency range exceeding 4.8 GHz but not exceeding 31.8 GHz;

d.3.c. [Reserved]

d.3.d. Less than 500 μs for any frequency change exceeding 550 MHz within the frequency range exceeding 31.8 GHz but not exceeding 37 GHz;

d.3.e. Less than 100 μs for any frequency change exceeding 2.2 GHz within the frequency range exceeding 37 GHz but not exceeding 75 GHz; *or*

d.3.f. [Reserved]

d.3.g. Less than 100 μs for any frequency change exceeding 5.0 GHz within the frequency range exceeding 75 GHz but not exceeding 90 GHz.

d.4. A single sideband (SSB) phase noise, in dBc/Hz, specified as being any of the following:

d.4.a. Less (better) than $-(126 + 20 \log_{10} F - 20\log_{10} f)$ for anywhere within the range of 10 Hz ≤ F ≤ 10 kHz anywhere within the frequency range exceeding 3.2 GHz but not exceeding 90 GHz; *or*

d.4.b. Less (better) than $-(206 - 20\log_{10} f)$ for anywhere within the range of 10 kHz < F ≤ 100 kHz anywhere within the frequency range exceeding 3.2 GHz but not exceeding 90 GHz;

Technical Note: For the purposes of 3A002.d.4, F is the offset from the operating frequency in Hz and f is the operating frequency in MHz.

d.5. An 'RF modulation bandwidth' of digital baseband signals as specified by any of the following:

d.5.a. Exceeding 2.2 GHz within the frequency range exceeding 4.8 GHz but not exceeding 31.8 GHz;

d.5.b. Exceeding 550 MHz within the frequency range exceeding 31.8 GHz but not exceeding 37 GHz;

d.5.c. Exceeding 2.2 GHz within the frequency range exceeding 37 GHz but not exceeding 75 GHz;

d.5.d. Exceeding 5.0 GHz within the frequency range exceeding 75 GHz but not exceeding 90 GHz; *or*

Technical Note: For the purposes of 3A002.d.5, 'RF modulation bandwidth' is the Radio Frequency (RF) bandwidth occupied by a digitally encoded baseband signal modulated onto an RF signal. It is also referred to as information bandwidth or vector modulation bandwidth. I/Q digital modulation is the technical method for producing a vector-modulated RF output signal, and that output signal is typically specified as having an 'RF modulation bandwidth'.

d.6. A maximum frequency exceeding 90 GHz;

Note 1: For the purposes of 3A002.d, signal generators include arbitrary waveform and function generators.

Note 2: 3A002.d does not control equipment in which the output frequency is either produced by the addition or subtraction of two or more crystal oscillator frequencies, or by an addition or subtraction followed by a multiplication of the result.

Technical Notes: 1. For the purposes of 3A002.d, the maximum frequency of an arbitrary waveform or function generator is calculated by dividing the sample rate, in samples/second, by a factor of 2.5.

2. For the purposes of 3A002.d.1.a, 'pulse duration' is defined as the time interval from the point on the leading edge that is 50% of the pulse amplitude to the point on the trailing edge that is 50% of the pulse amplitude.

e. Network analyzers having any of the following:

e.1. An output power exceeding 31.62 mW (15 dBm) anywhere within the operating frequency range exceeding 43.5 GHz but not exceeding 90 GHz;

e.2. An output power exceeding 1 mW (0 dBm) anywhere within the operating frequency range exceeding 90 GHz but not exceeding 110 GHz;

e.3. 'Nonlinear vector measurement functionality' at frequencies exceeding 50 GHz but not exceeding 110 GHz; *or*

Technical Note: For the purposes of 3A002.e.3, 'nonlinear vector measurement functionality' is an instrument's ability to analyze the test results of devices driven into the large-signal domain or the non-linear distortion range.

e.4. A maximum operating frequency exceeding 110 GHz;

f. Microwave test receivers having all of the following:

f.1. Maximum operating frequency exceeding 110 GHz; *and*

f.2. Being capable of measuring amplitude and phase simultaneously;

g. Atomic frequency standards being any of the following:

g.1. ''Space-qualified'';

g.2. Non-rubidium and having a long-term stability less (better) than 1×10^{-11}/month; *or*

g.3. Non-''space-qualified'' and having all of the following:

g.3.a. Being a rubidium standard;

g.3.b. Long-term stability less (better) than 1×10^{-11}/month; *and*

g.3.c. Total power consumption of less than 1 Watt.

h. ''Electronic assemblies,'' modules or equipment, specified to perform all of the following:

h.1. Analog-to-digital conversions meeting any of the following:

h.1.a. A resolution of 8 bit or more, but less than 10 bit, with a ''sample rate'' greater than 1.3 Giga Samples Per Second (GSPS);

h.1.b. A resolution of 10 bit or more, but less than 12 bit, with a ''sample rate'' greater than 1.0 GSPS;

h.1.c. A resolution of 12 bit or more, but less than 14 bit, with a ''sample rate'' greater than 1.0 GSPS;

h.1.d. A resolution of 14 bit or more but less than 16 bit, with a ''sample rate'' greater than 400 Mega Samples Per Second (MSPS); *or*

h.1.e. A resolution of 16 bit or more with a ''sample rate'' greater than 180 MSPS; *and*

h.2. Any of the following:

h.2.a. Output of digitized data;

h.2.b. Storage of digitized data; *or*

h.2.c. Processing of digitized data;

N.B.: Digital data recorders, oscilloscopes, ''signal analyzers,'' signal generators, network analyzers and microwave test receivers, are specified by 3A002.a.6, 3A002.a.7, 3A002.c, 3A002.d, 3A002.e and 3A002.f, respectively.

Technical Notes: For the purposes of 3A002.h:

1. A resolution of n bit corresponds to a quantization of 2^n levels.

2. The resolution of the ADC is the number of bits of the digital output of the ADC that represents the measured analog input word. Effective Number of Bits (ENOB) is not used to determine the resolution of the ADC.

3. For non-interleaved multiple-channel ''electronic assemblies'', modules, or equipment, the ''sample rate'' is not aggregated and the ''sample rate'' is the maximum rate of any single channel.

4. For interleaved channels on multiple-channel ''electronic assemblies'', modules, or equipment, the ''sample rates'' are aggregated and the ''sample rate'' is the maximum combined total rate of all the interleaved channels.

Note: 3A002.h includes ADC cards, waveform digitizers, data acquisition cards, signal acquisition boards and transient recorders.

3A003 Spray cooling thermal management systems employing closed loop fluid handling and reconditioning equipment in a sealed enclosure where a dielectric fluid is sprayed onto electronic "components" using "specially designed" spray nozzles that are designed to maintain electronic "components" within their operating temperature range, and "specially designed" "components" therefore.

LICENSE REQUIREMENTS

Reason for Control: NS, AT

Control(s)	Country Chart (See Supp. No. 1 to part 738)
NS applies to entire entry	NS Column 2.
AT applies to entire entry	AT Column 1.

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

LVS: N/A

GBS: N/A

LIST OF ITEMS CONTROLLED

Related Controls: N/A

Related Definitions: N/A

Items: The list of items controlled is contained in the ECCN heading.

3A069 Specific Laboratory Equipment as Follows (See List of Items Controlled)

LICENSE REQUIREMENTS

Reason for Control: NS, RS, AT

Control(s)	Country Chart (See Supp. No. 1 to part 738)
NS applies to entire entry	NS Column 2.
RS applies to entire entry	To or within Macau or a destination specified in Country Group D:5 of supplement no. 1 to part 740 of the EAR. See §742.6(a)(12) of the EAR.
AT applies to entire entry	AT Column 1.

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

LVS: N/A

GBS: Yes, except N/A for destinations subject to the RS control in 3A999.

LIST OF ITEMS CONTROLLED

Related Controls: See also 3A999 for specific processing equipment, n.e.s.. See also 3E069 for technology for the ''development'' and ''production'' of items detailed in 3A069.

License Requirement Note: Excluded from the scope of this entry are flow cytometers and mass spectrometers that are devices, as defined in section 201(h) of the Federal Food, Drug, and Cosmetic Act (FD&C Act), 21 U.S.C. 321(h), that have been authorized for marketing by the Food and Drug Administration under section 510(k), section 513, or section 515 of the FD&C Act, 21 U.S.C. 360(k), 21 U.S.C. 360c, 21 U.S.C. 360e, or are exempt from the requirement of premarket notification under section 510(k) of the FD&C Act, 21 U.S.C. 360(k), and that are included in a list required by section 510(j) of the FD&C Act, 21 U.S.C. 360(j).

Related Definitions: N/A
Items:

a. Flow cytometers and cell sorters that are ''specially designed'' for spectral analysis or contain 26 or greater detectors or channels.

b. Liquid chromatography mass spectrometry instruments (LC/MS and LC–MS/MS) ''specially designed'' for top-down proteomic analysis.

3A090 Integrated circuits as follows (see List of Items Controlled).

LICENSE REQUIREMENTS
Reason for Control: RS, AT

Control(s)	Country Chart (see Supp. No. 1 to part 738)
RS applies to 3A090.a	To or within any destination worldwide, see §742.6(a)(6)(iii)(A) of the EAR.
RS applies to 3A090.b	To or within destinations specified in Country Groups D:1, D:4, and D:5 of supplement no. 1 to part 740 of the EAR, excluding any destination also specified in Country Groups A:5 or A:6. *See* §742.6(a)(6)(iii)(B) of the EAR.
RS applies to 3A090.c	To or within Macau or a destination specified in Country Group D:5 of supplement no. 1 to part 740 of the EAR. See §742.6(a)(6)(i)(B) of the EAR.
AT applies to entire entry	AT Column 1.

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

LVS: N/A
GBS: N/A
NAC/ACA: Yes, for 3A090.a, if the item is not designed or marketed for use in datacenters and has a 'total processing performance' of 4800 or more; yes, for 3A090.b, if the item is designed or marketed for use in datacenters. N/A for 3A090.c.
HBM: Yes, for 3A090.c. See §740.25 of the EAR.
AIA: Yes, for 3A090.a.
ACM: Yes
LPP: Yes, for 3A090.a.

LIST OF ITEMS CONTROLLED

Related Controls: (1) See ECCNs 3D001, 3E001, 5D002.z, and 5D992.z for associated technology and software controls. (2) See ECCNs 3A001.z, 5A002.z, 5A004.z, and 5A992.z.
Related Definitions: N/A
Items:

a. Integrated circuits having one or more digital processing units having either of the following:

a.1. A 'total processing performance' of 4800 or more; *or*

a.2. A 'total processing performance' of 1600 or more and a 'performance density' of 5.92 or more.

Note 1 to 3A090.a: When a ''front-end fabricator'' or ''OSAT'' company is seeking to export, reexport, or transfer (in-country) an ''applicable advanced logic integrated circuit,'' there is a presumption that the item is 3A090.a and designed or marketed for datacenters. If the ''front-end fabricator'' or ''OSAT'' company cannot overcome this presumption, then it must comply with all license requirements applicable to items specified in 3A090.a. However, this presumption does not apply to any entity other than the ''front-end fabricator'' or ''OSAT'' company. A ''front-end fabricator'' or ''OSAT'' company can overcome this presumption in any of the following three ways outlined in paragraphs a. through c. of this Note 1.

a. If the designer of the ''applicable advanced logic integrated circuit'' is an approved or authorized integrated circuit designer, then a datasheet or other attestation of the 'total processing performance' and the 'performance density' from the approved or authorized integrated circuit designer indicating that the IC is not specified in 3A090.a will overcome the presumption for the ''front-end fabricator'' or ''OSAT'' company that the IC is specified in ECCN 3A090.a.

(1) Approved integrated circuit designers are listed in supplement no. 6 to this part of the EAR;

(2) Prior to April 13, 2026, authorized integrated circuit designers include all integrated circuit designers:

(i) Headquartered in Taiwan or a destination specified in Country Group A:1 or A:5, that are neither located in nor have an ultimate parent headquartered in Macau or a destination specified in Country Group D:5 of supplement no. 1 to part 740 of the EAR; and

(ii) That have agreed to submit applicable information described in §743.9(b) to the ''front-end fabricator,'' which the ''front-end fabricator'' must then report to BIS.

(3) After April 13, 2026, authorized integrated circuit designers include any integrated circuit designer that both meets the criteria specified in subparagraph (2) and has submitted an application to become an approved integrated circuit designer. However, any company deemed an authorized IC designer after April 13, 2026, will cease to be an authorized IC designer 180 days after the submission of its application to become an approved IC designer.

b. If the integrated circuit die is packaged by the ''front-end fabricator'' at a location outside of Macau or a destination specified in Country Group D:5 in supplement no. 1 to part 740, then the attestation of the ''front-end fabricator'' that (a) the ''aggregated approximated transistor count'' of the final packaged IC is below 30 billion transistors, or (b) the final packaged IC does not contain high-bandwidth memory and that the ''aggregated approximated transistor count'' of the final packaged IC is below (i) 35 billion transistors for any exports, reexports, or transfers (in-country) completed in 2027; or (ii) 40 billion transistors for any exports, reexports, or transfers (in-country) completed in 2029 or thereafter, then this overcomes the presumption by the ''front-end fabricator'' or ''OSAT'' company that the IC is specified in ECCN 3A090.a.

c. If the integrated circuit is packaged by an approved ''OSAT'' company listed in supplement no. 7 to part 740 of the EAR, then the attestation of the approved ''OSAT'' company that (a) the ''aggregated approximated transistor count'' of the final packaged IC is below 30 billion transistors, or (b) the final packaged IC does not contain high-bandwidth memory and that the ''aggregated approximated transistor count'' of the final packaged IC is below (i) 35 billion transistors for any exports, reexports, or transfers (in-country) completed in 2027; or (ii) 40 billion transistors for any exports, reexports, or transfers (in-country) completed in 2029 or thereafter, then this overcomes the presumption by the ''front-end fabricator'' or ''OSAT'' company that the IC is specified in ECCN 3A090.a.

d. It is not sufficient for the ''front-end fabricator'' or ''OSAT'' company to confirm the ECCN by relying on the attestation of the end user or other party to the transaction, except under one of the three ways enumerated in paragraphs a. through c. of this note. In the absence of an attestation of the 'total processing performance' and the 'performance density' by an approved integrated circuit designer listed in supplement no. 6 to part 740 of the EAR, the ''front-end fabricator'' or ''OSAT'' company must presume that any logic integrated circuit produced using the ''16/14 nanometer node'' or below, or using a non-planar transistor architecture and destined for a commodity with an (a) ''aggregated approximated transistor count'' of the final packaged IC is below 30 billion transistors, or (b) the final packaged IC does not contain high-bandwidth memory and that the ''aggregated approximated transistor count'' of the final packaged IC is below (i) 35 billion transistors for any exports, reexports, or transfers (in-country) completed in 2027; or (ii) 40 billion transistors for any exports, reexports, or transfers (in-country) completed in 2029 or thereafter, or where the ''aggregated approximated transistor count,'' of the final, packaged integrated circuit cannot be confirmed by the ''front-end fabricator,'' or an approved ''OSAT'' company listed in supplement no. 7 to part 740 of the EAR, is specified in ECCN 3A090.a and designed or marketed for a datacenter.

Technical Note 1 to 3A090.a: The 'approximated transistor count' of a die is the 'transistor density' of the die multiplied by the area of the die measured in square millimeters. The 'transistor density' of the die is the number of transistors that can be fabricated per square millimeter for the process node used to manufacture the die. To calculate the number of 'approximated transistor count' of a die, a ''front end fabricator'' or ''OSAT'' company has two options. First, the ''front end fabricator'' or ''OSAT'' company may take the transistor density of the process node used to manufacture the die and multiply this density by the area of the die. This number may be significantly higher than the true transistor count, but if the result is below the relevant transistor threshold, then the ''front end fabricator'' or ''OSAT'' company can be confident that the die in question will not exceed that threshold. Second, to adjudicate edge cases, the ''front end fabricator'' or ''OSAT'' company may use standard design verification tools to estimate the number of (both active and passive) transistors on the die using the GDS file.

b. Integrated circuits having one or more digital processing units having either of the following:

b.1. A 'total processing performance' of 2400 or more and less than 4800 and a 'performance density' of 1.6 or more and less than 5.92, or

b.2. A 'total processing performance' of 1600 or more and a 'performance density' of 3.2 or more and less than 5.92.

Note 2 to 3A090.a and 3A090.b: 3A090.a and 3A090.b do not apply to items that are not designed or marketed for use in datacenters and do not have a 'total processing performance' of 4800 or more. For 3A090.a and 3A090.b items that are not designed or marketed for use in datacenters and that have a 'total processing performance' of 4800 or more, see license exceptions NAC and ACA.

Note 3 to 3A090.a and 3A090.b: Integrated circuits specified by 3A090 include graphical processing units (GPUs), tensor processing units (TPUs), neural processors, in-memory processors, vision processors, text processors, co-processors/accelerators, adaptive processors, field-programmable logic devices (FPLDs), and application-specific integrated circuits (ASICs). Examples of integrated circuits are in the Note to 3A001.a.

Note 4 to 3A090.a and 3A090.b: For integrated circuits that are excluded from ECCN 3A090 under Note 2 or 3 to 3A090, those ICs are also not applicable for classifications made under ECCNs 3A001.z, 4A003.z, 4A004.z, 4A005.z, 4A090, 5A002.z, 5A004.z, 5A992.z, 5D002.z, or 5D992.z because those other CCL classifications are based on the incorporation of an integrated circuit that meets the control parameters under ECCN 3A090 or otherwise meets or exceeds the control parameters or ECCNs 3A090 or 4A090. The performance parameters under ECCN 3A090.c are not used for determining whether an item is classified in a .z ECCN. See the Related Controls paragraphs of ECCNs 3A001.z, 4A003.z, 4A004.z, 4A005.z, 4A090, 5A002.z, 5A004.z, 5A992.z, 5D002.z, or 5D992.z.

Technical Note 2 to 3A090.a and 3A090.b: 1. 'Total processing performance' ('TPP') is 2 × 'MacTOPS' × 'bit length of the operation', aggregated over all processing units on the integrated circuit.

a. For purposes of 3A090, 'MacTOPS' is the theoretical peak number of Tera (10^{12}) operations per second for multiply-accumulate computation ($D = A \times B + C$).

b. The 2 in the 'TPP' formula is based on industry convention of counting one multiply-accumulate computation, $D = A \times B + C$, as 2 operations for purpose of datasheets. Therefore, 2 × MacTOPS may correspond to the reported TOPS or FLOPS on a datasheet.

c. For purposes of 3A090, 'bit length of the operation' for a multiply-accumulate computation is the largest bit-length of the inputs to the multiply operation.

d. Aggregate the TPPs for each processing unit on the integrated circuit to arrive at a total. 'TPP' = TPP1 + TPP2 + ... + TPPn (where n is the number or processing units on the integrated circuit).

2. The rate of 'MacTOPS' is to be calculated at its maximum value theoretically possible. The rate of 'MacTOPS' is assumed to be the highest value the manufacturer claims in annual or brochure for the integrated circuit. For example, the 'TPP' threshold of 4800 can be met with 600 tera integer operations (or 2 × 300 'MacTOPS') at 8 bits or 300 tera FLOPS (or 2 × 150 'MacTOPS') at 16 bits. If the integrated circuit is designed for MAC computation with multiple bit lengths that achieve different 'TPP' values, the highest 'TPP' value should be evaluated against parameters in 3A090.

3. For integrated circuits specified by 3A090 that provide processing of both sparse and dense matrices, the 'TPP' values are the values for processing of dense matrices (e.g., without sparsity).

4. 'Performance density' is 'TPP' divided by 'applicable die area'. For purposes of 3A090, 'applicable die area' is measured in millimeters squared and includes all die area of logic dies manufactured with a process node that uses a non-planar transistor architecture.

c. High bandwidth memory (HBM) having a 'memory bandwidth density' greater than 2 gigabytes per second per square millimeter.

Technical Note 1 to 3A090.c: 'Memory bandwidth density' is the memory bandwidth measured in gigabytes per second divided by the area of the package or stack measured in square millimeters. In the case where a stack is contained in a package, use the memory bandwidth of the packaged device and the area of the package. High bandwidth memory (HBM) includes dynamic random access memory integrated circuits, regardless of whether they conform to the JEDEC standards for high bandwidth memory (HBM), provided they have a 'memory bandwidth density' greater than 2 gigabytes per second per square millimeter. This control does not cover co-packaged integrated circuits with both HBM and logic integrated circuit where the dominant function of the co-packaged integrated circuit is processing. It does include HBM permanently affixed to a logic integrated circuit designed as a control interface and incorporating a physical layer (PHY) function.

3A101 Electronic equipment, devices, "parts" and "components," other than those controlled by 3A001, as follows (see List of Items Controlled).

LICENSE REQUIREMENTS

Reason for Control: MT, AT

Control(s)	Country Chart (See Supp. No. 1 to part 738)
MT applies to entire entry	MT Column 1
AT applies to entire entry	AT Column 1

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

LVS: N/A

GBS: N/A

LIST OF ITEMS CONTROLLED

Related Controls: See also ECCN 3A002.h for controls on analog-to-digital ''electronic assemblies,'' modules or equipment.

Related Definitions: N/A

Items: a. Analog-to-digital converters usable in ''missiles,'' and having any of the following characteristics:

a.1. ''Specially designed'' to meet military specifications for ruggedized equipment;

a.2. ''Specially designed'' for military use and being any of the following types:

a.2.a. Analog-to-digital converter microcircuits which are radiation-hardened or have all of the following characteristics:

a.2.a.1. Rated for operation in the temperature range from below −54 °C to above +125 °C; *and*

a.2.a.2. Hermetically sealed; *or*

a.2.b. Electrical input type analog-to-digital converter printed circuit boards or modules, having all of the following characteristics:

a.2.b.1. Rated for operation in the temperature range from below −45 °C to above +80 °C; *and*

a.2.b.2. Incorporating microcircuits identified in 3A101.a.2 .a;

b. Accelerators capable of delivering electromagnetic radiation produced by bremsstrahlung from accelerated electrons of 2 MeV or greater, and systems containing those accelerators, usable for the ''missiles'' or the subsystems of ''missiles''.

Note: 3A101.b above does not include equipment ''specially designed'' for medical purposes.

3A201 Electronic "parts" and "components," other than those controlled by 3A001, as follows (see List of Items Controlled).

Reason for Control: NP, AT

Control(s)	Country Chart (See Supp. No. 1 to part 738)
NP applies to entire entry	NP Column 1
AT applies to entire entry	AT Column 1

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

LVS: N/A

GBS: N/A

LIST OF ITEMS CONTROLLED

Related Controls: (1) See ECCNs 3E001 (''development'' and ''production'') and 3E201 (''use'') for technology for items controlled under this entry. (2) *Also see* 3A001.e.2 (capacitors) and 3A001.e.3 (superconducting electromagnets). (3) Superconducting electromagnets ''specially designed'' or prepared for use in separating uranium isotopes are subject to the export licensing authority of the Nuclear Regulatory Commission (see 10 CFR part 110).

Related Definitions: N/A

Items: a. Pulse discharge capacitors having either of the following sets of characteristics:

a.1. Voltage rating greater than 1.4 kV, energy storage greater than 10 J, capacitance greater than 0.5 μF, *and* series inductance less than 50 nH; *or*

a.2. Voltage rating greater than 750 V, capacitance greater than 0.25 μF, *and* series inductance less than 10 nH;

b. Superconducting solenoidal electromagnets having all of the following characteristics:

b.1. Capable of creating magnetic fields greater than 2 T;

b.2. A ratio of length to inner diameter greater than 2;

b.3. Inner diameter greater than 300 mm; *and*

b.4. Magnetic field uniform to better than 1% over the central 50% of the inner volume;

Note: 3A201.b does not control magnets ''specially designed'' for and exported ''as parts of'' medical nuclear magnetic resonance (NMR) imaging systems. The phrase ''as part of'' does not necessarily mean physical part in the same shipment; separate shipments from different sources are allowed, provided the related export documents clearly specify that the shipments are dispatched ''as part of'' the imaging systems.

c. Flash X-ray generators or pulsed electron accelerators having either of the following sets of characteristics:

c.1. An accelerator peak electron energy of 500 keV or greater, but less than 25 MeV, *and* with a ''figure of merit'' (K) of 0.25 or greater; *or*

c.2. An accelerator peak electron energy of 25 MeV or greater, *and* a ''peak power'' greater than 50 MW;

Note: 3A201.c does not control accelerators that are ''parts'' or ''components'' of devices designed for purposes other than electron beam or X-ray radiation (electron microscopy, for example) nor those designed for medical purposes.

Technical Notes: (1) The ''figure of merit'' K is defined as: $K = 1.7 \times 10^3 V^{2.65} Q$. *V is the peak electron energy in million electron volts. If the accelerator beam pulse duration is less than or equal to 1* μs, *then Q is the total accelerated charge in Coulombs. If the accelerator beam pulse duration is greater than 1* μs, *then Q is the maximum accelerated charge in 1* μs. *Q equals the intergral of i with respect to t, over the lesser of 1* μs *or the time duration of the beam pulse* $Q = \int i dt$, *where i is beam current in amperes and t is time in seconds.*

(2) ''Peak power'' = (peak potential in volts) × (peak beam current in amperes).

(3) In machines based on microwave accelerating cavities, the time duration of the beam pulse is the lesser of 1 μs *or the duration of the bunched beam packet resulting from one microwave modulator pulse.*

(4) In machines based on microwave accelerating cavities, the peak beam current is the average current in the time duration of a bunched beam packet.

3A225 Frequency changers (a.k.a. converters or inverters) and generators, except those subject to the export licensing authority of the Nuclear Regulatory Commission (see 10 CFR part 110), that are usable as a variable frequency or fixed frequency motor drive and have all of the characteristics described in this ECCN (see List of Items Controlled).

LICENSE REQUIREMENTS

Reason for Control: NP, AT

Control(s)	Country Chart (See Supp. No. 1 to part 738)
NP applies to entire entry	NP Column 1
AT applies to entire entry	AT Column 1

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

LVS: N/A

GBS: N/A

LIST OF ITEMS CONTROLLED

Related Controls: (1) See ECCN 3D201 for ''software'' ''specially designed'' for the ''use'' of equipment described in this entry. (2) See ECCN 3D202 for ''software'' ''specially designed'' to enhance or release the performance characteristics of frequency changers or generators to meet or exceed the level of the performance characteristics described in this entry. (3) See ECCNs 3E001 (''development'' and ''production'') and 3E201 (''use'') for ''technology'' for items controlled under this entry. (4) Frequency changers (a.k.a. converters or inverters) ''specially designed'' or prepared for use in separating uranium isotopes are subject to the export licensing authority of the Nuclear Regulatory Commission (see 10 CFR part 110).

Related Definitions: N/A

Items: a. Multiphase output providing a power of 40 VA or greater;

b. Operating at a frequency of 600 Hz or more; *and*

c. Frequency control better (less) than 0.2%.

Notes: 1. This ECCN controls frequency changers intended for use in specific industrial machinery and/or consumer goods (machine tools, vehicles, etc.) only if the frequency changers can meet the performance characteristics described in this entry when removed from the machinery and/or goods. This Note does not exclude from control under this entry any frequency changer described herein that is the principal element of a non-controlled item and can feasibly be removed or used for other purposes.

2. To determine whether a particular frequency changer meets or exceeds the performance characteristics described in this entry, both hardware and ''software'' performance constraints must be considered.

Technical Notes: 1. Frequency changers controlled by this ECCN are also known as converters or inverters.

2. The performance characteristics described in this ECCN also may be met by certain equipment marketed as: Generators, electronic test equipment, AC power supplies, variable speed motor drives, variable speed drives (VSDs), variable frequency drives (VFDs), adjustable frequency drives (AFDs), or adjustable speed drives (ASDs).

3A226 High-power direct current power supplies having both of the following characteristics (see List of Items Controlled), excluding items that are subject to the export licensing authority of the Nuclear Regulatory Commission (see 10 CFR part 110).

LICENSE REQUIREMENTS

Reason for Control: NP, AT

Control(s)	Country Chart (See Supp. No. 1 to part 738)
NP applies to entire entry	NP Column 1
AT applies to entire entry	AT Column 1

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

LVS: N/A

GBS: N/A

LIST OF ITEMS CONTROLLED

Related Controls: (1) See ECCNs 3E001 (''development'' and ''production'') and 3E201 (''use'') for technology for items controlled under this entry. (2) Also see ECCN 3A227. (3) Direct current power supplies ''specially designed'' or prepared for use in separating uranium isotopes are subject to the export licensing authority of the Nuclear Regulatory Commission (see 10 CFR part 110).

Related Definitions: N/A

Items: a. Capable of continuously producing, over a time period of 8 hours, 100 V or greater with current output of 500 A or greater; *and*

b. Current or voltage stability better than 0.1% over a time period of 8 hours.

3A227 High-voltage direct current power supplies, having both of the following characteristics (see List of Items Controlled), excluding items that are subject to the export licensing authority of the Nuclear Regulatory Commission (see 10 CFR part 110).

LICENSE REQUIREMENTS

Reason for Control: NP, AT

Control(s)	Country Chart (See Supp. No. 1 to part 738)
NP applies to entire entry	NP Column 1
AT applies to entire entry	AT Column 1

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

LVS: N/A

GBS: N/A

LIST OF ITEMS CONTROLLED

Related Controls: (1) See ECCNs 3E001 (''development'' and ''production'') and 3E201 (''use'') for technology for items controlled under this entry. (2) Also see ECCN 3A226. (3) Direct current power supplies ''specially designed'' or prepared for use in separating uranium isotopes are subject to the export licensing authority of the Nuclear Regulatory Commission (see 10 CFR part 110).

Related Definitions: N/A

Items: a. Capable of continuously producing, over a time period of 8 hours, 20 kV or greater with current output of 1 A or greater; *and*

b. Current or voltage stability better than 0.1% over a time period of 8 hours.

3A228 Switching devices, as follows (see List of Items Controlled).

LICENSE REQUIREMENTS
Reason for Control: NP, AT

Control(s)	Country Chart (See Supp. No. 1 to part 738)
NP applies to entire entry	NP Column 1
AT applies to entire entry	AT Column 1

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)
LVS: N/A
GBS: N/A
LIST OF ITEMS CONTROLLED
Related Controls: (1) See ECCNs 3E001 (''development'' and ''production'') and 3E201 (''use'') for technology for items controlled under this entry.
(2) Also see ECCN 3A991.k.
Related Definitions: N/A
Items: a. Cold-cathode tubes, whether gas filled or not, operating similarly to a spark gap, having all of the following characteristics:
a.1. Containing three or more electrodes;
a.2. Anode peak voltage rating of 2.5 kV or more;
a.3. Anode peak current rating of 100 A or more; *and*
a.4. Anode delay time of 10 μs or less.

Technical Note: 3A228.a includes gas krytron tubes and vacuum sprytron tubes.

b. Triggered spark-gaps having both of the following characteristics:
b.1. An anode delay time of 15 μs or less; *and*
b.2. Rated for a peak current of 500 A or more.
c. Modules or assemblies with a fast switching function having all of the following characteristics:
c.1. Anode peak voltage rating greater than 2 kV;
c.2. Anode peak current rating of 500 A or more; *and*
c.3. Turn-on time of 1 μs or less.

3A229 Firing sets and equivalent high-current pulse generators for detonators controlled by 3A232 (see List of Items Controlled).
LICENSE REQUIREMENTS
Reason for Control: NP, AT, foreign policy

Control(s)	Country chart (see Supp. No. 1 to part 738)
NP applies to entire entry	NP Column 1.
AT applies to entire entry	AT Column 1.
Russian industry sector sanctions apply to entire entry.	See §746.8 for specific license requirements and license review policy.

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)
LVS: N/A
GBS: N/A
LIST OF ITEMS CONTROLLED
Related Controls: (1) See ECCNs 3E001 and 1E001 (''development'' and ''production'') and 3E201 and 1E201 (''use'') for technology for items controlled under this entry. (2) See 1A007.a for explosive detonator firing sets designed to drive explosive detonators controlled by 1A007.b. (3) High explosives and related equipment for military use are ''subject to the ITAR'' (see 22 CFR parts 120 through 130).
Related Definitions: N/A
ECCN Controls: (1) Optically driven firing sets include both those employing laser initiation and laser charging. (2) Explosively driven firing sets include booth explosive ferroelectric and explosive ferromagnetic firing set types. (3) 3A229.b includes xenon flash-lamp drivers.
Items:

a. Detonator firing sets (initiation systems, firesets), including electronically-charged, explosively-driven and optically-driven firing sets designed to drive multiple controlled detonators controlled by 3A232;
b. Modular electrical pulse generators (pulsers) having all of the following characteristics:
b.1. Designed for portable, mobile, or ruggedized use;
b.2. Capable of delivering their energy in less than 15 μs into loads of less than 40 Ω (ohms);
b.3. Having an output greater than 100 A;
b.4. No dimension greater than 30 cm;
b.5. Weight less than 30 kg; *and*
b.6. Specified for use over an extended temperature range 223 K (−50 °C) to 373 K (100 °C) or specified as suitable for aerospace applications.
c. Micro-firing units having all of the following characteristics:
c.1. No dimension greater than 35 mm;
c.2. Voltage rating of equal to or greater than 1 kV; *and*
c.3. Capacitance of equal to or greater than 100 nF.

3A230 High-speed pulse generators, and pulse heads therefor, having both of the following characteristics (see List of Items Controlled).
LICENSE REQUIREMENTS
Reason for Control: NP, AT

Control(s)	Country Chart (See Supp. No. 1 to part 738)
NP applies to entire entry	NP Column 1
AT applies to entire entry	AT Column 1

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)
LVS: N/A
GBS: N/A
LIST OF ITEMS CONTROLLED

Related Controls: (1) See ECCNs 3E001 (''development'' and ''production'') and 3E201 (''use'') for technology for items controlled under this entry. (2) See ECCNs 3A002.d.1, 3A992.a and 3A999.d.

Related Definitions: 1. In 3A230.b, the term ''pulse transition time'' is defined as the time interval between 10% and 90% voltage amplitude. 2. Pulse heads are impulse forming networks designed to accept a voltage step function and shape it into a variety of pulse forms that can include rectangular, triangular, step, impulse, exponential, or monocycle types. Pulse heads can be an integral part of the pulse generator, they can be a plug-in module to the device or they can be an externally connected device.

Items: a. Output voltage greater than 6 V into a resistive load of less than 55 ohms; *and*

b. ''Pulse transition time'' less than 500 ps.

3A231 Neutron generator systems, including tubes, having both of the characteristics described in this ECCN (see List of Items Controlled).

LICENSE REQUIREMENTS

Reason for Control: NP, AT, foreign policy

Control(s)	Country chart (see Supp. No. 1 to part 738)
NP applies to entire entry	NP Column 1.
AT applies to entire entry	AT Column 1.
Russian industry sector sanctions apply to entire entry.	See §746.8 for specific license requirements and license review policy.

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

LVS: N/A

GBS: N/A

LIST OF ITEMS CONTROLLED

Related Controls: See ECCNs 3E001 (''development'' and ''production'') and 3E201 (''use'') for technology for items controlled under this entry.

Related Definitions: N/A

Items:

a. Designed for operation without an external vacuum system; and

b. Utilizing electrostatic acceleration to induce:

b.1. A tritium-deuterium nuclear reaction; *or*

b.2. A deuterium-deuterium nuclear reaction and capable of an output of 3×10^9 neutrons/s or greater.

3A232 Detonators and multipoint initiation systems, as follows (see List of Items Controlled).

LICENSE REQUIREMENTS

Reason for Control: AT, RS, foreign policy

Control(s)	Country chart (see Supp. No. 1 to part 738)
NP applies to entire entry	NP Column 1.
AT applies to entire entry	AT Column 1.
Russian industry sector sanctions apply to entire entry.	See §746.8 for specific license requirements and license review policy.

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

LVS: N/A

GBS: N/A

LIST OF ITEMS CONTROLLED

Related Controls: (1) See ECCNs 0A604 and 1A007 for electrically driven explosive detonators. (2) See ECCNs 3E001 (''development'' and ''production'') and 3E201 (''use'') for technology for items controlled under this entry. (3) High explosives and related equipment for military use are ''subject to the ITAR'' (see 22 CFR parts 120 through 130).

Related Definitions: N/A

ECCN Controls: This entry does not control detonators using only primary explosives, such as lead azide.

Items:

a. [Reserved]

b. Arrangements using single or multiple detonators designed to nearly simultaneously initiate an explosive surface over an area greater than 5,000 mm^2 from a single firing signal with an initiation timing spread over the surface of less than 2.5 μs.

Technical Note: The word initiator is sometimes used in place of the word detonator.

3A233 Mass spectrometers, capable of measuring ions of 230 u or greater and having a resolution of better than 2 parts in 230, and ion sources therefor, excluding items that are subject to the export licensing authority of the Nuclear Regulatory Commission (see 10 CFR part 110).

LICENSE REQUIREMENTS

Reason for Control: NP, AT

Control(s)	Country chart (see supp. No. 1 to part 738)
NP applies to entire entry	NP Column 1.
AT applies to entire entry	AT Column 1.

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

LVS: N/A

GBS: N/A

LIST OF ITEMS CONTROLLED

Related Controls: (1) See ECCNs 3E001 (''development'' and ''production'') and 3E201 (''use'') for technology for items controlled under this entry. (2) Mass spectrometers ''specially designed'' or prepared for analyzing on-line samples of UF_6 gas streams

are subject to the export licensing authority of the Nuclear Regulatory Commission (see 10 CFR part 110).

Related Definitions: N/A

Items:

a. Inductively coupled plasma mass spectrometers (ICP/MS);

b. Glow discharge mass spectrometers (GDMS);

c. Thermal ionization mass spectrometers (TIMS);

d. Electron bombardment mass spectrometers having both of the following features:

d.1. A molecular beam inlet system that injects a collimated beam of analyte molecules into a region of the ion source where the molecules are ionized by an electron beam; *and*

d.2. One or more cold traps that can be cooled to a temperature of 193 K (−80 °C) or less in order to trap analyte molecules that are not ionized by the electron beam;

e. Mass spectrometers equipped with a microfluorination ion source designed for actinides or actinide fluorides.

Technical Notes: 1. ECCN 3A233.d controls mass spectrometers that are typically used for isotopic analysis of UF_6 gas samples.

2. Electron bombardment mass spectrometers in ECCN 3A233.d are also known as electron impact mass spectrometers or electron ionization mass spectrometers.

3. In ECCN 3A233.d.2, a ''cold trap'' is a device that traps gas molecules by condensing or freezing them on cold surfaces. For the purposes of this ECCN, a closed-loop gaseous helium cryogenic vacuum pump is not a cold trap.

3A234 Striplines to provide low inductance path to detonators with the following characteristics (see List of Items Controlled).

LICENSE REQUIREMENTS

Reason for Control: NP, AT

Control(s)	Country chart (see Supp. No. 1 to part 738)
NP applies to entire entry	NP Column 1
AT applies to entire entry	AT Column 1

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

LVS: N/A

GBS: N/A

LIST OF ITEMS CONTROLLED

Related Controls: N/A

Related Definitions: N/A

Items: a. Voltage rating greater than 2 kV; *and*

b. Inductance of less than 20 nH.

3A611 Military electronics, as follows (see List of Items Controlled).

LICENSE REQUIREMENTS

Reason for Control: NS, RS, AT, UN

Control(s)	Country chart (see Supp. No. 1 to part 738)
NS applies to entire entry except 3A611.y.	NS Column 1.
RS applies to entire entry except 3A611.y.	RS Column 1.
RS applies to 3A611.y	China, Russia, or Venezuela (see §742.6(a)(7))
AT applies to entire entry	AT Column 1.
UN applies to entire entry except 3A611.y.	See §746.1(b) for UN controls.

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

LVS: $1,500 for 3A611.a, .d through .h and .x; N/A for ECCN 3A611.c.

GBS: N/A

SPECIAL CONDITIONS FOR STA

STA: Paragraph (c)(2) of License Exception STA (§740.20(c)(2) of the EAR) may not be used for any item in 3A611.

LIST OF ITEMS CONTROLLED

Related Controls: (1) Electronic items that are enumerated in USML Category XI or other USML categories, and technical data (including software) directly related thereto, are subject to the ITAR. (2) Application specific integrated circuits (ASICs) and programmable logic devices (PLD) that are programmed for defense articles that are subject to the ITAR are controlled in USML Category XI(c)(1). (3) See ECCN 3A001.a.7 for controls on unprogrammed programmable logic devices (PLD). (4) Printed circuit boards and populated circuit cards with a layout that is ''specially designed'' for defense articles are controlled in USML Category XI(c)(2). (5) Multichip modules for which the pattern or layout is ''specially designed'' for defense articles are controlled in USML Category XI(c)(3). (6) Electronic items ''specially designed'' for military application that are not controlled in any USML category but are within the scope of another ''600 series'' ECCN or a 9x515 ECCN are controlled by that ''600 series'' ECCN or 9x515 ECCN. For example, electronic components not enumerated on the USML or a ''600 series'' other than 3A611 that are ''specially designed'' for a military aircraft controlled by USML Category VIII or ECCN 9A610 are controlled by the catch-all control in ECCN 9A610.x. Electronic components not enumerated on the USML or another ''600 series'' entry that are ''specially designed'' for a military vehicle controlled by USML Category VII or ECCN 0A606 are controlled by ECCN 0A606.x. Electronic components not enumerated on the USML that are ''specially designed'' for a missile controlled by USML Category IV are controlled by ECCN 9A604.(7) Certain radiation-hardened microelectronic circuits are controlled by ECCN 9A515.d or 9A515.e,

when ''specially designed'' for defense articles, ''600 series'' items, or items controlled by 9A515.

Related Definitions: N/A

Items:

a. Electronic ''equipment,'' ''end items,'' and ''systems'' ''specially designed'' for a military application that are not enumerated or otherwise described in either a USML category or another ''600 series'' ECCN.

Note to 3A611.a: ECCN 3A611.a includes any radar, telecommunications, acoustic or computer equipment, end items, or systems ''specially designed'' for military application that are not enumerated or otherwise described in any USML category or controlled by another ''600 series'' ECCN.

b.–d. [Reserved]

e. High frequency (HF) surface wave radar that maintains the positional state of maritime surface or low altitude airborne objects of interest in a received radar signal through time.

Note to 3A611.e: ECCN 3A611.e does not apply to systems, equipment, and assemblies ''specially designed'' for marine traffic control.

f. Application specific integrated circuits (ASICs) and programmable logic devices (PLD) that are not controlled by paragraph .y of this entry and that are programmed for ''600 series'' items.

Note to paragraph .f: In this paragraph, the term 'application specific integrated circuit' means an integrated circuit developed and produced for a specific application or function regardless of number of customers for which the integrated circuit is developed or produced.

g. Printed circuit boards and populated circuit card assemblies that are not controlled by paragraph .y of this entry and for which the layout is ''specially designed'' for ''600 series'' items.

h. Multichip modules that are not controlled by paragraph .y of this entry and for which the pattern or layout is ''specially designed'' for ''600 series'' items.

i. through w. [Reserved]

x. ''Parts,'' ''components,'' ''accessories,'' and ''attachments'' that are ''specially designed'' for a commodity controlled by this entry or for an article controlled by USML Category XI, and not enumerated or described in any USML category or in any paragraph other than the .x paragraph of another 600 series ECCN or in paragraph .y of this entry.

Note 1 to ECCN 3A611.x: ECCN 3A611.x includes ''parts,'' ''components,'' ''accessories,'' and ''attachments'' ''specially designed'' for a radar, telecommunications, acoustic system or equipment or computer ''specially designed'' for military application that are neither controlled in any USML category nor controlled in any paragraph other than the .x paragraph of another ''600 series'' ECCN.

Note 2 to ECCN 3A611.x: ECCN 3A611.x controls ''parts'' and ''components'' ''specially designed'' for underwater sensors or projectors controlled by USML Category XI(c)(12) containing single-crystal lead magnesium niobate lead titanate (PMN–PT) based piezoelectrics.

Note 3 to ECCN 3A611.x: ''Parts,'' ''components,'' ''accessories,'' and ''attachments'' subject to the EAR and within the scope of any 600 series .x entry that are of a type that are or would potentially be for use in or with multiple platforms (e.g., military electronics, military vehicles, and military aircraft) may be classified under 3A611.x.

y. Specific ''parts,'' ''components,'' ''accessories,'' and ''attachments'' ''specially designed'' for a commodity subject to control in a ''600 series'' ECCN or a defense article and not elsewhere specified in any paragraph other than the .y paragraph of a ''600 series'' ECCN or the USML as follows, and ''parts,'' ''components,'' ''accessories,'' and ''attachments'' ''specially designed'' therefor:

y.1. Electrical connectors;

y.2. Electric fans;

y.3. Heat sinks;

y.4. Joysticks;

y.5. Mica paper capacitors;

y.6. Microphones;

y.7. Potentiometers;

y.8. Rheostats;

y.9. Electric connector backshells;

y.10. Solenoids;

y.11. Speakers;

y.12. Trackballs;

y.13. Electric transformers;

y.14. Application specific integrated circuits (ASICs) and programmable logic devices (PLD) that are programmed for commodities controlled in the .y paragraph of any ''600 series'' ECCN;

y.15. Printed circuit boards and populated circuit card assemblies for which the layout is ''specially designed'' for an item controlled by the .y paragraph of any ''600 series'' ECCN;

y.16. Multichip modules for which the pattern or layout is ''specially designed'' for an item in the .y paragraph of a ''600 series'' ECCN;

y.17. Circuit breakers;

y.18. Ground fault circuit interrupters;

y.19. Electrical contacts;

y.20. Electrical guide pins;

y.21. Filtered and unfiltered mechanical switches;

y.22. Thumbwheels;

y.23. Fixed resistors;

y.24. Electrical jumpers;

y.25. Grounding straps;

y.26. Indicator dials;

y.27. Contactors;

y.28. Touchpads;

y.29. Mechanical caps;

y.30. Mechanical plugs;

y.31. Finger barriers;

y.32. Flip-guards;

y.33. Identification plates and nameplates;
y.34. Knobs;
y.35. Hydraulic, pneumatic, fuel and lubrication gauges.

Note to ECCN 3A611: When applying the ''specially designed'' definition to determine whether a printed circuit board, populated circuit card assembly or multichip module is controlled by paragraph .g, .h, .y.15 or .y.16 of this entry, the layout of the board or assembly and the pattern and layout of the module are the only characteristics that need be evaluated under the ''specially designed'' definition.

3A901 Electronic items, not specified by ECCN 3A001, as follows (see List of Items Controlled).

Reason for Control: NS, RS, AT

Control(s)	Country chart (see Supp. No. 1 to part 738)
NS applies to entire entry	Worldwide control. *See § 742.4(a)(5) and (b)(10) of the EAR.*
RS applies to entire entry	Worldwide control. *See § 742.6(a)(10) and (b)(11) of the EAR.*
AT applies to entire entry	AT Column 1.

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

LVS: N/A

GBS: N/A

IEC: Yes, see §740.2(a)(22) and §740.24 of the EAR.

SPECIAL CONDITIONS FOR STA

STA: License Exception STA may not be used to ship any item in this ECCN to any of the destinations listed in Country Group A:5 or A:6 (See Supplement No.1 to part 740 of the EAR).

LIST OF ITEMS CONTROLLED

Related Controls: For related ''software'' see ECCN 3D901 and for ''technology'' see ECCN 3E901.

Related Definitions: N/A

Items:

a. Complementary Metal Oxide Semiconductor (CMOS) integrated circuits, not specified by 3A001.a.2, designed to operate at an ambient temperature equal to or less (better) than 4.5 K (−268.65 °C).

Technical Note: For the purposes of 3A901.a, CMOS integrated circuits are also referred to as cryogenic CMOS or cryo-CMOS.

b. Parametric signal amplifiers having all of the following:

b.1. Designed for operation at an ambient temperature below 1 K (−272.15 °C);

b.2. Designed for operation at any frequency from 2 GHz up to and including 15 GHz; *and*

b.3. A noise figure less (better) than 0.015 dB at any frequency from 2 GHz up to and including 15 GHz at 1 K (−272.15 °C).

Note: For the purposes of 3A901.b, parametric signal amplifiers include Travelling Wave Parametric Amplifiers (TWPAs).

Technical Note: For the purposes of 3A901.b, parametric signal amplifiers may also be referred to as Quantum-limited amplifiers (QLAs).

3A904 Cryogenic cooling systems and components, as follows (see List of Items Controlled).

LICENSE REQUIREMENTS

Reason for Control: NS, RS, AT

Control(s)	Country chart (see Supp. No. 1 to part 738)
NS applies to entire entry	Worldwide control. *See § 742.4(a)(5) and (b)(10) of the EAR.*
RS applies to the entire entry	Worldwide control. *See § 742.6(a)(10) and (b)(11) of the EAR.*
AT applies to entire entry	AT Column 1.

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

LVS: N/A

GBS: N/A

IEC: Yes, see §740.2(a)(22) and §740.24 of the EAR.

SPECIAL CONDITIONS FOR STA

STA: License Exception STA may not be used to ship any item in this ECCN to any of the destinations listed in Country Group A:5 or A:6 (See Supplement No. 1 to part 740 of the EAR).

LIST OF ITEMS CONTROLLED

Related Controls: See ECCN 3E901 for related technology controls for the ''development'' or ''production'' of this ECCN.

Related Definitions: N/A

Items:

a. Systems rated to provide a cooling power greater than or equal to 600 μW at or below a temperature of 0.1 K (−273.05 °C) for a period of greater than 48 hours;

b. Two-stage pulse tube cryocoolers rated to maintain a temperature below 4 K (−269.15 °C) and provide a cooling power greater than or equal to 1.5 W at or below a temperature of 4.2 K (−268.95 °C).

3A980 Voice print identification and analysis equipment and "specially designed" "components" therefor, n.e.s.

LICENSE REQUIREMENTS

Reason for Control: CC

Control(s)	Country Chart (See Supp. No. 1 to part 738)
CC applies to entire entry	CC Column 1

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)
LVS: N/A
GBS: N/A
LIST OF ITEMS CONTROLLED
Related Controls: N/A
Related Definitions: N/A
Items: The list of items controlled is contained in the ECCN heading.

3A981 Polygraphs (except biomedical recorders designed for use in medical facilities for monitoring biological and neurophysical responses); fingerprint analyzers, cameras and equipment, n.e.s.; automated fingerprint and identification retrieval systems, n.e.s.; psychological stress analysis equipment; electronic monitoring restraint devices; and "specially designed" "components" and "accessories" therefor, n.e.s.

LICENSE REQUIREMENTS
Reason for Control: CC

Control(s)	Country Chart (See Supp. No. 1 to part 738)
CC applies to entire entry	CC Column 1

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)
LVS: N/A
GBS: N/A
LIST OF ITEMS CONTROLLED
Related Controls: See ECCN 0A982 for other types of restraint devices.
Related Definitions: N/A
Items: The list of items controlled is contained in the ECCN heading.

Note to ECCN 3A981. In this ECCN, electronic monitoring restraint devices are devices used to record or report the location of confined persons for law enforcement or penal reasons. The term does not include devices that confine memory impaired patents to appropriate medical facilities.

3A991 Electronic devices, and "components" not controlled by 3A001.

LICENSE REQUIREMENTS
Reason for Control: AT

Control(s)	Country chart (see Supp. No. 1 to part 738)
AT applies to entire entry	AT Column 1.

License Requirements Note: See § 744.17 of the EAR for additional license requirements for microprocessors having a processing speed of 5 GFLOPS or more and an arithmetic logic unit with an access width of 32 bit or more, including those incorporating ''information security'' functionality, and associated ''software'' and ''technology'' for the ''production'' or ''development'' of such microprocessors.

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)
LVS: N/A
GBS: N/A
LIST OF ITEMS CONTROLLED
Related Controls: (1) For associated ''software'' for commodities in this ECCN, see 3D991 and for associated ''technology for commodities in this ECCN, see 3E991. (2) See also ECCNs 5A002.z, 5A004.z, and 5A992.z.
Related Definitions: N/A
Items:

a. ''Microprocessor microcircuits'', ''microcomputer microcircuits'', and microcontroller microcircuits having any of the following:

a.1. A performance speed of 5 GFLOPS or more and an arithmetic logic unit with an access width of 32 bit or more;

a.2. A clock frequency rate exceeding 25 MHz; *or*

a.3. More than one data or instruction bus or serial communication port that provides a direct external interconnection between parallel ''microprocessor microcircuits'' with a transfer rate of 2.5 Mbyte/s;

b. Storage integrated circuits, as follows:

b.1. Electrical erasable programmable read-only memories (EEPROMs) with a storage capacity;

b.1.a. Exceeding 16 Mbits per package for flash memory types; *or*

b.1.b. Exceeding either of the following limits for all other EEPROM types:

b.1.b.1. Exceeding 1 Mbit per package; *or*

b.1.b.2. Exceeding 256 kbit per package and a maximum access time of less than 80 ns;

b.2. Static random access memories (SRAMs) with a storage capacity:

b.2.a. Exceeding 1 Mbit per package; *or*

b.2.b. Exceeding 256 kbit per package and a maximum access time of less than 25 ns;

c. Analog-to-digital converters having any of the following:

c.1. A resolution of 8 bit or more, but less than 12 bit, with an output rate greater than 200 million words per second;

c.2. A resolution of 12 bit with an output rate greater than 105 million words per second;

c.3. A resolution of more than 12 bit but equal to or less than 14 bit with an output rate greater than 10 million words per second; *or*

c.4. A resolution of more than 14 bit with an output rate greater than 2.5 million words per second;

d. Field programmable logic devices having a maximum number of single-ended digital input/outputs between 200 and 700;

e. Fast Fourier Transform (FFT) processors having a rated execution time for a 1,024 point complex FFT of less than 1 ms;

f. Custom integrated circuits for which either the function is unknown, or the control

status of the equipment in which the integrated circuits will be used is unknown to the manufacturer, having any of the following:

f.1. More than 144 terminals; *or*

f.2. A typical ''basic propagation delay time'' of less than 0.4 ns;

g. Traveling-wave ''vacuum electronic devices,'' pulsed or continuous wave, as follows:

g.1. Coupled cavity devices, or derivatives thereof;

g.2. Helix devices based on helix, folded waveguide, or serpentine waveguide circuits, *or* derivatives thereof, with any of the following:

g.2.a. An ''instantaneous bandwidth'' of half an octave or more; *and*

g.2.b. The product of the rated average output power (expressed in kW) and the maximum operating frequency (expressed in GHz) of more than 0.2;

g.2.c. An ''instantaneous bandwidth'' of less than half an octave; *and*

g.2.d. The product of the rated average output power (expressed in kW) and the maximum operating frequency (expressed in GHz) of more than 0.4;

h. Flexible waveguides designed for use at frequencies exceeding 40 GHz;

i. Surface acoustic wave and surface skimming (shallow bulk) acoustic wave devices (*i.e.*, ''signal processing'' devices employing elastic waves in materials), having either of the following:

i.1. A carrier frequency exceeding 1 GHz; *or*

i.2. A carrier frequency of 1 GHz or less; *and*

i.2.a. A frequency side-lobe rejection exceeding 55 Db;

i.2.b. A product of the maximum delay time and bandwidth (time in microseconds and bandwidth in MHz) of more than 100; *or*

i.2.c. A dispersive delay of more than 10 microseconds;

j. Cells as follows:

j.1. Primary cells having an energy density of 550 Wh/kg or less at 293 K (20 °C);

j.2. Secondary cells having an energy density of 350 Wh/kg or less at 293 K (20 °C);

Note: 3A991.j does not control batteries, including single cell batteries.

Technical Notes: 1. For the purposes of 3A991.j energy density (Wh/kg) is calculated from the nominal voltage multiplied by the nominal capacity in ampere-hours divided by the mass in kilograms. If the nominal capacity is not stated, energy density is calculated from the nominal voltage squared then multiplied by the discharge duration in hours divided by the discharge load in Ohms and the mass in kilograms.

2. For the purposes of 3A991.j, a 'cell' is defined as an electrochemical device, which has positive and negative electrodes, and electrolyte, and is a source of electrical energy. It is the basic building block of a battery.

3. For the purposes of 3A991.j.1, a 'primary cell' is a 'cell' that is not designed to be charged by any other source.

4. For the purposes of 3A991.j.2, a 'secondary cell' is a 'cell' that is designed to be charged by an external electrical source.

k. ''Superconductive'' electromagnets or solenoids ''specially designed'' to be fully charged or discharged in less than one minute, having all of the following:

Note: 3A991.k does not control ''superconductive'' electromagnets or solenoids designed for Magnetic Resonance Imaging (MRI) medical equipment.

k.1. Maximum energy delivered during the discharge divided by the duration of the discharge of more than 500 kJ per minute;

k.2. Inner diameter of the current carrying windings of more than 250 mm; *and*

k.3. Rated for a magnetic induction of more than 8T or ''overall current density'' in the winding of more than 300 A/mm^2;

l. Circuits or systems for electromagnetic energy storage, containing ''components'' manufactured from ''superconductive'' materials ''specially designed'' for operation at temperatures below the ''critical temperature'' of at least one of their ''superconductive'' constituents, having all of the following:

l.1. Resonant operating frequencies exceeding 1 MHz;

l.2. A stored energy density of 1 MJ/M^3 or more; *and*

l.3. A discharge time of less than 1 ms;

m. Hydrogen/hydrogen-isotope thyratrons of ceramic-metal construction and rate for a peak current of 500 A or more;

n. Digital integrated circuits based on any compound semiconductor having an equivalent gate count of more than 300 (2 input gates);

o. Solar cells, cell-interconnect-coverglass (CIC) assemblies, solar panels, and solar arrays, which are ''space qualified'' and not controlled by 3A001.e.4;

p. Integrated circuits, n.e.s., having any of the following:

p.1. A processing performance of 8 TOPS or more; or

p.2. An aggregate bidirectional transfer rate over all inputs and outputs of 150 Gbyte/s or more to or from integrated circuits other than volatile memories.

Technical Notes: For the purposes of 3A991.p:

1. This ECCN includes but is not limited to central processing units (CPU), graphics processing units (GPU), tensor processing units (TPU), neural processors, in-memory processors, vision processors, text processors, co-processors/accelerators, adaptive processors, and field-programmable logic devices (FPLDs).

2. TOPS is Tera Operations Per Second or 10^{12} Operations per Second.

3. For purposes of 3A991.p, TOPS is 2 × 'MacTOPS' aggregated over all processing units on the integrated circuit.

a. For purposes of 3A991.p, 'MacTOPS' is the theoretical peak number of Tera (10^12) operations per second for multiply-accumulate computation (D = A × B + C).

b. The 2 in the formula is based on industry convention of counting one multiply-accumulate computation, D = A × B + C, as 2 operations for purpose of datasheets. Therefore, 2 × 'MacTOPS' may correspond to the reported TOPS or FLOPS on a datasheet.

3A992 General purpose electronic equipment, not controlled by 3A002, as Follows (See List of Items Controlled).

LICENSE REQUIREMENTS

Reason for Control: RS, AT

Control(s)	Country chart (see supp. no. 1 to part 738)
RS applies to entire entry.	A license is required for items controlled by this entry for export or reexport to Pakistan or transfer within Pakistan for regional stability reasons. The Commerce Country Chart is not designed to determine RS license requirements for this entry. See §742.6(a)(12) of the EAR for additional information.
AT applies to entire entry	AT Column 1.

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

LVS: N/A

GBS: N/A

LIST OF ITEMS CONTROLLED

Related Controls: N/A

Related Definitions: N/A

Items:

a. Electronic test equipment, n.e.s.

b. Digital instrumentation magnetic tape data recorders having any of the following characteristics;

b.1. A maximum digital interface transfer rate exceeding 60 Mbit/s and employing helical scan techniques;

b.2. A maximum digital interface transfer rate exceeding 120 Mbit/s and employing fixed head techniques; *or*

b.3. ''Space qualified''.

c. Equipment, with a maximum digital interface transfer rate exceeding 60 Mbit/s, designed to convert digital video magnetic tape recorders for use as digital instrumentation data recorders.

d. Non-modular analog oscilloscopes having a bandwidth of 1 GHz or greater.

e. Modular analog oscilloscope systems having either of the following characteristics:

e.1. A mainframe with a bandwidth of 1 GHz or greater; *or*

e.2. Plug-in modules with an individual bandwidth of 4 GHz or greater.

f. Analog sampling oscilloscopes for the analysis of recurring phenomena with an effective bandwidth greater than 4 GHz.

g. Digital oscilloscopes and transient recorders, using analog-to-digital conversion techniques, capable of storing transients by sequentially sampling single-shot inputs at successive intervals of less than 1 ns (greater than 1 gigasample per second), digitizing to 8 bits or greater resolution and storing 256 or more samples.

Note: *This ECCN controls the following ''specially designed'' ''parts'' and ''components'' for analog oscilloscopes:*

1. Plug-in units;

2. External amplifiers;

3. Pre-amplifiers;

4. Sampling devices;

5. Cathode ray tubes.

3A999 Specific Processing Equipment, n.e.s., as Follows (See List of Items Controlled).

LICENSE REQUIREMENTS

Reason for Control: RS, AT

Control(s)	Country Chart (see Supp. No. 1 to part 738)
RS applies to entire entry	A license is required for items controlled by this entry for export or reexport to Iraq or Pakistan or transfer within Iraq or Pakistan for regional stability reasons. The Commerce Country Chart is not designed to determine RS license requirements for this entry. See §§742.6 and 746.3 of the EAR for additional information.
AT applies to entire entry	A license is required for items controlled by this entry to North Korea for anti-terrorism reasons. The Commerce Country Chart is not designed to determine AT licensing requirements for this entry. See §742.19 of the EAR for additional information.

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

LVS: N/A

GBS: N/A

LIST OF ITEMS CONTROLLED

Related Controls: (1) See also 3A225 (for frequency changers capable of operating in the frequency range of 600 Hz and above) and 3A233. (2) Certain auxiliary systems, equipment, ''parts'' and ''components'' for isotope separation plants made of or protected by UF_6 resistant materials are subject to the export licensing authority of the Nuclear Regulatory Commission (see 10 CFR part 110). (3) See also 3A069 for flow cytometers and cell sorters that are ''specially designed'' for spectral analysis or

contain 26 or greater detectors or channels as well as liquid chromatography mass spectrometry instruments (LC/MS and LC–MS/MS) ''specially designed'' for top-down proteomic analysis.

Related Definitions: N/A

Items:

a. Frequency changers capable of operating in the frequency range from 300 up to 600 Hz, n.e.s;

b. Mass spectrometers n.e.s;

c. All flash x-ray machines, and ''parts'' or ''components'' of pulsed power systems designed thereof, including Marx generators, high power pulse shaping networks, high voltage capacitors, and triggers;

d. Pulse amplifiers, n.e.s.;

e. Electronic equipment for time delay generation or time interval measurement, as follows:

e.1. Digital time delay generators with a resolution of 50 nanoseconds or less over time intervals of 1 microsecond or greater; *or*

e.2. Multi-channel (three or more) or modular time interval meter and chronometry equipment with resolution of 50 nanoseconds or less over time intervals of 1 microsecond or greater;

f. Chromatography and spectrometry analytical instruments, n.e.s.

B. ''TEST'', ''INSPECTION'' AND ''PRODUCTION EQUIPMENT''

3B001 Equipment for the manufacturing of semiconductor devices, materials, or related equipment, as follows (see List of Items Controlled) and "specially designed" "components" and "accessories" therefor.

LICENSE REQUIREMENTS

Reason for Control: NS, RS, AT

Control(s)	Country Chart (see Supp. No. 1 to part 738)
NS applies to 3B001.c.1.a, 3B001.c.1.c, and 3B001.q.	Worldwide control. See §742.4(a)(5) and (b)(10) of the EAR.
RS applies to 3B001.c.1.a, 3B001.c.1.c, and 3B001.q.	Worldwide control. See §742.6(a)(10) and (b)(11) of the EAR.
NS applies to 3B001.a.1 to a.3, b, e, f.2 to f.4, g to j.	NS Column 2.
NS applies to 3B001.a.4, c, d, f.1, f.5, f.6, k to n, p.2, p.4, r.	To or within Macau or a destination specified in Country Group D:5 of supplement no. 1 to part 740 of the EAR. See §742.4(a)(4) of the EAR.
RS applies to 3B001.a.4, c, d, f.1, f.5, f.6, k to n, p.2, p.4, r.	To or within Macau or a destination specified in Country Group D:5 of supplement no. 1 to part 740 of the EAR. See §742.6(a)(6) of the EAR.
AT applies to entire entry	AT Column 1.

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

LVS: $500, except semiconductor manufacturing equipment specified in 3B001.a.4, c, d, f.1, f.5, f.6, k to n, p.2, p.4, r.

GBS: Yes, except a.3 (molecular beam epitaxial growth equipment using gas sources), c.1.a (Equipment designed or modified for isotropic dry etching), c.1.c (Equipment designed or modified for anisotropic dry etching), .e (automatic loading multi-chamber central wafer handling systems *only* if connected to equipment controlled by 3B001.a.3, or .f), .f (lithography equipment) and .q (''EUV'' masks and reticles designed for integrated circuits, not specified by 3B001.g, and having a mask ''substrate blank'' specified by 3B001.j).

IEC: Yes, for 3B001.c.1.a, c.1.c, and .q, see §740.2(a)(22) and §740.24 of the EAR.

SPECIAL CONDITIONS FOR STA

STA: License Exception STA may not be used to ship 3B001.c.1.a, c.1.c, and .q to any of the destinations listed in Country Group A:5 or A:6 (See supplement no. 1 to part 740 of the EAR).

LIST OF ITEMS CONTROLLED

Related Controls: See also 3B903 and 3B991. See ECCNs 3D001, 3D992, 3E001, and 3E992 for related ''software'' and ''technology'' controls.

Related Definitions: N/A

Items:

a. Equipment designed for epitaxial growth as follows:

a.1. Equipment designed or modified to produce a layer of any material other than silicon with a thickness uniform to less than ±2.5% across a distance of 75 mm or more;

Note: 3B001.a.1 includes atomic layer epitaxy (ALE) equipment.

a.2. Metal Organic Chemical Vapor Deposition (MOCVD) reactors designed for compound semiconductor epitaxial growth of material having two or more of the following elements: aluminum, gallium, indium, arsenic, phosphorus, antimony, oxygen, or nitrogen;

a.3. Molecular beam epitaxial growth equipment using gas or solid sources;

a.4. Equipment designed for epitaxial growth of silicon (Si) or silicon germanium (SiGe), and having all of the following:

a.4.a. At least one preclean chamber designed to provide a surface preparation means to clean the surface of the wafer; *and*

a.4.b. An epitaxial deposition chamber designed to operate at a temperature equal to or below 958 K (685 °C).

b. Semiconductor wafer fabrication equipment designed for ion implantation and having any of the following:

b.1. [Reserved]

b.2. Being designed and optimized to operate at a beam energy of 20 keV or more and

a beam current of 10 mA or more for hydrogen, deuterium, or helium implant;

b.3. Direct write capability;

b.4. A beam energy of 65 keV or more and a beam current of 45 mA or more for high energy oxygen implant into a heated semiconductor material ''substrate''; *or*

b.5. Being designed and optimized to operate at beam energy of 20 keV or more and a beam current of 10mA or more for silicon implant into a semiconductor material ''substrate'' heated to 600 °C or greater;

c. Etch equipment.

c.1. Equipment designed for dry etching as follows:

c.1.a. Equipment designed or modified for isotropic dry etching, having a largest 'silicon germanium-to-silicon (SiGe:Si) etch selectivity' of greater than or equal to 100:1; *or*

c.1.b. [Reserved]

c.1.c. Equipment designed or modified for anisotropic dry etching, having all of the following;

c.1.c.1. Radio Frequency (RF) power source(s) with at least one pulsed RF output;

c.1.c.2. One or more fast gas switching valve(s) with switching time less than 300 milliseconds; *and*

c.1.c.3. Electrostatic chuck with twenty or more individually controllable variable temperature elements;

c.2. Equipment designed for wet chemical processing and having a largest 'silicon germanium-to-silicon (SiGe:Si) etch selectivity' of greater than or equal to 100:1;

c.3. Equipment designed for anisotropic dry etching having all of following:

c.3.a Two or more RF independent sources;

c.3.b Two or more independent gas sources;

c.3.c 'Process uniformity tuning' for wafer thickness variation compensation; and

c.3.d Through Silicon Via (TSV) reveal Endpoint Detection (EPD);

c.4. Equipment designed for Through Silicon Via (TSV) etch having all of the following:

c.4.a. Silicon etch rate greater than 7 microns per minute;

c.4.b. Within wafer (WIW) etch depth nonuniformity of less than or equal 2 percent; *and*

c.4.c. A Through Silicon Via (TSV) aspect ratio greater than or equal to 10:1.

Note 1: 3B001.c includes etching by 'radicals', ions, sequential reactions, or non-sequential reaction.

Note 2: 3B001.c.1.c includes etching using RF pulse excited plasma, pulsed duty cycle excited plasma, pulsed voltage on electrodes modified plasma, cyclic injection and purging of gases combined with a plasma, plasma atomic layer etching, or plasma quasi-atomic layer etching.

Technical Notes: 1. For the purposes of 3B001.c, 'silicon germanium-to-silicon (SiGe:Si) etch selectivity' is measured for a Ge concentration of greater than or equal to 30% ($Si_{0.70}Ge_{0.30}$).

2. For the purposes of 3B001.c Note 1 and 3B001.d.14, 'radical' is defined as an atom, molecule, or ion that has an unpaired electron in an open electron shell configuration.

3. For the purposes of 3B001.c.3, 'process uniformity tuning' is the process of compensating for incoming wafer thickness variations after grinding.

d. Semiconductor manufacturing deposition equipment, as follows:

d.1. Equipment designed for cobalt (Co) electroplating or cobalt electroless-plating deposition processes;

Note: 3B001.d.1 controls semiconductor wafer processing equipment.

d.2. Equipment designed for:

d.2.a. Chemical vapor deposition of cobalt (Co) fill metal; or

d.2.b. Selective bottom-up chemical vapor deposition of tungsten (W) fill metal;

d.3. Semiconductor manufacturing equipment designed to fabricate a metal contact by multistep processing within a single chamber by performing all of the following:

d.3.a. Deposition of a tungsten layer, using an organometallic compound, while maintaining the wafer substrate temperature greater than 100 °C and less than 500 °C; and

d.3.b. Surface treatment plasma process using hydrogen (H2), hydrogen and nitrogen (H2+N2), or ammonia (NH3).

d.4. Equipment or systems designed for multistep processing in multiple chambers or stations, as follows:

d.4.a. Equipment designed to fabricate a metal contact by performing all of the following processes:

d.4.a.1. Surface treatment plasma process using hydrogen (H_2), including hydrogen and nitrogen ($H_2 + N_2$) or ammonia (NH_3), while maintaining the wafer substrate at a temperature greater than 100 °C and less than 500 °C;

d.4.a.2. Surface treatment plasma process using oxygen (O_2) or ozone (O_3), while maintaining the wafer substrate at a temperature greater than 40 °C and less than 500 °C; *and*

d.4.a.3. Deposition of a tungsten (W) layer while maintaining the wafer substrate temperature greater than 100 °C and less than 500 °C;

d.4.b. Equipment designed to fabricate a metal contact by performing all of the following processes:

d.4.b.1 Surface treatment process using a remote plasma generator and an ion filter; *and*

d.4.b.2. Deposition of a cobalt (Co) layer selectively onto copper (Cu) using an organometallic compound;

Note: This control does not apply to equipment that is non-selective.

d.4.c. Equipment designed to fabricate a metal contact by performing all the following processes:

d.4.c.1. Deposition of a titanium nitride (TiN) or tungsten carbide (WC) layer, using

an organometallic compound, while maintaining the wafer substrate at a temperature greater than 20 °C and less than 500 °C;

d.4.c.2. Deposition of a cobalt (Co) layer using a physical sputter deposition technique and having a process pressure greater than 133.3 mPa and less than 13.33 Pa, while maintaining the wafer substrate at a temperature below 500 °C; *and*

d.4.c.3. Deposition of a cobalt (Co) layer using an organometallic compound and having a process pressure greater than 133.3 Pa and less than 13.33 kPa, while maintaining the wafer substrate at a temperature greater than 20 °C and less than 500 °C;

d.4.d. Equipment designed to fabricate copper (Cu) interconnects by performing all of the following processes:

d.4.d.1. Deposition of a cobalt (Co) or ruthenium (Ru) layer using an organometallic compound and having a process pressure greater than 133.3 Pa and less than 13.33 kPa, while maintaining the wafer substrate at a temperature greater than 20 °C and less than 500 °C; *and*

d.4.d.2. Deposition of a copper layer using a physical vapor deposition technique and having a process pressure greater than 133.3 mPa and less than 13.33 Pa, while maintaining the wafer substrate at a temperature below 500 °C;

d.5. Equipment designed for plasma enhanced chemical vapor deposition of carbon hard masks more than 2 um thick and with density of greater than 1.7g/cc;

d.6. Atomic Layer Deposition (ALD) equipment designed for area selective deposition of a barrier or liner using an organometallic compound;

Note: 3B001.d.6 includes equipment capable of area selective deposition of a barrier layer to enable fill metal contact to an underlying electrical conductor without a barrier layer at the fill metal via interface to an underlying electrical conductor.

d.7. Equipment designed for Atomic Layer Deposition (ALD) of tungsten (W) to fill an entire interconnect or in a channel less than 40 nm wide, while maintaining the wafer substrate at a temperature less than 500 °C.

d.8. Equipment designed for Atomic Layer Deposition (ALD) of 'work function metal' having all of the following:

d.8.a. More than one metal source of which one is designed for an aluminum (Al) precursor;

d.8.b. Precursor vessel designed and enabled to operate at a temperature greater than 30 °C; *and*

d.8.c. Designed for depositing a 'work function metal' having all of the following:

d.8.c.1. Deposition of titanium-aluminum carbide (TiAlC); *and*

d.8.c.2. Enabling a work function greater than 4.0 eV;

Technical Note: For the purposes of 3B001.d.8, 'work function metal' is a material that controls the threshold voltage of a transistor.

d.9. Spatial Atomic Layer Deposition (ALD) equipment having a wafer support platform that rotates around an axis having any of the following:

d.9.a. A spatial plasma enhanced atomic layer deposition mode of operation;

d.9.b. A plasma source; *or*

d.9.c. A plasma shield or means to confine the plasma to the plasma exposure process region;

d.10. Equipment designed for Atomic Layer Deposition (ALD) or Chemical Vapor Deposition (CVD) of plasma enhanced of low fluorine tungsten (FW) (fluorine (F) concentration less than 10^{19} atoms/cm^3) films;

d.11. [Reserved]

d.12. Equipment designed for depositing a metal layer, and having any of the following:

d.12.a. Selective tungsten (W) growth without a barrier; *or*

d.12.b. Selective molybdenum (Mo) growth without a barrier;

d.13. Equipment designed for depositing a ruthenium layer (Ru) using an organometallic compound, while maintaining the wafer substrate at a temperature greater than 20 °C and less than 500 °C;

d.14. Equipment designed for deposition assisted by remotely generated 'radicals', enabling the fabrication of a silicon (Si) and carbon (C) containing film, and having all of the following properties of the deposited film:

d.14.a. A dielectric constant (k) of less than 4.4;

d.14.b. In features with an aspect ratio greater than 5:1 with lateral openings of less than 35 nm; *and*

d.14.c. A feature-to-feature pitch of less than 45 nm;

d.15. Equipment designed for void free plasma enhanced deposition of a low-k dielectric layer in gaps between metal lines less than 25 nm and having an aspect ratio greater than or equal to 1:1 with a less than 3.3 dielectric constant;

d.16. [Reserved]

d.17. Equipment designed for plasma enhanced chemical vapor deposition (PECVD) or radical assisted chemical vapor deposition and UV curing in a single platform of a dielectric film, while maintaining a substrate temperature below 500 °C, having all of the following:

d.17.a. A thickness of more than 6 nm and less than 20 nm on metal features having less than 24 nm pitch and having an aspect ratio equal to or greater than 1:1.8; *and*

d.17.b. A dielectric constant less than 3.0;

d.18. Equipment designed or modified for Atomic Layer Deposition (ALD) of molybdenum (Mo), ruthenium (Ru), or combinations Mo or Ru, and having all of the following:

d.18.a. A metal precursor source designed or modified to operate at a temperature greater 75 °C; *and*

d.18.b. A process chamber (module) using a reducing agent containing hydrogen (H) at a pressure greater than or equal to 30 Torr (4 kPa).

Note: For the purposes of paragraph d.18.a, the metal precursor source need not be integrated with the equipment. The metal precursor could be delivered by an on-tool source or from a sub-fab source.

d.19. Deposition equipment having direct-liquid injection of more than two metal precursors, designed or modified to deposit a conformal dielectric film with a dielectric constant (K) greater than 40 in features with aspect ratio greater than 200:1 in a single deposition chamber.

d.20. Physical vapor deposition equipment having electromagnets for ion flux guidance, and ''specially designed'' to deposit tungsten (W) metal into features having an aspect ratio of 3:1 or greater.

e. Automatic loading multi-chamber central wafer handling systems having all of the following:

e.1. Interfaces for wafer input and output, to which more than two functionally different 'semiconductor process tools' controlled by 3B001.a, .b., .c, and .d are designed to be connected; *and*

e.2. Designed to form an integrated system in a vacuum environment for 'sequential multiple wafer processing';

Note: 3B001.e does not control automatic robotic wafer handling systems ''specially designed'' for parallel wafer processing.

Technical Notes: 1. For the purposes of 3B001.e, 'semiconductor process tools' refers to modular tools that provide physical processes for semiconductor ''production'' that are functionally different, such as deposition, implant or thermal processing.

2. For the purposes of 3B001.e, 'sequential multiple wafer processing' means the capability to process each wafer in different 'semiconductor process tools', such as by transferring each wafer from one tool to a second tool and on to a third tool with the automatic loading multi-chamber central wafer handling systems.

f. Lithography commodities as follows:

f.1. Align and expose step and repeat (direct step on wafer) or step and scan (scanner) equipment for wafer processing using photo-optical or X-ray methods and having any of the following:

f.1.a. A light source wavelength shorter than 193 nm; *or*

f.1.b. A light source wavelength equal to or longer than 193 nm and having all of the following:

f.1.b.1. The capability to produce a pattern with a ''Minimum Resolvable Feature size'' (MRF) of 45 nm or less; *and*

f.1.b.2. A maximum 'dedicated chuck overlay' value of less than or equal to 1.50 nm;

Technical Notes: For the purposes of 3B001.f.1.b:

1. The 'Minimum Resolvable Feature size' (MRF) (i.e., resolution) is calculated by the following formula:

$$MRF = \frac{(\text{an exposure light source wavelength in nm}) \times (\text{K factor})}{\text{maximum numerical aperture}}$$

where, for the purposes of 3B001.f.1.b, the K factor = 0.25 'MRF' is also known as resolution.

2. 'Dedicated chuck overlay' is the alignment accuracy of a new pattern to an existing pattern printed on a wafer by the same lithographic system. 'Dedicated chuck overlay' is also known as single machine overlay.

f.2. Imprint lithography equipment capable of production features of 45 nm or less;

Note: 3B001.f.2 includes:

—Micro contact printing tools

—Hot embossing tools

—Nano-imprint lithography tools

—Step and flash imprint lithography (S–FIL) tools

f.3. Equipment ''specially designed'' for mask making having all of the following:

f.3.a. A deflected focused electron beam, ion beam or ''laser'' beam; *and*

f.3.b. Having any of the following:

f.3.b.1. A Full-Width Half-Maximum (FWHM) spot size smaller than 65 nm and an image placement less than 17 nm (mean + 3 sigma); *or*

f.3.b.2. [Reserved]

f.3.b.3. A second-layer overlay error of less than 23 nm (mean + 3 sigma) on the mask;

f.4. Equipment designed for device processing using direct writing methods, having all of the following:

f.4.a. A deflected focused electron beam; *and*

f.4.b. Having any of the following:

f.4.b.1. A minimum beam size equal to or smaller than 15 nm; *or*

f.4.b.2. An overlay error less than 27 nm (mean + 3 sigma);

f.5. Imprint lithography equipment having an overlay accuracy less (better) than 1.5;

f.6. Commodities not specified by 3B001.f.1, designed or modified to perform all of the following in or with deep-ultraviolet immersion photolithography equipment:

f.6.a. Decrease the minimum resolvable feature specified by 3B001.f.1.b; *and*

f.6.b. Decrease the maximum 'dedicated chuck overlay' of a deep-ultraviolet immersion lithography tool below or equal to 1.5 nm.

g. Masks and reticles, designed for integrated circuits controlled by 3A001;

h. Multi-layer masks with a phase shift layer not specified by 3B001.g and designed to be used by lithography equipment having a light source wavelength less than 245 nm;

Note: 3B001.h does not control multi-layer masks with a phase shift layer designed for the fabrication of memory devices not controlled by 3A001.

N.B.: For masks and reticles, ''specially designed'' for optical sensors, see 6B002.

i. Imprint lithography templates designed for integrated circuits by 3A001;

j. Mask ''substrate blanks'' with multilayer reflector structure consisting of molybdenum and silicon, and having all of the following:

j.1. ''Specially designed'' for ''Extreme Ultraviolet'' (''EUV'') lithography; *and*

j.2. Compliant with SEMI Standard P37;

k. Equipment designed for ion beam deposition or physical vapor deposition of a multi-layer reflector for ''EUV'' masks;

l. ''EUV'' pellicles;

m. Equipment for manufacturing ''EUV'' pellicles;

n. Equipment designed for coating, depositing, baking, or developing photoresist formulated for ''EUV'' lithography;

o. [Reserved]

p. Removal and cleaning equipment as follows:

p.1. [Reserved]

p.2. Single wafer wet cleaning equipment with surface modification drying; *or*

p.3. [Reserved]

p.4. Equipment designed for single wafer cleaning using supercritical CO_2 or sublimation drying;

q. ''EUV'' masks and ''EUV'' reticles, designed for integrated circuits, not specified by 3B001.g, and having a mask ''substrate blank'' specified by 3B001.j; *or*

Technical Notes: For the purposes of 3B001.q, masks or reticles with a mounted pellicle are considered masks and reticles.

r. Equipment designed for EUV 'pattern shaping.'

Technical Note: For the purposes of 3B001.r, 'pattern shaping' is a deposition or removal process used to improve overall patterning by reshaping or trimming patterns produced using EUV lithography with non-vertical directed particles including ions, neutral particles, clusters, radicals, or light.

3B002 Test or inspection equipment "specially designed" for testing or inspecting finished or unfinished semiconductor devices as follows (see List of Items Controlled) and "specially designed" "components" and "accessories" therefor.

LICENSE REQUIREMENTS

Reason for Control: NS, RS, AT

Control(s)	Country chart (see Supp. No. 1 to part 738)
NS applies to 3B002.a and b	NS Column 2.
NS applies to 3B002.c	To or within Macau or a destination specified in Country Group D:5 of supplement no. 1 to part 740 of the EAR. See §742.4(a)(4) of the EAR.
RS applies to 3B002.c	To or within Macau or a destination specified in Country Group D:5 of supplement no. 1 to part 740 of the EAR. See §742.6(a)(6) of the EAR.
AT applies to entire entry	AT Column 1.

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

LVS: $500, except semiconductor manufacturing equipment specified in 3B002.c.

GBS: Yes

LIST OF ITEMS CONTROLLED

Related Controls: See also 3A999.a, 3B992, and 3B993.

Related Definitions: N/A

Items:

a. For testing S-parameters of items specified by 3A001.b.3.

b. For testing microwave integrated circuits controlled by 3A001.b.2.

c. Inspection equipment designed for ''EUV'' mask blanks or ''EUV'' patterned masks.

3B611 Test, inspection, and production commodities for military electronics, as follows (see List of Items Controlled).

LICENSE REQUIREMENTS

Reason for Control: NS, RS, AT, UN

Control(s)	Country chart (see Supp. No. 1 to part 738)
NS applies to entire entry	NS Column 1
RS applies to entire entry	RS Column 1

Control(s)	Country chart (see Supp. No. 1 to part 738)
AT applies to entire entry	AT Column 1
UN applies to entire entry	See §746.1(b) for UN controls

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)
LVS: $1500.
GBS: N/A
SPECIAL CONDITIONS FOR STA
STA: Paragraph (c)(2) of License Exception STA (§740.20(c)(2) of the EAR) may not be used for any item in 3B611.
LIST OF ITEMS CONTROLLED
Related Controls: N/A
Related Definitions: N/A
Items: a. Test, inspection, and production end items and equipment ''specially designed'' for the ''development,'' ''production,'' repair, overhaul or refurbishing of items controlled in ECCN 3A611 (except 3A611.y) or USML Category XI that are not enumerated in USML Category XI or controlled by another ''600 series'' ECCN.

b. through w. [Reserved]

x. ''Parts,'' ''components,'' ''accessories'' and ''attachments'' that are ''specially designed'' for a commodity listed in this entry and that are not enumerated on the USML or controlled by another ''600 series'' ECCN.

3B903 Scanning Electron Microscope (SEM) equipment designed for imaging semiconductor devices or integrated circuits, having all of the following (See List of Items Controlled).

LICENSE REQUIREMENTS
Reason for Control: NS, RS, AT

Control(s)	Country chart (see Supp. No. 1 to part 738)
NS applies to entire entry	Worldwide control. *See §742.4(a)(5) and (b)(10) of the EAR.*
RS applies to the entire entry	Worldwide control. *See §742.6(a)(10) and (b)(11) of the EAR.*
AT applies to entire entry	AT Column 1.

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)
LVS: N/A
GBS: N/A
IEC: Yes, see §740.2(a)(22) and §740.24 of the EAR.
SPECIAL CONDITIONS FOR STA
STA: License Exception STA may not be used to ship any item in this ECCN to any of the destinations listed in Country Group A:5 or A:6 (See Supplement No. 1 to part 740 of the EAR).
LIST OF ITEMS CONTROLLED
Related Controls: See ECCNs *3D901* for related ''development'' or ''production'' ''software'', ECCN *3E901* for related ''development'' and ''production'' ''technology''.
Related Definition: N/A
Items:

a. Stage placement accuracy less (better) than 30 nm;

b. Stage positioning measurement performed using laser interferometry;

c. Position calibration within a field-of-view (FOV) based on laser interferometer length-scale measurement;

d. Collection and storage of images having more than 2 x 10^8 pixels;

e. FOV overlap of less than 5 percent in vertical and horizontal directions;

f. Stitching overlap of FOV less than 50 nm; *and*

g. Accelerating voltage more than 21 kV.

Note 1: 3B903 includes SEM equipment designed for chip design recovery.

Note 2: 3B903 does not apply to SEM equipment designed to accept a Semiconductor Equipment and Materials International (SEMI) standard wafer carrier, such as a 200 mm or larger Front Opening Unified Pod (FOUP).

3B904 Cryogenic wafer probing "equipment", having all of the following (see List of Items Controlled).

LICENSE REQUIREMENTS
Reason for Control: NS, RS, AT

Control(s)	Country chart (see Supp. No. 1 to part 738)
NS applies to entire entry	Worldwide control. *See §742.4(a)(5) and (b)(10) of the EAR.*
RS applies to the entire entry	Worldwide control. *See §742.6(a)(10) and (b)(11) of the EAR.*
AT applies to entire entry	AT Column 1.

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)
LVS: N/A
GBS: N/A
IEC: Yes, see §740.2(a)(22) and §740.24 of the EAR.
SPECIAL CONDITIONS FOR STA
STA: License Exception STA may not be used to ship any item in this ECCN to any of the destinations listed in Country Group A:5 or A:6 (See Supplement No. 1 to part 740 of the EAR).
LIST OF ITEMS CONTROLLED
Related Controls: See ECCN 3E901 for related technology controls for the ''development'' or ''production'' of this ECCN.
Related Definitions: N/A
Items:

a. Designed to test devices at temperatures less than or equal to 4.5 K (−268.65 °C); *and*

b. Designed to accommodate wafer diameters greater than or equal to 100 mm.

3B991 Equipment not controlled by 3B001, 3B993, or 3B994, for the manufacture of electronic "parts," "components," and materials, and "specially designed" "parts," "components," and "accessories" therefor.

LICENSE REQUIREMENTS

Reason for Control: AT

Control(s)	Country chart (see Supp. No. 1 to part 738)
AT applies to entire entry	AT Column 1.

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

LVS: N/A

GBS: N/A

LIST OF ITEMS CONTROLLED

Related Controls: N/A

Related Definitions: 'Sputtering' is an overlay coating process wherein positively charged ions are accelerated by an electric field towards the surface of a target (coating material). The kinetic energy of the impacting ions is sufficient to cause target surface atoms to be released and deposited on the substrate. Note: Triode, magnetron or radio frequency sputtering to increase adhesion of coating and rate of deposition are ordinary modifications of the process.

Items:

a. Equipment ''specially designed'' for the manufacture of electron tubes, optical elements, and ''specially designed'' ''parts'' and ''components'' therefor controlled by 3A001 or 3A991;

b. Equipment ''specially designed'' for the manufacture of semiconductor devices, integrated circuits and ''electronic assemblies,'' as follows, and systems incorporating or having the characteristics of such equipment:

NOTE: *3B991.b also controls equipment used or modified for use in the manufacture of other devices, such as imaging devices, electro-optical devices, acoustic-wave devices.*

b.1. Equipment for the processing of materials for the manufacture of devices, ''parts,'' and ''components'' as specified in the heading of 3B991.b, as follows:

Note: 3B991 does not control quartz furnace tubes, furnace liners, paddles, boats (except ''specially designed'' caged boats), bubblers, cassettes or crucibles ''specially designed'' for the processing equipment controlled by 3B991.b.1.

b.1.a. Equipment for producing polycrystalline silicon and materials controlled by 3C001;

b.1.b. Equipment ''specially designed'' for purifying or processing III/V and II/VI semiconductor materials controlled by ECCNs 3C001, 3C002, 3C003, 3C004, or 3C005 except crystal pullers, for which see 3B991.b.1.c below;

b.1.c. Crystal pullers and furnaces, as follows:

Note: 3B991.b.1.c does not control diffusion and oxidation furnaces.

b.1.c.1. Annealing or recrystallizing equipment other than constant temperature furnaces employing high rates of energy transfer capable of processing wafers at a rate exceeding 0.005 m^2 per minute;

b.1.c.2. ''Stored program controlled'' crystal pullers having any of the following characteristics:

b.1.c.2.a. Rechargeable without replacing the crucible container;

b.1.c.2.b. Capable of operation at pressures above 2.5×10^5 Pa; *or*

b.1.c.2.c. Capable of pulling crystals of a diameter exceeding 100 mm;

b.1.d. ''Stored program controlled'' equipment for epitaxial growth having any of the following characteristics:

b.1.d.1. Capable of producing silicon layer with a thickness uniform to less than ±2.5% across a distance of 200 mm or more;

b.1.d.2. Capable of producing a layer of any material other than silicon with a thickness uniformity across the wafer of equal to or better than ±3.5%; *or*

b.1.d.3. Rotation of individual wafers during processing;

b.1.e. Molecular beam epitaxial growth equipment;

b.1.f. Magnetically enhanced 'sputtering' equipment with ''specially designed'' integral load locks capable of transferring wafers in an isolated vacuum environment;

b.1.g. Equipment ''specially designed'' for ion implantation, ion-enhanced, or photo-enhanced diffusion, having any of the following characteristics:

b.1.g.1. Patterning capability;

b.1.g.2. Beam energy (accelerating voltage) exceeding 200 keV;

b.1.g.3 Optimized to operate at a beam energy (accelerating voltage) of less than 10 keV; *or*

b.1.g.4. Capable of high energy oxygen implant into a heated ''substrate'';

b.1.h. ''Stored program controlled'' equipment for the selective removal (*i.e.*, etching) by means of anisotropic dry methods (*e.g.*, plasma), as follows:

b.1.h.1. Batch types having either of the following:

b.1.h.1.a. End-point detection, other than optical emission spectroscopy types; *or*

b.1.h.1.b. Reactor operational (etching) pressure of 26.66 Pa or less;

b.1.h.2. Single wafer types having any of the following:

b.1.h.2.a. End-point detection, other than optical emission spectroscopy types;

b.1.h.2.b. Reactor operational (etching) pressure of 26.66 Pa or less; *or*

b.1.h.2.c. Cassette-to-cassette and load locks wafer handling;

Note 1: ''Batch types'' refers to machines not ''specially designed'' for production processing of single wafers. Such machines can process two

or more wafers simultaneously with common process parameters (e.g., RF power, temperature, etch gas species, flow rates).

Note 2: ''Single wafer types'' refers to machines ''specially designed'' for production processing of single wafers. These machines may use automatic wafer handling techniques to load a single wafer into the equipment for processing. The definition includes equipment that can load and process several wafers but where the etching parameters (e.g., RF power or end point) can be independently determined for each individual wafer.

b.1.i. ''Chemical vapor deposition'' (CVD) equipment (*e.g.*, plasma-enhanced CVD (PECVD) or photo-enhanced CVD) for semiconductor device manufacturing, having either of the following capabilities, for deposition of oxides, nitrides, metals, or polysilicon:

b.1.i.1. ''Chemical vapor deposition'' equipment operating below 10^5 Pa; *or*

b.1.i.2. PECVD equipment operating either below 60 Pa (450 millitorr) or having automatic cassette-to-cassette and load lock wafer handling;

Note: 3B991.b.1.i does not control low pressure ''chemical vapor deposition'' (LPCVD) systems or reactive ''sputtering'' equipment.

b.1.j. Electron beam systems ''specially designed'' or modified for mask making or semiconductor device processing having any of the following characteristics:

b.1.j.1. Electrostatic beam deflection;

b.1.j.2. Shaped, non-Gaussian beam profile;

b.1.j.3. Digital-to-analog conversion rate exceeding 3 MHz;

b.1.j.4. Digital-to-analog conversion accuracy exceeding 12 bit; *or*

b.1.j.5. Target-to-beam position feedback control precision of 1 micrometer or finer;

Note: 3B991.b.1.j does not control electron beam deposition systems or general purpose scanning electron microscopes.

b.1.k. Surface finishing equipment for the processing of semiconductor wafers as follows:

b.1.k.1. ''Specially designed'' equipment for backside processing of wafers thinner than 100 micrometer and the subsequent separation thereof; *or*

b.1.k.2. ''Specially designed'' equipment for achieving a surface roughness of the active surface of a processed wafer with a two-sigma value of 2 micrometer or less, total indicator reading (TIR);

Note: 3B991.b.1.k does not control single-side lapping and polishing equipment for wafer surface finishing.

b.1.l. Interconnection equipment which includes common single or multiple vacuum chambers ''specially designed'' to permit the integration of any equipment controlled by 3B991 into a complete system;

b.1.m. ''Stored program controlled'' equipment using ''lasers'' for the repair or trimming of ''monolithic integrated circuits'' with either of the following characteristics:

b.1.m.1. Positioning accuracy less than ±1 micrometer; *or*

b.1.m.2. Spot size (kerf width) less than 3 micrometer.

b.2. Masks, mask ''substrates,'' mask-making equipment and image transfer equipment for the manufacture of devices, ''parts'' and ''components'' as specified in the heading of 3B991, as follows:

Note: The term ''masks'' refers to those used in electron beam lithography, X-ray lithography, and ultraviolet lithography, as well as the usual ultraviolet and visible photo-lithography.

b.2.a. Finished masks, reticles and designs therefor, except:

b.2.a.1. Finished masks or reticles for the production of unembargoed integrated circuits; *or*

b.2.a.2. Masks or reticles, having both of the following characteristics:

b.2.a.2.a. Their design is based on geometries of 2.5 micrometer or more; *and*

b.2.a.2.b. The design does not include special features to alter the intended use by means of production equipment or ''software'';

b.2.b. Mask ''substrates'' as follows:

b.2.b.1. Hard surface (*e.g.*, chromium, silicon, molybdenum) coated ''substrates'' (*e.g.*, glass, quartz, sapphire) for the preparation of masks having dimensions exceeding 125 mm x 125 mm; *or*

b.2.b.2. ''Substrates'' ''specially designed'' for X-ray masks;

b.2.c. Equipment, other than general purpose computers, ''specially designed'' for computer aided design (CAD) of semiconductor devices or integrated circuits;

b.2.d. Equipment or machines, as follows, for mask or reticle fabrication:

b.2.d.1. Photo-optical step and repeat cameras capable of producing arrays larger than 100 mm x 100 mm, or capable of producing a single exposure larger than 6 mm x 6 mm in the image (*i.e.*, focal) plane, or capable of producing line widths of less than 2.5 micrometer in the photoresist on the ''substrate'';

b.2.d.2. Mask or reticle fabrication equipment using ion or ''laser'' beam lithography capable of producing line widths of less than 2.5 micrometer; *or*

b.2.d.3. Equipment or holders for altering masks or reticles or adding pellicles to remove defects;

Note: 3B991.b.2.d.1 and b.2.d.2 do not control mask fabrication equipment using photo-optical methods which was either commercially available before the 1st of January, 1980, or has a performance no better than such equipment.

b.2.e. ''Stored program controlled'' equipment for the inspection of masks, reticles or pellicles with:

b.2.e.1. A resolution of 0.25 micrometer or finer; *and*

b.2.e.2. A precision of 0.75 micrometer or finer over a distance in one or two coordinates of 63.5 mm or more;

Note: 3B991.b.2.e does not control general purpose scanning electron microscopes except when ''specially designed'' and instrumented for automatic pattern inspection.

b.2.f. Align and expose equipment for wafer production using photo-optical or X-ray methods (*e.g.*, lithography equipment) including both projection image transfer equipment and step and repeat (*i.e.*, direct step on wafer) or step and scan (scanner) equipment, capable of performing any of the following functions:

Note: 3B991.b.2.f does not control photo-optical contact and proximity mask align and expose equipment or contact image transfer equipment.

b.2.f.1. Production of a pattern size of less than 2.5 micrometer;

b.2.f.2. Alignment with a precision finer than ±0.25 micrometer (3 sigma);

b.2.f.3. Machine-to-machine overlay no better than ±0.3 micrometer; *or*

b.2.f.4. A light source wavelength shorter than 400 nm;

b.2.g. Electron beam, ion beam or X-ray equipment for projection image transfer capable of producing patterns less than 2.5 micrometer;

Note: For focused, deflected-beam systems(direct write systems), see 3B991.b.1.j or b.10.

b.2.h. Equipment using ''lasers'' for direct write on wafers capable of producing patterns less than 2.5 micrometer.

b.3. Equipment for the assembly of integrated circuits, as follows:

b.3.a. ''Stored program controlled'' die bonders having all of the following characteristics:

b.3.a.1. ''Specially designed'' for ''hybrid integrated circuits'';

b.3.a.2. X–Y stage positioning travel exceeding 37.5 × 37.5 mm; *and*

b.3.a.3. Placement accuracy in the X–Y plane of finer than ±10 micrometer;

b.3.b. ''Stored program controlled'' equipment for producing multiple bonds in a single operation (*e.g.*, beam lead bonders, chip carrier bonders, tape bonders);

b.3.c. Semi-automatic or automatic hot cap sealers, in which the cap is heated locally to a higher temperature than the body of the package, ''specially designed'' for ceramic microcircuit packages controlled by 3A001 and that have a throughput equal to or more than one package per minute.

Note: 3B991.b.3 does not control general purpose resistance type spot welders.

b.4. Filters for clean rooms capable of providing an air environment of 10 or less particles of 0.3 micrometer or smaller per 0.02832 m^3 and filter materials therefor.

3B992 Equipment not controlled by 3B002, 3B993, or 3B994, for the inspection or testing of electronic "components" and materials, (see List of Items Controlled) and "specially designed" "parts," "components" and "accessories" therefor.

LICENSE REQUIREMENTS

Reason for Control: AT

Control(s)	Country chart (see Supp. No. 1 to part 738)
AT applies to entire entry	AT Column 1.

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

LVS: N/A

GBS: N/A

LIST OF ITEMS CONTROLLED

Related Controls: See also 3A992.a.

Related Definitions: N/A

Items:

a. Equipment ''specially designed'' for the inspection or testing of electron tubes, optical elements and ''specially designed'' ''parts'' and ''components'' therefor controlled by 3A001 or 3A991;

b. Equipment ''specially designed'' for the inspection or testing of semiconductor devices, integrated circuits and ''electronic assemblies'', as follows, and systems incorporating or having the characteristics of such equipment:

Note: 3B992.b also controls equipment used or modified for use in the inspection or testing of other devices, such as imaging devices, electro-optical devices, acoustic-wave devices.

b.1. ''Stored program controlled'' inspection equipment for the automatic detection of defects, errors or contaminants of 0.6 micrometer or less in or on processed wafers, ''substrates'', other than printed circuit boards or chips, using optical image acquisition techniques for pattern comparison;

Note: 3B992.b.1 does not control general purpose scanning electron microscopes, except when ''specially designed'' and instrumented for automatic pattern inspection.

b.2. ''specially designed'' ''stored program controlled'' measuring and analysis equipment, as follows:

b.2.a. ''specially designed'' for the measurement of oxygen (O) or carbon (C) content in semiconductor materials;

b.2.b. Equipment for line width measurement with a resolution of 1 micrometer or finer;

b.2.c. ''specially designed'' flatness measurement instruments capable of measuring deviations from flatness of 10 micrometer or less with a resolution of 1 micrometer or finer.

b.3. ''Stored program controlled'' wafer probing equipment having any of the following characteristics:

b.3.a. Positioning accuracy finer than 3.5 micrometer;

b.3.b. Capable of testing devices having more than 68 terminals; *or*

b.3.c. Capable of testing at a frequency exceeding 1 GHz;

b.4. Test equipment as follows:

b.4.a. ''Stored program controlled'' equipment ''specially designed'' for testing discrete semiconductor devices and unencapsulated dice, capable of testing at frequencies exceeding 18 GHz;

Technical Note: Discrete semiconductor devices include photocells and solar cells.

b.4.b. ''Stored program controlled'' equipment ''specially designed'' for testing integrated circuits and ''electronic assemblies'' thereof, capable of functional testing:

b.4.b.1. At a 'pattern rate' exceeding 20 MHz; *or*

b.4.b.2. At a 'pattern rate' exceeding 10 MHz but not exceeding 20 MHz and capable of testing packages of more than 68 terminals.

Note: 3B992.b.4.b does not control test equipment ''specially designed'' for testing:

1. memories;

2. ''Assemblies'' or a class of ''electronic assemblies'' for home and entertainment applications; and

3. Electronic ''parts,'' ''components,'' ''assemblies'' and integrated circuits not controlled by 3A001 or 3A991 provided such test equipment does not incorporate computing facilities with ''user accessible programmability.''

Technical Note: For purposes of 3B992.b.4.b, 'pattern rate' is defined as the maximum frequency of digital operation of a tester. It is therefore equivalent to the highest data rate that a tester can provide in non-multiplexed mode. It is also referred to as test speed, maximum digital frequency or maximum digital speed.

b.4.c. Equipment ''specially designed'' for determining the performance of focal-plane arrays at wavelengths of more than 1,200 nm, using ''stored program controlled'' measurements or computer aided evaluation and having any of the following characteristics:

b.4.c.1. Using scanning light spot diameters of less than 0.12 mm;

b.4.c.2. Designed for measuring photosensitive performance parameters and for evaluating frequency response, modulation transfer function, uniformity of responsivity or noise; *or*

b.4.c.3. Designed for evaluating arrays capable of creating images with more than 32 × 32 line elements;

b.5. Electron beam test systems designed for operation at 3 keV or below, or ''laser'' beam systems, for non-contactive probing of powered-up semiconductor devices having any of the following:

b.5.a. Stroboscopic capability with either beam blanking or detector strobing;

b.5.b. An electron spectrometer for voltage measurements with a resolution of less than 0.5 V; *or*

b.5.c. Electrical tests fixtures for performance analysis of integrated circuits;

Note: 3B992.b.5 does not control scanning electron microscopes, except when ''specially designed'' and instrumented for non-contactive probing of a powered-up semiconductor device.

b.6. ''Stored program controlled'' multifunctional focused ion beam systems ''specially designed'' for manufacturing, repairing, physical layout analysis and testing of masks or semiconductor devices and having either of the following characteristics:

b.6.a. Target-to-beam position feedback control precision of 1 micrometer or finer; *or*

b.6.b. Digital-to-analog conversion accuracy exceeding 12 bit;

b.7. Particle measuring systems employing ''lasers'' designed for measuring particle size and concentration in air having both of the following characteristics:

b.7.a. Capable of measuring particle sizes of 0.2 micrometer or less at a flow rate of 0.02832 m^3 per minute or more; *and*

b.7.b. Capable of characterizing Class 10 clean air or better.

3B993 Specified semiconductor manufacturing equipment as follows (see list of items controls), and "specially designed" "components" and "accessories" therefor.

LICENSE REQUIREMENTS

Reason for Control: RS, AT

Control(s)	Country Chart (see Supp. No. 1 to part 738)
RS applies to entire entry	See §742.6(a)(11) of the EAR.
AT applies to entire entry	AT Column 1.

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

LVS: N/A

GBS: N/A

LIST OF ITEMS CONTROLLED

Related Controls: (1) See ECCNs 3D993 and 3E993 for associated ''software'' and ''technology'' controls. (2) For additional controls that apply to this ECCN, see also §744.11(a)(2)(v) and §744.23(a)(4) of the EAR.

Related Definitions: N/A

Items:

a. [Reserved]

b. Semiconductor wafer fabrication equipment for 300 mm wafers designed for ion implantation and having any of the following:

b.1. Equipment designed for plasma doping, having all of the following:

b.1.a. One or more Radio Frequency (RF) power source(s);

b.1.b. One or more pulsed DC Power Source; *and*

b.1.c. One or more n-type or p-type dopant implants.

b.2 [Reserved]

c. Etch equipment as follows:

c.1. Equipment designed or modified for anisotropic etching of dielectric materials and enabling the fabrication of high aspect ratio features with aspect ratio greater than 30:1 and a lateral dimension on the top surface of less than 100 nm, and having all of the following:

c.1.a. Radio Frequency (RF) power source(s) with at least one pulsed RF output; *and*

c.1.b. One or more fast gas switching valve(s) with switching time less than 300 milliseconds.

Note: 3B993.c.1 includes etching by 'radicals', ions, sequential reactions, or non-sequential reaction.

Technical Note: For the purposes of the Note to 3B993.c.1, 'radical' is defined as an atom, molecule, or ion that has an unpaired electron in an open electron shell configuration.

c.2. Equipment, not specified by 3B993.c.1, designed for anisotropic etching of dielectric material and enabling the fabrication of high aspect ratio features having all of the following:

c.2.a. An aspect ratio greater than 30:1; *and*

c.2.b. A lateral dimension on the top surface of less than 40 nm.

Note: 3B993.c.2 does not apply to equipment designed for wafer diameters less than 300 mm.

c.3. Equipment, not specified by 3B001.c.1.c, designed or modified for anisotropic dry etching, having all of the following:

c.3.a. Radio Frequency (RF) power source(s) with at least one pulsed RF output;

c.3.b. One or more fast gas switching valve(s) with switching time less than 500 milliseconds; *and*

c.3.c. Electrostatic chuck with greater than or equal to 10 individually controllable variable temperature elements.

d. Semiconductor manufacturing deposition equipment as follows:

d.1. Equipment designed, not specified by 3B001.d.14, for deposition assisted by remotely generated 'radicals', enabling the fabrication of a silicon (Si) and carbon (C) containing film, and having all of the following properties of the deposited film:

d.1.a. A dielectric constant (k) of less than 5.3;

d.1.b. In features with an aspect ratio greater than 5:1 with lateral openings of less than 70 nm; *and*

d.1.c. A feature-to-feature pitch of less than 100 nm.

d.2. Equipment designed for deposition of a film, containing silicon and carbon, and having a dielectric constant (k) of less than 5.3, into lateral openings having widths of less than 70 nm and aspect ratios greater than 5:1 (depth: width) and a feature-to-feature pitch of less than 100 nm, while maintaining the wafer substrate at a temperature greater than 400 °C and less than 650 °C, and having all of the following:

d.2.a. Boat designed to hold multiple vertically stacked wafers;

d.2.b. Two or more vertical injectors; and

d.2.c. A silicon source and propene are introduced to a different injector than a nitrogen source or an oxygen source.

d.3. Equipment designed for chemical vapor deposition of a carbon material layer with a density more than 1.6 g/cm^3.

d.4. Deposition equipment, not specified by 3B001.d.19, having direct-liquid injection of more than two metal precursors, designed or modified to deposit a conformal dielectric film with a dielectric constant (K) greater than 35 in features with aspect ratio greater than 50:1 in a single deposition chamber.

e. [Reserved]

f. Lithography commodities as follows:

f.1. Align and expose step and repeat (direct step on wafer) or step and scan (scanner) lithography equipment for wafer processing using photo-optical or X-ray methods and having all of the following:

f.1.a. [Reserved]

f.1.b. A light source wavelength equal to or longer than 193 nm and having all of the following:

f.1.b.1 The capability to produce a pattern with a 'Minimum Resolvable Feature size' ('MRF') of 45 nm or less; *and*

f.1.b.2. A maximum 'dedicated chuck overlay' value greater than 1.50 nm and less than or equal to 2.40 nm.

Technical Notes for paragraph 3B993.f.1: 1. The 'Minimum Resolvable Feature size' ('MRF') is calculated by the following formula:

$$\text{'MRF'} = \frac{\text{(an exposure light source wavelength in nm) x (K factor)}}{\text{maximum numerical aperture}}$$

where, for the purposes of 3B993.f.1, the K factor = 0.25.

'MRF' is also known as resolution.

2. 'Dedicated chuck overlay' is the alignment accuracy of a new pattern to an existing pattern printed on a wafer by the same lithographic system. 'Dedicated chuck overlay' is also known as single machine overlay.

f.2. Imprint lithography equipment having an overlay accuracy above 1.5 nm and less (better) than or equal to 4.0 nm.

f.3. Commodities designed or modified to increase the number of wafers processed per hour, averaged over any time interval, by greater than 1%, of equipment specified in 3B001.f.1 or 3B993.f.1.

f.4. Commodities not specified by 3B993.f.1 designed or modified to perform all of the following in or with deep-ultraviolet immersion photolithography equipment:

f.4.a. Decrease the minimum resolvable feature specified by 3B993.f.1.b.1; and

f.4.b. Decrease the maximum 'dedicated chuck overlay' of deep-ultraviolet immersion lithography equipment above 1.5 nm and below or equal to 2.4 nm.

g. through n. [Reserved]

o. Annealing equipment designed for 300 mm wafers as follows:

o.1 Annealing equipment, operating in a vacuum (equal to or less than 0.01 Pa) environment, performing any of the following:

o.1.a Reflow of copper (Cu) to minimize or eliminate voids or seams in copper (Cu) metal interconnects; *or*

o.1.b Reflow of cobalt (Co) or tungsten (W) fill metal to minimize or eliminate voids or seams;

o.2. Equipment designed to heat a semiconductor wafer to a temperature greater than 1000 °C (1832 °F) for a 'duration' less than 2 ms.

Technical Note: For the purposes of 3B993.o.2, 'duration' is the period above stated temperature.

p. Removal and cleaning equipment as follows:

p.1. Equipment designed for removing polymeric residue and copper oxide (CuO) film and enabling deposition of copper (Cu) metal in a vacuum (equal to or less than 0.01 Pa) environment.

p.2. [Reserved]

p.3. Equipment designed for dry surface oxide removal preclean or dry surface decontamination.

Note to 3B993.p.1 and p.3: These controls do not apply to deposition equipment.

q. Inspection and metrology equipment as follows:

q.1. Patterned wafer defect metrology or patterned wafer defect inspection equipment, designed or modified to accept wafers greater than or equal to 300 mm in diameter, and having all of the following:

q.1.a. Designed or modified to detect defects having a size equal to or less than 21 nm; *and*

q.1.b. Having any of the following:

q.1.b.1. A light source with an optical wavelength less than 400 nm;

q.1.b.2. An electron-beam source with a resolution less (better) than or equal to 1.65 nm;

q.1.b.3. A Cold Field Emission (CFE) electron-beam source; *or*

q.1.b.4. Two or more electron-beam sources.

q.2. Metrology equipment as follows:

q.2.a. Stand-alone equipment designed to measure wafer shape parameters prior to lithography exposure and utilize measurements to improve overlay or focus of a deep ultraviolet (DUV) lithography system having an immersion lens having a numerical aperture more than 1.3 or an Extreme Ultraviolet lithography (EUV) system; *or*

q.2.b. Metrology equipment designed to measure focus or overlay after resist development or after etch on product wafers using image-based overlay or diffraction-based measurements techniques, with an overlay measurement accuracy less (better) than or equal to 0.5 nm having any of the following:

q.2.b.1 designed for integration to a 'track'; *or*

q.2.b.2 'fast wavelength switching functionality';

Technical Notes: 1. For the purposes of 3B993.q.2, a 'track' is equipment designed for coating and developing photoresist formulated for lithography.

2. For the purposes of 3B993.q.2, 'fast wavelength switching functionality' is defined as having the ability the change the measurement wavelength and acquire a measurement in less than 25 ms.

3B994 Semiconductor manufacturing equipment that enables "advanced-node integrated circuit" production, as follows (see list of items controls), and "specially designed" "components" and "accessories" therefor.

LICENSE REQUIREMENTS

Reason for Control: RS, AT

Control(s)	Country Chart (see Supp. No. 1 to part 738)
RS applies to entire entry	See § 742.6(a)(11) of the EAR.
AT applies to entire entry	AT Column 1.

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

LVS: N/A

GBS: N/A

SPECIAL CONDITIONS FOR STA

STA: License Exception STA may not be used to ship or transmit commodities specified in this ECCN to any of the destinations

listed in Country Group A:5 or A:6 (See supplement no.1 to part 740 of the EAR).

LIST OF ITEMS CONTROLLED

Related Controls: (1) See ECCNs 3D994 and 3E994 for associated software and technology controls. (2) For additional controls that apply to this ECCN, see also §744.11(a)(2)(v) and §744.23(a)(4) of the EAR.

Related Definitions: N/A

Items:

Note for 3B994: Equipment specified in this ECCN 3B994 are limited to equipment designed for volume production, such as equipment designed to accept a SEMI standard wafer carrier such as a 200 mm or larger Front Opening Unified Pod or be connected to a multi-chamber wafer handling system.

a. [Reserved]

b. Semiconductor wafer fabrication equipment designed for ion implantation of 300mm wafers as follows:

b.1. [Reserved]

b.2. Ion implantation equipment as follows:

b.2.a. Having all of the following:

b.2.a.1. Beam current greater than 1uA and less than 5mA; *and*

b.2.a.2. Beam energy greater than 5 keV and less than 300 keV; *or*

b.2.b. Having all of the following:

b.2.b.1. Beam current greater than 5 mA; *and*

b.2.b.2. Beam energy less than 5 keV; *or*

b.2.c. Having angular accuracy equal to or less (better) than 0.1 degrees.

c. through p. [Reserved]

q. Inspection and metrology equipment as follows:

q.1. and q.2. [Reserved]

q.3. Optical thin film metrology equipment or optical critical dimension metrology equipment designed for 300mm wafers and containing software designed for measuring non-planar transistors.

C. ''MATERIALS''

3C001 Hetero-epitaxial materials consisting of a "substrate" having stacked epitaxially grown multiple layers of any of the following (see List of Items Controlled).

LICENSE REQUIREMENTS

Reason for Control: NS, AT

Control(s)	Country chart (see Supp. No. 1 to part 738)
NS applies to entire entry	NS Column 2.
AT applies to entire entry	AT Column 1.

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

LVS: $3,000

GBS: N/A

LIST OF ITEMS CONTROLLED

Related Controls: (1) This entry does not control equipment or material whose functionality has been unalterably disabled. (2) See also ECCNs 3C907 (Epitaxial materials), 3C908 (Fluorides, hydrides, chlorides, of silicon or germanium), and 3C909 (Silicon, silicon oxides, germanium or germanium oxides).

Related Definitions: N/A

Items:

a. Silicon (Si);

b. Germanium (Ge);

c. Silicon Carbide (SiC); *or*

d. ''III/V compounds'' of gallium or indium.

Note: 3C001.d does not apply to a ''substrate'' having one or more P-type epitaxial layers of GaN, InGaN, AlGaN, InAlN, InAlGaN, GaP, GaAs, AlGaAs, InP, InGaP, AlInP or InGaAlP, independent of the sequence of the elements, except if the P-type epitaxial layer is between N-type layers.

e. Gallium Oxide (Ga_2O_3); *or*

f. Diamond.

N.B.: For materials having layers of isotopically enriched Silicon or Germanium isotopes, see 3C907.

3C002 Resist materials as follows (see List of Items Controlled) and "substrates" coated with the following resists.

LICENSE REQUIREMENTS

Reason for Control: NS, AT

Control(s)	Country chart (see Supp. No. 1 to part 738)
NS applies to entire entry	NS Column 2
AT applies to entire entry	AT Column 1

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

LVS: $3,000

GBS: Yes for 3C002.a provided that they are not also controlled by 3C002.b through .e.

LIST OF ITEMS CONTROLLED

Related Controls: N/A

Related Definitions: N/A

Items: a. Resists designed for semiconductor lithography as follows:

a.1. Positive resists adjusted (optimized) for use at wavelengths less than 193 nm but equal to or greater than 15 nm;

a.2. Resists adjusted (optimized) for use at wavelengths less than 15 nm but greater than 1 nm;

b. All resists designed for use with electron beams or ion beams, with a sensitivity of 0.01 μcoulomb/mm^2 or better;

c. [Reserved]

d. All resists optimized for surface imaging technologies;

e. All resists designed or optimized for use with imprint lithography equipment specified by 3B001.f.2 that use either a thermal or photo-curable process.

3C003 Organo-inorganic compounds as follows (see List of Items Controlled).

LICENSE REQUIREMENTS

Reason for Control: NS, AT

Control(s)	Country Chart (See Supp. No. 1 to part 738)
NS applies to entire entry	NS Column 2
AT applies to entire entry	AT Column 1

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

LVS: $3000

GBS: N/A

LIST OF ITEMS CONTROLLED

Related Controls: This entry controls only compounds whose metallic, partly metallic or non-metallic element is directly linked to carbon in the organic part of the molecule.

Related Definition: N/A

Items: a. Organo-metallic compounds of aluminum, gallium or indium, having a purity (metal basis) better than 99.999%;

b. Organo-arsenic, organo-antimony and organo-phosphorus compounds, having a purity (inorganic element basis) better than 99.999%.

3C004 Hydrides of phosphorus, arsenic or antimony, having a purity better than 99.999%, even diluted in inert gases or hydrogen.

LICENSE REQUIREMENTS

Reason for Control: NS, AT

Control(s)	Country Chart (See Supp. No. 1 to part 738)
NS applies to entire entry	NS Column 2
AT applies to entire entry	AT Column 1

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

LVS: $3000

GBS: N/A

LIST OF ITEMS CONTROLLED

Related Controls: N/A

Related Definition: N/A

Items: The list of items controlled is contained in the ECCN heading.

Note: This entry does not control hydrides containing 20% molar or more of inert gases or hydrogen.

3C005 High resistivity materials as follows (See List of Items Controlled).

LICENSE REQUIREMENTS

Reason for Control: NS, AT

Control(s)	Country chart (See Supp. No. 1 to part 738)
NS applies to entire entry	NS Column 2.
AT applies to entire entry	AT Column 1.

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

LVS: $3,000

GBS: Yes

LIST OF ITEMS CONTROLLED

Related Controls: See ECCN 3E001 for related development and production technology, and ECCN 3B991.b.1.b for related production equipment.

Related Definition: N/A

Items:

a. Silicon Carbide (SiC), Gallium Nitride (GaN), Aluminum Nitride (AlN), Aluminum Gallium Nitride (AlGaN), Gallium Oxide (Ga_2O_3), or diamond semiconductor ''substrates'', or ingots, boules, or other preforms of those materials, having resistivities greater than 10,000 ohm-cm at 20 °C;

b. Polycrystalline ''substrates'' or polycrystalline ceramic ''substrates'', having resistivities greater than 10,000 ohm-cm at 20 °C and having at least one non-epitaxial single-crystal layer of Silicon (Si), Silicon Carbide (SiC), Gallium Nitride (GaN), Aluminum Nitride (AlN), Aluminum Gallium Nitride (AlGaN), Gallium Oxide (Ga_2O_3), or diamond on the surface of the ''substrate''.

3C006 Materials, not specified by 3C001, consisting of a "substrate" specified by 3C005 with at least one epitaxial layer of Silicon Carbide (SiC), Gallium Nitride (GaN), Aluminum Nitride (AlN), Aluminum Gallium Nitride (AlGaN), Gallium Oxide (Ga_2O_3) or diamond.

LICENSE REQUIREMENTS

Reason for Control: NS, AT

Control(s)	Country chart (See Supp. No. 1 to part 738)
NS applies to entire entry	NS Column 2.
AT applies to entire entry	AT Column 1.

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

LVS: $3,000

GBS: Yes

LIST OF ITEMS CONTROLLED

Related Controls: See ECCN 3D001 for related ''development'' or ''production'' ''software'', ECCN 3E001 for related ''development'' and ''production'' ''technology'', and ECCN 3B991.b.1.b for related ''production'' equipment.

Related Definition: N/A

Items:

The list of items controlled is contained in the ECCN heading.

3C907 Epitaxial materials consisting of a "substrate" having at least one epitaxially grown layer of any of the following (see List of Items Controlled).

LICENSE REQUIREMENTS

Reason for Control: NS, RS, AT

Control(s)	Country chart (see Supp. No. 1 to part 738)
NS applies to entire entry	Worldwide control. *See § 742.4(a)(5) and (b)(10) of the EAR.*
RS applies to the entire entry	Worldwide control. *See § 742.6(a)(10) and (b)(11) of the EAR.*
AT applies to entire entry.	AT Column 1.

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

LVS: N/A

GBS: N/A

IEC: Yes, see §740.2(a)(22) and §740.24 of the EAR.

SPECIAL CONDITIONS FOR STA

STA: License Exception STA may not be used to ship any item in this ECCN to any of the destinations listed in Country Group A:5 or A:6 (See Supplement No.1 to part 740 of the EAR).

LIST OF ITEMS CONTROLLED

Related Controls: See ECCN 3E901 for related technology controls for the ''development'' or ''production'' of this ECCN.

Related Definitions: N/A

Items:

a. Silicon having an isotopic impurity less than 0.08% of silicon isotopes other than silicon-28 or silicon-30; or

b. Germanium having an isotopic impurity less than 0.08% of germanium isotopes other than germanium-70, germanium-72, germanium-74, or germanium-76.

3C908 Fluorides, hydrides, chlorides, of silicon or germanium, containing any of the following (See List of Items Controlled).

LICENSE REQUIREMENTS

Reason for Control: NS, RS, AT

Control(s)	Country Chart (see Supp. No. 1 to part 738)
NS applies to entire entry	Worldwide control. *See § 742.4(a)(5) and (b)(10) of the EAR.*
RS applies to entire entry	Worldwide control. *See § 742.6(a)(10) and (b)(11) of the EAR.*
AT applies to entire entry	AT Column 1.

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

LVS: N/A

GBS: N/A

IEC: Yes, see §740.2(a)(22) and §740.24 of the EAR.

SPECIAL CONDITIONS FOR STA

STA: License Exception STA may not be used to ship any item in this ECCN to any of the destinations listed in Country Group A:5 or A:6 (See Supplement No. 1 to part 740 of the EAR).

LIST OF ITEMS CONTROLLED

Related Controls: See ECCN 3E901 for related technology controls for the ''development'' or ''production'' of this ECCN.

Related Definitions: N/A

Items:

a. Silicon having an isotopic impurity less than 0.08% of silicon isotopes other than silicon-28 or silicon-30; *or*

b. Germanium having an isotopic impurity less than 0.08% of germanium isotopes other than germanium-70, germanium-72, germanium-74, or germanium-76.

3C909 Silicon, silicon oxides, germanium or germanium oxides, containing any of the following (see List of Items Controlled).

LICENSE REQUIREMENTS

Reason for Control: NS, RS, AT

Control(s)	Country chart (see Supp. No. 1 to part 738)
NS applies to entire entry	Worldwide control. *See § 742.4(a)(5) and (b)(10) of the EAR.*
RS applies to the entire entry	Worldwide control. *See § 742.6(a)(10) and (b)(11) of the EAR.*
AT applies to entire entry	AT Column 1.

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

LVS: N/A

GBS: N/A

IEC: Yes, see §740.2(a)(22) and §740.24 of the EAR.

SPECIAL CONDITIONS FOR STA

STA: License Exception STA may not be used to ship any item in this ECCN to any of the destinations listed in Country Group A:5 or A:6 (See Supplement No.1 to part 740 of the EAR).

LIST OF ITEMS CONTROLLED

Related Controls See ECCN 3E901 for related technology controls for the ''development'' or ''production'' of this ECCN.

Related Definitions: N/A

Items:

a. Silicon having an isotopic impurity less than 0.08% of silicon isotopes other than silicon-28 or silicon-30; *or*

b. Germanium having an isotopic impurity less than 0.08% of germanium isotopes other than germanium-70, germanium-72, germanium-74, or germanium-76.

Note: 3C909 includes ''substrates'', lumps, ingots, boules and preforms.

N.B.: For materials having layers of isotopically enriched silicon (Si) or germanium (Ge) isotopes, see 3C907.

3C992 Positive resists designed for semiconductor lithography specially adjusted (optimized) for use at wavelengths between 370 and 193 nm.

LICENSE REQUIREMENTS

Reason for Control: AT

Control(s)	Country chart (see Supp. No. 1 to part 738)
AT applies to entire entry	AT Column 1

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

LVS: N/A

GBS: N/A

LIST OF ITEMS CONTROLLED

Related Controls: N/A

Related Definitions: N/A

Items: The list of items controlled is contained in the ECCN heading.

D. ''SOFTWARE''

3D001 "Software" "specially designed" for the "development" or "production" of commodities controlled by 3A001.b to 3A002.h, 3A090, or 3B (except 3B001.a.4, c, d, f.1, f.5, k to n, p.2, p.4, r, 3B002.c, 3B903, 3B904, 3B991, 3B992, 3B993, or 3B994).

LICENSE REQUIREMENTS

Reason for Control: NS, RS, AT

Control(s)	Country Chart (see Supp. No. 1 to part 738)
NS applies to ''software'' for equipment controlled by 3B001.q.	Worldwide control. *See §742.4(a)(5) and (b)(10) of the EAR.*
RS applies to ''software'' for equipment controlled by 3B001.q.	Worldwide control. *See §742.6(a)(10) and (b)(11) of the EAR.*
NS applies to ''software'' for commodities controlled by 3A001.b to 3A001.h, 3A001.z, and 3B (except as specified in the heading).	NS Column 1.
RS applies to ''software'' for commodities controlled by 3A001.z.1.a, z.2.a, z.3.a, z.4.a and 3A090.a.	To or within any destination worldwide. *See* §742.6(a)(6)(iii)(A) of the EAR.
RS applies to ''software'' for commodities controlled by 3A001.z. 1.b, z.2.b, z.3.b, z.4.b and 3A090.b.	To or within destinations specified in Country Groups D:1, D:4, and D:5 of supplement no. 1 to part 740 of the EAR, excluding any destination also specified in Country Groups A:5 or A:6. *See* §742.6(a)(6)(iii)(B) of the EAR.
RS applies to ''software'' for commodities controlled by 3A090.c.	To or within Macau or a destination specified in Country Group D:5 of supplement no. 1 to part 740 of the EAR. *See* §742.6(a)(6)(i) of the EAR.
AT applies to entire entry	AT Column 1.

REPORTING REQUIREMENTS

See §743.1 of the EAR for reporting requirements for exports under License Exceptions, and Validated End-User authorizations.

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

TSR: Yes, except for ''software'' ''specially designed'' for the ''development'' or ''production'' of Traveling Wave Tube Amplifiers described in 3A001.b.8 having operating frequencies exceeding 18 GHz; or commodities specified in 3A090.

AIA: Yes for ''software'' for commodities controlled by 3A001.z.1.a, z.2.a, z.3.a, z.4.a, and 3A090.a

ACM: Yes for ''software'' for commodities controlled by 3A001.z

Note: See §740.2(a)(9)(ii) of the EAR for license exception restrictions for ECCN 3D001 ''software'' for commodities controlled by 3A001.z and 3A090.

IEC: Yes, for ''software'' for equipment controlled by 3B001.q, see §740.2(a)(22) and §740.24 of the EAR.

SPECIAL CONDITIONS FOR STA

STA: License Exception STA may not be used to ship or transmit ''software'' ''specially designed'' for the ''development'' or ''production'' of equipment specified by 3A090.a or 3B001. q to any of the destinations listed in Country Group A:5 or A:6 (See Supplement No.1 to part 740 of the EAR); and 3A090.b or 3A002.g.1 to any of the destinations listed in Country Group A:6.

LIST OF ITEMS CONTROLLED

Related Controls: N/A

Related Definitions: N/A

Items: The list of items controlled is contained in the ECCN heading.

3D002 "Software" "specially designed" for the "use" of equipment controlled by 3B001.a to .f, or 3B002.

LICENSE REQUIREMENTS

Reason for Control: NS, RS, AT

Control(s)	Country chart (see Supp. No. 1 to part 738)
NS applies to entire entry	NS Column 1.
NS applies to ''software'' for equipment controlled by 3B001.c.1.a or c.1.c.	Worldwide control. See §742.4(a)(5) and (b)(10) of the EAR.
RS applies to ''software'' for equipment controlled by 3B001.c.1.a or c.1.c.	Worldwide control. See §742.6(a)(10) and (b)(11) of the EAR.
AT applies to entire entry	AT Column 1.

License Requirements Note: See §744.17 of the EAR for additional license requirements for microprocessors having a processing speed of 5 GFLOPS or more and an arithmetic logic unit with an access width of 32 bit or more, including those incorporating ''information security'' functionality, and associated ''software'' and ''technology'' for the ''production'' or ''development'' of such microprocessors.

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

TSR: Yes, except N/A for RS.
IEC: Yes, for ''software'' for equipment controlled by 3B001.c.1.a and 3B001.c.1.c, see §740.2(a)(22) and §740.24 of the EAR.
SPECIAL CONDITIONS FOR STA
STA: License Exception STA may not be used to ship or transmit ''software'' ''specially designed'' for the ''use'' of equipment specified by 3B001.c.1.a or c.1.b to any of the destinations listed in Country Group A:5 or A:6 (See supplement no.1 to part 740 of the EAR)
LIST OF ITEMS CONTROLLED
Related Controls: Also see 3D991.
Related Definitions: N/A
Items: The list of items controlled is contained in the ECCN heading.

3D003 'Computational lithography' "software" "specially designed" for the "development" of patterns on "EUV"-lithography masks or reticles.
LICENSE REQUIREMENTS
Reason for Control: NS, AT

Control(s)	Country chart (see Supp. No. 1 to part 738)
NS applies to entire entry	NS Column 1.
AT applies to entire entry	AT Column 1.

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)
TSR: Yes
LIST OF ITEMS CONTROLLED
Related Controls: N/A
Related Definitions: For the purposes of 3D003, 'computational lithography' is the use of computer modelling to predict, correct, optimize and verify imaging performance of the lithography process over a range of patterns, processes, and system conditions.
Items:

The list of items controlled is contained in the ECCN heading.

3D004 "Software" "specially designed" for the "development" of equipment controlled by 3A003.
LICENSE REQUIREMENTS
Reason for Control: NS, AT

Control(s)	Country Chart (See Supp. No. 1 to part 738)
NS applies to entire entry	NS Column 1
AT applies to entire entry	AT Column 1

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)
TSR: Yes
LIST OF ITEMS CONTROLLED
Related Controls: N/A
Related Definitions: N/A
Items: The list of items controlled is contained in the ECCN heading.

3D005 "Software" "specially designed" to restore normal operation of a microcomputer, "microprocessor microcircuit" or "microcomputer microcircuit" within 1 ms after an Electromagnetic Pulse (EMP) or Electrostatic Discharge (ESD) disruption, without loss of continuation of operation.
LICENSE REQUIREMENTS
Reason for Control: NS, AT

Control(s)	Country Chart (See Supp. No. 1 to part 738)
NS applies to entire entry	NS Column 1
AT applies to entire entry	AT Column 1

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)
TSR: N/A
SPECIAL CONDITIONS FOR STA
STA: License Exception STA may not be used to ship or transmit ''software'' to any of the destinations listed in Country Group A:6 (See Supplement No.1 to part 740 of the EAR).
LIST OF ITEMS CONTROLLED
Related Controls: N/A
Related Definitions: N/A
Items:

The list of items controlled is contained in the ECCN heading.

3D006 'Electronic Computer-Aided Design' ('ECAD') ''software" "specially designed" for the "development" of integrated circuits having any "Gate-All-Around Field-Effect Transistor'' (''GAAFET'') structure, and having any of the following (see List of Items Controlled).
LICENSE REQUIREMENTS
Reason for Control: NS, AT

Control(s)	Country chart (see supp. No. 1 to part 738)
NS applies to entire entry	NS Column 2
AT applies to entire entry	AT Column 1

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR DESCRIPTION OF ALL LICENSE EXCEPTIONS)
TSR: N/A
LIST OF ITEMS CONTROLLED
Related Controls: N/A
Related Definitions: N/A
Items:

a. ''Specially designed'' for implementing 'Register Transfer Level' ('RTL') to 'Geometrical Database Standard II' ('GDSII') or equivalent standard; *or*

b. ''Specially designed'' for optimization of power or timing rules.

Technical Notes: For the purposes of 3D006:

1. 'Electronic Computer-Aided Design' ('ECAD') is a category of ''software'' tools used

for designing, analyzing, optimizing, and validating the performance of an integrated circuit or printed circuit board.

2. 'Register Transfer Level' ('RTL') is a design abstraction which models a synchronous digital circuit in terms of the flow of digital signals between hardware registers and the logical operations performed on those signals.

3. 'Geometrical Database Standard II' ('GDSII') is a database file format for data exchange of integrated circuit or integrated circuit layout artwork.

3D101 "Software" "specially designed" or modified for the "use" of equipment controlled by 3A101.b.

LICENSE REQUIREMENTS

Reason for Control: MT, AT

Control(s)	Country Chart (See Supp. No. 1 to part 738)
MT applies to entire entry	MT Column 1
AT applies to entire entry	AT Column 1

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

TSR: N/A

LIST OF ITEMS CONTROLLED

Related Controls: N/A

Related Definitions: N/A

Items: The list of items controlled is contained in the ECCN heading.

3D201 "Software" "specially designed" for the "use" of equipment described in ECCN 3A225.

LICENSE REQUIREMENTS

Reason for Control: NP, AT

Control(s)	Country chart (see Supp. No. 1 to part 738)
NP applies to entire entry	NP Column 1
AT applies to entire entry	AT Column 1

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

TSR: N/A

LIST OF ITEMS CONTROLLED

Related Controls: See ECCN 3E202 (''development,'' ''production,'' and ''use'') for ''technology'' for items controlled under this entry.

Related Definitions: N/A

Items: The list of items controlled is contained in the ECCN heading.

3D202 "Software" "specially designed" to enhance or release the performance characteristics of frequency changers or generators to meet or exceed the level of the performance characteristics described in ECCN 3A225.

LICENSE REQUIREMENTS

Reason for Control: NP, AT

Control(s)	Country chart (see Supp. No. 1 to part 738)
NP applies to entire entry	NP Column 1
AT applies to entire entry	AT Column 1

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

TSR: N/A

LIST OF ITEMS CONTROLLED

Related Controls: See ECCN 3E202 (''development,'' ''production,'' and ''use'') for ''technology'' for items controlled under this entry.

Related Definitions: N/A

Items: a. ''Software'' or encryption keys/codes ''specially designed'' to enhance or release the performance characteristics of equipment not controlled by ECCN 3A225, so that such equipment meets or exceeds the performance characteristics of equipment controlled by that ECCN.

b. ''Software'' ''specially designed'' to enhance or release the performance characteristics of equipment controlled by ECCN 3A225.

3D611 "Software" "specially designed" for military electronics, as follows (see List of Items Controlled).

LICENSE REQUIREMENTS

Reason for Control: NS, RS, AT, UN

Control(s)	Country chart (see Supp. No. 1 to part 738)
NS applies to entire entry except 3D611.y.	NS Column 1.
RS applies to entire entry except 3D611.y.	RS Column 1.
RS applies to 3D611.y	China, Russia, or Venezuela (see §742.6(a)(7)).
AT applies to entire entry	AT Column 1.
UN applies to entire entry except 3D611.y.	See §746.1(b) for UN controls.

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

TSR: N/A

SPECIAL CONDITIONS FOR STA

STA: 1. Paragraph (c)(2) of License Exception STA (§740.20(c)(2) of the EAR) may not be used for any ''software'' in 3D611.

2. Except for ''build-to-print'' software, License Exception STA is not eligible for software enumerated in ECCN 3D611.b.

LIST OF ITEMS CONTROLLED

Related Controls: ''Software'' directly related to articles enumerated in USML Category XI is controlled in USML Category XI(d).

Related Definitions: N/A

Items:

a. ''Software'' ''specially designed'' for the ''development,'' ''production,'' operation, or maintenance of commodities controlled by ECCN 3A611 (other than 3A611.y) and 3B611.

b. ''Software'' ''specially designed'' for the ''development,'' ''production,'' operation or maintenance of technology in ECCN 3E611.b.

c. through x. [Reserved]

y. ''Software'' ''specially designed'' for the ''production,'' ''development,'' operation or maintenance of commodities enumerated in ECCNs 3A611.y.

3D901 "Software", not specified elsewhere, "specially designed" or modified for the "development" or "production" of items specified in ECCN 3A901.b, 3B903, or 3B904.

LICENSE REQUIREMENTS

Reason for Control: NS, RS, AT

Control(s)	Country chart (see Supp. No. 1 to part 738)
NS applies to entire entry	Worldwide control. *See §742.4(a)(5) and (b)(10) of the EAR.*
RS applies to entire entry	Worldwide control. *See §742.6(a)(10) and (b)(11) of the EAR.*
AT applies to entire entry	AT Column 1.

Special Reporting: Deemed exports and deemed reexports of ''software'' specified in this ECCN for commodities in ECCNs 3A901.b, and 3B904 are subject to reporting requirements in accordance with §743.8 of the EAR.

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

TSR: N/A

IEC: Yes, see §740.2(a)(22) and §740.24 of the EAR.

SPECIAL CONDITIONS FOR STA

STA: License Exception STA may not be used to ship any item in this ECCN to any of the destinations listed in Country Group A:5 or A:6 (See Supplement No.1 to part 740 of the EAR).

LIST OF ITEMS CONTROLLED

Related Controls: N/A

Related Definitions: N/A

Items: The list of items controlled is contained in the ECCN heading.

3D907 "Software" designed to extract "GDSII" or equivalent standard layout data and perform layer-to-layer alignment from SEM images, and generate multi-layer "GDSII" data or the circuit netlist.

LICENSE REQUIREMENTS

Reason for Control: NS, RS, AT

Control(s)	Country chart (see Supp. No. 1 to part 738)
NS applies to entire entry	Worldwide control. *See §742.4(a)(5) and (b)(10) of the EAR.*
RS applies to the entire entry	Worldwide control. *See §742.6(a)(10) and (b)(11) of the EAR.*
AT applies to entire entry	AT Column 1.

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

TSR: N/A

IEC: Yes, see §740.2(a)(22) and §740.24 of the EAR.

SPECIAL CONDITIONS FOR STA

STA: License Exception STA may not be used to ship any item in this ECCN to any of the destinations listed in Country Group A:5 or A:6 (See Supplement No.1 to part 740 of the EAR).

LIST OF ITEMS CONTROLLED

Related Controls: An example of an equivalent standard to ''GDSII'' would be Open Artwork System Interchange Standard (OASIS).

Related Definitions: N/A

Items: The list of items controlled is contained in the ECCN heading.

3D980 "Software" "specially designed" for the "development," "production" or "use" of commodities controlled by 3A980 and 3A981.

LICENSE REQUIREMENTS

Reason for Control: CC, AT

Control(s)	Country Chart (See Supp. No. 1 to part 738)
CC applies to entire entry	CC Column 1
AT applies to entire entry	AT Column 1

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

TSR: N/A

LIST OF ITEMS CONTROLLED

Related Controls: N/A

Related Definitions: N/A

Items: The list of items controlled is contained in the ECCN heading.

3D991 "Software" "specially designed" for the "development," "production" or "use" of electronic devices, "parts" or "components" controlled by 3A991, general purpose electronic equipment controlled by 3A992, or manufacturing and test equipment controlled by 3B991 and 3B992; or "software" "specially designed" for the "use" of equipment controlled by 3B001.g and .h.

LICENSE REQUIREMENTS

Reason for Control: AT

Control(s)	Country Chart (See Supp. No. 1 to part 738)
AT applies to entire entry	AT Column 1

License Requirements Note: See §744.17 of the EAR for additional license requirements for microprocessors having a processing speed of 5 GFLOPS or more and an arithmetic logic unit with an access width of 32 bit or more, including those incorporating ''information security'' functionality, and associated ''software'' and ''technology'' for the ''production'' or ''development'' of such microprocessors.

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

TSR: N/A

LIST OF ITEMS CONTROLLED

Related Controls: N/A

Related Definitions: N/A

Items: The list of items controlled is contained in the ECCN heading.

3D992 "Software" for the "development" or "production" of commodities specified in 3B001.a.4, c, d, f.1, f.5, f.6, k to n, p.2, p.4, r, or 3B002.c and "software" as follows (see List of Items Controlled).

LICENSE REQUIREMENTS

Reason for Control: NS, RS, AT

Control(s)	Country Chart (see Supp. No. 1 to part 738)
NS applies to the entire entry	To or within Macau or a destination specified in Country Group D:5 of supplement no. 1 to part 740 of the EAR. *See* §742.4(a)(4) of the EAR.
RS applies to the entire entry	To or within Macau or a destination specified in Country Group D:5 of supplement no. 1 to part 740 of the EAR. See §742.6(a)(6)(i) of the EAR.
NS applies to ''software'' for equipment controlled by 3B001.c.1.a or c.1.c.	Worldwide control. See §742.4(a)(5) and (b)(10) of the EAR.
RS applies to ''software'' for equipment controlled by 3B001.c.1.a or c.1.c.	Worldwide control. See §742.6(a)(10) and (b)(11) of the EAR.
AT applies to entire entry	AT Column 1.

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

TSR: N/A

IEC: Yes, for ''software'' for equipment controlled by 3B001.c.1.a and 3B001.c.1.c, see §740.2(a)(22) and §740.24 of the EAR.

SPECIAL CONDITIONS FOR STA

STA: License Exception STA may not be used to ship or transmit ''software'' specified in this ECCN to any of the destinations listed in Country Group A:5 or A:6 (See supplement no.1 to part 740 of the EAR).

LIST OF ITEMS CONTROLLED

Related Controls: For additional controls that apply to this ECCN, see also §744.11(a)(2)(v) and (a)(3) and §744.23(a)(4)(iii) of the EAR.

Related Definitions: N/A

Items:

a. ''Software'' ''specially designed'' for the ''development'' or ''production,'' of commodities specified in 3B001.a.4, c, d, f.1, f.5, f.6, k to n, p.2, p.4, r, or 3B002.c.

b. 'Electronic Computer-Aided Design' ('ECAD') ''software'' designed for the integration of multiple dies into a 'multi-chip' integrated circuit, and having all of the following:

b.1. Floor planning; *and*

b.2. Co-design or co-simulation of die and package.

Technical Note: For the purposes of 3D992.b, 'multi-chip' includes multi-die and multi-chiplet.

c. ''Software'' not specified by 3D992.a designed or modified to perform all of the following in or with deep-ultraviolet immersion photolithography equipment:

c.1. Decrease the minimum resolvable feature specified by 3B001.f.1.b; and

c.2. Decrease the maximum 'dedicated chuck overlay' of deep-ultraviolet immersion lithography equipment below or equal to 1.5 nm.

3D993 "Software" for the "development" or "production" of commodities specified in 3B993 and "software" as follows (see List of Items Controlled).

LICENSE REQUIREMENTS

Reason for Control: RS, AT

Control(s)	Country Chart (see Supp. No. 1 to part 738)
RS applies to entire entry	See §742.6(a)(11) of the EAR.
AT applies to entire entry	AT Column 1.

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

TSR: N/A

SPECIAL CONDITIONS FOR STA

STA: License Exception STA may not be used to ship or transmit ''software'' specified in this ECCN to any of the destinations listed in Country Group A:5 or A:6 (see supplement no.1 to part 740 of the EAR).

LIST OF ITEMS CONTROLLED

Related Controls: For additional controls that apply to this ECCN, see also §744.11(a)(2)(v) and (a)(3) and §744.23(a)(4)(iii) of the EAR.

Related Definitions: N/A

Items:

a. ''Software'' ''specially designed'' for the ''development'' or ''production'' of commodities specified in 3B993.

b. 'Electronic Computer-Aided Design' ('ECAD') ''software'' designed or modified for the ''development'' or ''production'' of integrated circuits using multipatterning.

c. 'Computational lithography' ''software'' designed or modified for the ''development''

or ''production'' of patterns on DUV lithography masks or reticles.

Technical Note: For the purposes of 3D993, 'computational lithography' is the use of computer modelling to predict, correct, optimize and verify imaging performance of the lithography process over a range of patterns, processes, and system conditions.

d. ''Software'' designed or modified to increase the number of wafers processed per hour, averaged over any time interval, by greater than 1%, of equipment specified in 3B001.f.1 or 3B993.f.1.

e. ''Software'' not specified by 3D993.a designed or modified to perform all of the following in or with deep-ultraviolet immersion photolithography equipment:

e.1. Decrease the minimum resolvable feature specified by 3B993.f.1.b.1; *and*

e.2. Decrease the maximum 'dedicated chuck overlay' of deep-ultraviolet immersion lithography equipment above 1.5 nm and below or equal to 2.4 nm.

3D994 "Software" "specially designed" for the "development" or "production" of commodities specified in 3B994 and "software" as follows (see List of Items Controlled).

LICENSE REQUIREMENTS

Reason for Control: RS, AT

Control(s)	Country Chart (see Supp. No. 1 to part 738)
RS applies to entire entry	See § 742.6(a)(11) of the EAR.
AT applies to entire entry	AT Column 1.

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

TSR: N/A

SPECIAL CONDITIONS FOR STA

STA: License Exception STA may not be used to ship or transmit ''software'' specified in this ECCN to any of the destinations listed in Country Group A:5 or A:6 (see supplement no. 1 to part 740 of the EAR).

LIST OF ITEMS CONTROLLED

Related Controls: For additional controls that apply to this ECCN, see also § 744.11(a)(2)(v) and (a)(3) and § 744.23(a)(4)(iii) of the EAR.

Related Definitions: N/A

Items: The list of items controlled is contained in the ECCN heading.

E. ''TECHNOLOGY''

Note 1 to Cat 3 Product Group E: 3E001 and 3E905 do not apply to 'Process Design Kits' ('PDKs') unless they include libraries implementing functions or technologies for items specified by 3A001.

Technical Note: For the purposes of 3E001 and 3E905, a 'Process Design Kit' ('PDK') is a software tool provided by a semiconductor manufacturer to ensure that the required design practices and rules are taken into account in order to successfully produce a specific integrated circuit design in a specific semiconductor process, in accordance with technological and manufacturing constraints (each semiconductor manufacturing process has its particular 'PDK').

3E001 "Technology" according to the General Technology Note for the "development" or "production" of commodities controlled by 3A (except 3A069, 3A901, 3A904, 3A980, 3A981, 3A991, 3A992, or 3A999), 3B (except 3B001.a.4, c, d, f.1, f.5, k to n, p.2, p.4, r, 3B002.c, 3B903, 3B904, 3B991, 3B992, 3B993, or 3B994) or 3C (except 3C907, 3C908, 3C909, or 3C992).

LICENSE REQUIREMENTS

Reason for Control: NS, MT, NP, RS, AT

Control(s)	Country Chart (see Supp. No. 1 to part 738)
NS applies to ''technology'' for commodities controlled by 3A001, 3A002, 3A003, 3B001 (except as noted in the heading), 3B002 (except 3B002.c), or 3C001 to 3C006.	NS Column 1.
MT applies to ''technology'' for commodities controlled by 3A001 or 3A101 for MT Reasons.	MT Column 1.
NP applies to ''technology'' for commodities controlled by 3A001, 3A201, or 3A225 to 3A234 for NP reasons.	NP Column 1.
RS applies to ''technology'' for commodities controlled in 3A090, when exported from Macau or a destination specified in Country Group D:5.	Worldwide (see § 742.6(a)(6)(ii)).
RS applies to ''technology'' for commodities controlled by 3A001.z, 3A090 (except for 3A090.c).	To or within destinations specified in Country Groups D:1, D:4, and D:5 of supplement no. 1 to part 740 of the EAR, excluding any destination also specified in Country Groups A:5 or A:6. See § 742.6(a)(6)(iii) of the EAR.
RS applies to ''technology'' for commodities controlled by 3A090.c.	To or within Macau or a destination specified in Country Group D:5 of supplement no. 1 to part 740 of the EAR. See § 742.6(a)(6)(i)(B) of the EAR.
RS applies to ''technology'' for commodities controlled by 3A001.a.15 or b.13, 3A004, 3B003, 3C007, 3C008, or 3C009.	RS Column 2.
AT applies to entire entry	AT Column 1.

License Requirements Note: See § 744.17 of the EAR for additional license requirements for microprocessors having a processing speed of 5

GFLOPS or more and an arithmetic logic unit with an access width of 32 bit or more, including those incorporating ''information security'' functionality, and associated ''software'' and ''technology'' for the ''production'' or ''development'' of such microprocessors.

REPORTING REQUIREMENTS

See §743.1 of the EAR for reporting requirements for exports under License Exceptions and Validated End-User authorizations.

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

TSR: Yes, except N/A for MT, and ''technology'' for the ''development'' or ''production'' of: (a) vacuum electronic device amplifiers described in 3A001.b.8, having operating frequencies exceeding 19 GHz; (b) solar cells, coverglass-interconnect-cells or covered-interconnect-cells (CIC) ''assemblies,'' solar arrays and/or solar panels described in 3A001.e.4; (c) ''Monolithic Microwave Integrated Circuit'' (''MMIC'') amplifiers in 3A001.b.2; (d) discrete microwave transistors in 3A001.b.3; and (e) commodities described in 3A090.

Note: See §740.2(a)(9)(ii) of the EAR for license exception restrictions for ECCN 3E001 ''technology'' for commodities controlled by 3A001.z, 3A090.

IEC: Yes, for ''technology'' for equipment controlled by 3B001.q, see §740.2(a)(22) and §740.24 of the EAR.

SPECIAL CONDITIONS FOR STRATEGIC TRADE AUTHORIZATION (STA)

STA: License Exception STA may not be used to ship or transmit ''technology'' according to the General Technology Note for the ''development'' or ''production'' of equipment specified by ECCNs 3A002.g.1 or 3B001.a.2 to any of the destinations listed in Country Group A:6 (see supplement no.1 to part 740 of the EAR). License Exception STA may not be used to ship or transmit ''technology'' according to the General Technology Note for the ''development'' or ''production'' of components specified by ECCN 3A001.b.2, b.3, commodities specified in 3A090, to any of the destinations listed in Country Group A:5 or A:6 (see supplement no. 1 to part 740 of the EAR).

LIST OF ITEMS CONTROLLED

Related Controls: (1) ''Technology'' according to the General Technology Note for the ''development'' or ''production'' of certain ''space-qualified'' atomic frequency standards described in Category XV(e)(9), MMICs described in Category XV(e)(14), and oscillators described in Category XV(e)(15) of the USML are ''subject to the ITAR'' (see 22 CFR parts 120 through 130). See also ECCNs 3E101, 3E201 and 9E515. (2) ''Technology'' for ''development'' or ''production'' of ''Microwave Monolithic Integrated Circuits'' (''MMIC'') amplifiers in 3A001.b.2 is controlled in this ECCN 3E001; 5E001.d refers only to that additional ''technology'' ''required'' for telecommunications.

Related Definition: N/A.

Items: The list of items controlled is contained in the ECCN heading.

Note 1: 3E001 does not control ''technology'' for equipment or ''components'' controlled by 3A003.

Note 2: 3E001 does not control ''technology'' for integrated circuits controlled by 3A001.a.3 to a.14 or z, having all of the following:

(a) Using ''technology'' at or above 0.130 μm; and

(b) Incorporating multi-layer structures with three or fewer metal layers.

3E002 ''Technology'' according to the General Technology Note other than that controlled in 3E001 for the ''development'' or ''production'' of a ''microprocessor microcircuit'', ''microcomputer microcircuit'' and microcontroller microcircuit core, having an arithmetic logic unit with an access width of 32 bits or more and any of the following features or characteristics (see List of Items Controlled).

LICENSE REQUIREMENTS

Reason for Control: NS, AT

Control(s)	Country chart (see supp. No. 1 to part 738)
NS applies to entire entry	NS Column 1
AT applies to entire entry	AT Column 1

License Requirements Note: See §744.17 of the EAR for additional license requirements for microprocessors having a processing speed of 5 GFLOPS or more and an arithmetic logic unit with an access width of 32 bit or more, including those incorporating ''information security'' functionality, and associated ''software'' and ''technology'' for the ''production'' or ''development'' of such microprocessors.

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

TSR: Yes

LIST OF ITEMS CONTROLLED

Related Controls: N/A

Related Definitions: N/A

Items:

a. A 'vector processor unit' designed to perform more than two calculations on 'floating-point' vectors (one-dimensional arrays of 32-bit or larger numbers) simultaneously;

Technical Note: For the purposes of 3E002.a, a 'vector processor unit' is a processor element with built-in instructions that perform multiple calculations on 'floating-point' vectors (one-dimensional arrays of 32-bit or larger numbers) simultaneously, having at least one vector arithmetic logic unit and vector registers of at least 32 elements each.

b. Designed to perform more than four 64-bit or larger 'floating-point' operation results per cycle; *or*

c. Designed to perform more than eight 16-bit 'fixed-point' multiply-accumulate results per cycle (*e.g.*, digital manipulation of analog information that has been previously converted into digital form, also known as digital ''signal processing'').

Note 1: 3E002 does not control ''technology'' for multimedia extensions.

Note 2: 3E002 does not control ''technology'' for microprocessor cores, having all of the following: a. Using ''technology'' at or above 0.130 μm; and

b. Incorporating multi-layer structures with five or fewer metal layers.

Note 3: 3E002 includes ''technology'' for the ''development'' or ''production'' of digital signal processors and digital array processors.

Technical Notes: 1. For the purposes of 3E002.a and 3E002.b, 'floating-point' is defined by IEEE–754.

2. For the purposes of 3E002.c, 'fixed-point' refers to a fixed-width real number with both an integer component and a fractional component, and which does not include integer-only formats.

3E003 Other "technology" for the "development" or "production" of the following (see List of Items Controlled).

LICENSE REQUIREMENTS

Reason for Control: NS, AT

Control(s)	Country chart (See Supp. No. 1 to part 738)
NS applies to entire entry	NS Column 1.
AT applies to entire entry	AT Column 1.

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

TSR: Yes, except .f and .g

LIST OF ITEMS CONTROLLED

Related Controls: See 3E001 for Silicon-On-Insulation (SOI) technology for the ''development'' or ''production'' related to radiation hardening of integrated circuits.

Related Definitions: N/A

Items:

a. Vacuum microelectronic devices;

b. Hetero-structure semiconductor electronic devices such as high electron mobility transistors (HEMT), hetero-bipolar transistors (HBT), quantum well and super lattice devices;

Note: 3E003.b does not control ''technology'' for high electron mobility transistors (HEMT) operating at frequencies lower than 31.8 GHz and hetero-junction bipolar transistors (HBT) operating at frequencies lower than 31.8 GHz.

c. ''Superconductive'' electronic devices;

d. Substrates of diamond for electronic components;

e. Substrates of Silicon-On-Insulator (SOI) for integrated circuits in which the insulator is Silicon Dioxide (SiO_2);

f. Substrates of Silicon Carbide (SiC) for electronic components;

g. ''Vacuum electronic devices'' operating at frequencies of 31.8 GHz or higher;

h. Substrates of Gallium Oxide (Ga_2O_3) for electronic components.

3E004 "Technology" "required" for the slicing, grinding and polishing of 300 mm diameter silicon wafers to achieve a 'Site Front least sQuares Range' ('SFQR') less than or equal to 20 nm at any site of 26 mm x 8 mm on the front surface of the wafer and an edge exclusion less than or equal to 2 mm.

LICENSE REQUIREMENTS

Reason for Control: NS, AT

Control(s)	Country chart (See Supp. No. 1 to part 738)
NS applies to entire entry	NS Column 1.
AT applies to entire entry	AT Column 1.

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

TSR: Yes

LIST OF ITEMS CONTROLLED

Related Controls: N/A

Related Definitions: For the purpose of 3E004, 'Site Front least sQuares Range' ('SFQR') is the range of maximum deviation and minimum deviation from front reference plane, calculated by least square method with all front surface data including site boundary within a site.

Items:

The list of items controlled is contained in the ECCN heading.

3E069 "Technology" according to the General Technology Note for the "development" or "production" of items controlled by 3A069.

LICENSE REQUIREMENTS

Reason for Control: NS, RS, AT

Control(s)	Country Chart (see Supp. No. 1 to part 738)
NS applies to entire entry	NS Column 2.
RS applies to entire entry	To or within Macau or a destination specified in Country Group D:5 of supplement no. 1 to part 740 of the EAR. See § 742.6(a)(13) of the EAR.
AT applies to entire entry	AT Column 1.

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

TSR: Yes, except N/A for Macau, destinations in Country Group D:5, or destinations subject to the RS control in 3A999.

LIST OF ITEMS CONTROLLED

Related Controls: N/A
Related Definitions: N/A
Items: The list of items controlled is contained in the ECCN heading.

3E101 "Technology" according to the General Technology Note for the "use" of equipment or "software" controlled by 3A001.a.1 or .2, 3A101, or 3D101.

LICENSE REQUIREMENTS
Reason for Control: MT, AT

Control(s)	Country Chart (See Supp. No. 1 to part 738)
MT applies to entire entry	MT Column 1
AT applies to entire entry	AT Column 1

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)
TSR: N/A
LIST OF ITEMS CONTROLLED
Related Controls: N/A
Related Definitions: N/A
Items: The list of items controlled is contained in the ECCN heading.

3E102 "Technology" according to the General Technology Note for the "development" of "software" controlled by 3D101.

LICENSE REQUIREMENTS
Reason for Control: MT, AT

Control(s)	Country Chart (See Supp. No. 1 to part 738)
MT applies to entire entry	MT Column 1
AT applies to entire entry	AT Column 1

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)
TSR: N/A
LIST OF ITEMS CONTROLLED
Related Controls: N/A
Related Definitions: N/A
Items: The list of items controlled is contained in the ECCN heading.

3E201 "Technology" according to the General Technology Note for the "use" of equipment controlled by 3A001.e.2 or .e.3, 3A201 or 3A225 to 3A234.

LICENSE REQUIREMENTS
Reason for Control: NP, AT

Control(s)	Country Chart (See Supp. No. 1 to part 738)
NP applies to "technology" for equipment controlled by 3A001.e.2, or .e.3, 3A201 or 3A225 to 3A234 for NP reasons.	NP Column 1.
AT applies to entire entry	AT Column 1.

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)
TSR: N/A
LIST OF ITEMS CONTROLLED
Related Controls: N/A
Related Definitions: N/A
Items: The list of items controlled is contained in the ECCN heading.

3E202 "Technology" according to the General Technology Note for the "development," "production," or "use" of "software" controlled by 3D201 or 3D202.

LICENSE REQUIREMENTS
Reason for Control: NP, AT

Control(s)	Country chart (see Supp. No. 1 to part 738)
NP applies to entire entry	NP Column 1
AT applies to entire entry	AT Column 1

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)
TSR: N/A
LIST OF ITEMS CONTROLLED
Related Controls: N/A
Related Definitions: N/A
Items: The list of items controlled is contained in the ECCN heading.

3E611 "Technology" "required" for military electronics, as follows (see List of Items Controlled).

LICENSE REQUIREMENTS
Reason for Control: NS, RS, AT, UN

Control(s)	Country Chart (see Supp. No. 1 to part 738)
NS applies to entire entry except 3E611.y.	NS Column 1.
RS applies to entire entry except 3E611.y.	RS Column 1.
RS applies to 3E611.y	China, Russia, or Venezuela (see §742.6(a)(7)).
AT applies to entire entry	AT Column 1.
UN applies to entire entry except 3E611.y.	See §746.1(b) for UN controls.

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)
TSR: N/A
SPECIAL CONDITIONS FOR STA
STA: 1. Paragraph (c)(2) of License Exception STA (§740.20(c)(2) of the EAR) may not be used for any ''technology'' in 3E611.

2. Except for ''build-to-print technology,'' License Exception STA is not eligible for ''technology'' enumerated in ECCN 3E611.b.

LIST OF ITEMS CONTROLLED
Related Controls: Technical data directly related to articles enumerated in USML Category XI is controlled in USML Category XI(d).
Related Definitions: N/A
Items:

a. ''Technology'' (other than that controlled by 3E611.b or 3E611.y) ''required'' for the ''development,'' ''production,'' operation, installation, maintenance, repair, overhaul,

or refurbishing of commodities or software controlled by ECCN 3A611, 3B611 or 3D611.

b. ''Technology'' ''required'' for the ''development,'' ''production,'' operation, installation, maintenance, repair, overhaul, or refurbishing of the following if controlled by ECCN 3A611, including 3A611.x:

b.1. Helix traveling wave tubes (TWTs);

b.2. Transmit/receive or transmit modules.

c. through x. [Reserved]

y. ''Technology'' ''required'' for the ''production,'' ''development,'' operation, installation, maintenance, repair, overhaul, or refurbishing of commodities or software enumerated in ECCNs 3A611.y or 3D611.y.

3E901 "Technology" according to the General Technology Note for the "development" or "production" of items controlled by ECCN 3A901, 3A904, 3B903, 3B904, 3C907, 3C908, or 3C909.

LICENSE REQUIREMENTS

Reason for Control: NS, RS, AT

Control(s)	Country chart (see Supp. No. 1 to part 738)
NS applies to entire entry	Worldwide control. *See § 742.4(a)(5) and (b)(10) of the EAR.*
RS applies to the entire entry	Worldwide control. *See § 742.6(a)(10) and (b)(11) of the EAR.*
AT applies to entire entry	AT Column 1.

Special Reporting: Deemed exports and deemed reexports of ''technology'' specified in this ECCN are subject to reporting requirements in accordance with §743.8 of the EAR.

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

TSR: N/A

IEC: Yes, see §740.2(a)(22) and §740.24 of the EAR.

SPECIAL CONDITIONS FOR STA

STA: License Exception STA may not be used to ship any item in this ECCN to any of the destinations listed in Country Group A:5 or A:6 (See Supplement No.1 to part 740 of the EAR).

LIST OF ITEMS CONTROLLED

Related Controls: N/A

Related Definitions: N/A

Items:

The list of items controlled is contained in the ECCN heading.

3E905 "Technology" according to the General Technology Note for the "development" or "production" of integrated circuits or devices, using "Gate all-around Field-Effect Transistor" ("GAAFET") structures.

LICENSE REQUIREMENTS

Reason for Control: NS, RS, AT

Control(s)	Country chart (see Supp. No. 1 to part 738)
NS applies to entire entry	Worldwide control. *See § 742.4(a)(5) and (b)(10) of the EAR.*
RS applies to the entire entry	Worldwide control. *See § 742.6(a)(10) and (b)(11) of the EAR.*
AT applies to entire entry	AT Column 1.

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

TSR: N/A

IEC: Yes, see §740.2(a)(22) and §740.24 of the EAR.

SPECIAL CONDITIONS FOR STA

STA: License Exception STA may not be used to ship any item in this ECCN to any of the destinations listed in Country Group A:5 or A:6 (See Supplement No.1 to part 740 of the EAR).

Note: See General Order No. 6 in supplement no. 1 to part 736 for additional authorization that may apply for exports, reexports, or transfers (in-country) of this item.

LIST OF ITEMS CONTROLLED

Related Controls: 1. ECCN 3E905 applies to process ''technology'' exclusively for the ''development'' or ''production'' of GAAFET structures of integrated circuits at a semiconductor wafer production facility. ECCN 3E905 does not, for example, control an integrated circuit design such as the physical layout file in ''GDSII'' format or EDA tools, or any other technology used to produce the physical layout file for integrated circuit design. 2. ECCN 3E905 does not apply to vertical GAAFET architectures, *e.g.*, those used for 3D NAND.

Related Definitions: N/A

Items: The list of items controlled is contained in the ECCN heading.

Note 1: 3E905 includes 'process recipes'.

Note 2: 3E905. does not apply for tool qualification or maintenance.

Technical Note: For the purposes of Note 1 to 3E905, a 'process recipe' is a set of conditions and parameters for a particular process step.

3E980 "Technology" "specially designed" for "development," "production" or "use" of commodities controlled by 3A980 and 3A981.

LICENSE REQUIREMENTS

Reason for Control: CC, AT

Control(s)	Country Chart (See Supp. No. 1 to part 738)
CC applies to entire entry	CC Column 1
AT applies to entire entry	AT Column 1

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

TSR: N/A

LIST OF ITEMS CONTROLLED
Related Controls: N/A
Related Definitions: N/A
Items: The list of items controlled is contained in the ECCN heading.

3E991 "Technology" for the "development," "production" or "use" of electronic devices, "parts" or "components" controlled by 3A991, general purpose electronic equipment controlled by 3A992, or manufacturing and test equipment controlled by 3B991 or 3B992, or materials controlled by 3C992.

LICENSE REQUIREMENTS
Reason for Control: AT

Control(s)	Country Chart (See Supp. No. 1 to part 738)
AT applies to entire entry	AT Column 1

License Requirements Note: See §744.17 of the EAR for additional license requirements for microprocessors having a processing speed of 5 GFLOPS or more and an arithmetic logic unit with an access width of 32 bit or more, including those incorporating ''information security'' functionality, and associated ''software'' and ''technology'' for the ''production'' or ''development'' of such microprocessors.

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)
TSR: N/A
LIST OF ITEMS CONTROLLED
Related Controls: N/A
Related Definitions: N/A
Items: The list of items controlled is contained in the ECCN heading.

3E992 "Technology" for the "production" or "development" of commodities specified in 3B001.a.4, c, d, f.1, f.5, f.6, k to n, p.2, p.4, r; and 3B002.c; and "technology" as follows (see List of Items Controlled).

LICENSE REQUIREMENTS
Reason for Control: NS, RS, AT

Control(s)	Country Chart (see Supp. No. 1 to part 738)
NS applies to the entire entry	To or within Macau or a destination specified in Country Group D:5 of supplement no. 1 to part 740 of the EAR. See §742.4(a)(4) of the EAR.
RS applies to the entire entry	To or within Macau or a destination specified in Country Group D:5 of supplement no. 1 to part 740 of the EAR. See §742.6(a)(6)(i) of the EAR.
NS applies to ''software'' for equipment controlled by 3B001.c.1.a or c.1.c.	Worldwide control. See §742.4(a)(5) and (b)(10) of the EAR.
RS applies to ''software'' for equipment controlled by 3B001.c.1.a or c.1.c.	Worldwide control. See §742.6(a)(10) and (b)(11) of the EAR.
AT applies to entire entry	AT Column 1.

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)
TSR: N/A
IEC: Yes, for ''technology'' for equipment controlled by 3B001.c.1.a, and 3B001.c.1.c, see §740.2(a)(22) and §740.24 of the EAR.
SPECIAL CONDITIONS FOR STA
STA: License Exception STA may not be used to ship or transmit ''technology'' specified in this ECCN to any of the destinations listed in Country Group A:5 or A:6 (see supplement no. 1 to part 740 of the EAR).
LIST OF ITEMS CONTROLLED
Related Controls: N/A
Related Definitions: N/A
Items:

a. ''Technology'' ''specially designed'' for the ''development'' or ''production'' of commodities specified in 3B001.a.4, c, d, f.1, f.5, f.6, k to n, p.2, p.4, r; or 3B002.c.

b. ''Technology'' not specified by 3E992.a designed or modified to perform all of the following in or with deep-ultraviolet immersion photolithography equipment:

b.1. Decrease the minimum resolvable feature specified by 3B001.f.1.b; *and*

b.2. Decrease the maximum 'dedicated chuck overlay' of deep-ultraviolet immersion lithography equipment below or equal to 1.5 nm.

3E993 "Technology" for the "development" or "production" of commodities specified in 3B993; and "technology" as follows (see List of Items Controlled).

LICENSE REQUIREMENTS
Reason for Control: RS, AT

Control(s)	Country Chart (see Supp. No. 1 to part 738)
RS applies to entire entry	See §742.6(a)(11) of the EAR.
AT applies to entire entry	AT Column 1.

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)
TSR: N/A
SPECIAL CONDITIONS FOR STA
STA: License Exception STA may not be used to ship or transmit ''technology'' specified in this ECCN to any of the destinations listed in Country Group A:5 or A:6 (see supplement no. 1 to part 740 of the EAR).
LIST OF ITEMS CONTROLLED
Related Controls: For additional controls that apply to this ECCN, see also §744.11(a)(2)(v) and (a)(3) and §744.23(a)(4)(iii) of the EAR.

Related Definitions: N/A
Items:

a. ''Technology'' ''specially designed'' for the ''development'' or ''production'' of commodities specified by 3B993.

b. ''Technology'' designed or modified to increase the number of wafers processed per hour, averaged over any time interval, by greater than 1%, of equipment specified in 3B001.f.1 or 3B993.f.1.

c. ''Technology'' not specified by 3E993.a designed or modified to perform all of the following in or with deep-ultraviolet immersion photolithography equipment:

c.1. Decrease the minimum resolvable feature specified by 3B993.f.1.b.1; *and*

c.2. Decrease the maximum 'dedicated chuck overlay' of a deep-ultraviolet immersion lithography equipment above 1.5 nm and below or equal to 2.4 nm.

3E994 "Technology" "specially designed" for the "development" or "production" of commodities specified in 3B994 and "technology" as follows (see List of Items Controlled).

LICENSE REQUIREMENTS
Reason for Control: RS, AT

Control(s)	Country Chart (see Supp. No. 1 to part 738)
RS applies to entire entry	See §742.6(a)(11) of the EAR.
AT applies to entire entry	AT Column 1.

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)
TSR: N/A
SPECIAL CONDITIONS FOR STA
STA: License Exception STA may not be used to ship or transmit ''technology'' specified in this ECCN to any of the destinations listed in Country Group A:5 or A:6 (see supplement no. 1 to part 740 of the EAR).
LIST OF ITEMS CONTROLLED
Related Controls: For additional controls that apply to this ECCN, see also §744.11(a)(2)(v) and (a)(3) and §744.23(a)(4)(iii) of the EAR.
Related Definitions: N/A
Items: The list of items controlled is contained in the ECCN heading.

EAR99 Items subject to the EAR that are not elsewhere specified in this CCL Category or in any other category in the CCL are designated by the number EAR99.

CATEGORY 4—COMPUTERS

Note 1: Computers, related equipment and ''software'' performing telecommunications or ''local area network'' functions must also be evaluated against the performance characteristics of Category 5, Part 1 (Telecommunications).

Note 2: Control units that directly interconnect the buses or channels of central processing units, 'main storage' or disk controllers are not regarded as telecommunications equipment described in Category 5, Part 1 (Telecommunications).

Note 3: Commodities and ''software'' in ECCNs 4A005 and 4D004 that are also controlled in ECCNs 5A002.a, 5A002.z.1, 5A002.z.6, 5A004.a, 5A004.b, 5A004.z, 5D002.c.1, 5D002.c.3, 5D002.z.6, 5D002.z.8, or 5D002.z.9, remain controlled in Category 5—Part 2 by those entries. Category 5—Part 2 does not apply to elements of source code that implement functionality controlled by these Category 4 ECCNs, or to any item subject to the EAR where Encryption Item (EI) functionality is absent, removed or otherwise non-existent.

Note 4: Items in ECCNs 4A005, 4D001.a (for 4A005 or 4D004), 4D004, and ''technology'' specified in ECCN 4E001.a (for 4A005, 4D001.a (for 4A005 or 4D004) or 4D004) and 4E001.c that are also controlled for Surreptitious Listening (SL) reasons under another ECCN, will continue to be classified under the SL ECCN.

N.B.: For the control status of ''software'' ''specially designed'' for packet switching, see ECCN 5D001. (Telecommunications).

Technical Note: 'Main storage' is the primary storage for data or instructions for rapid access by a central processing unit. It consists of the internal storage of a ''digital computer'' and any hierarchical extension thereto, such as cache storage or non-sequentially accessed extended storage.

A. ''END ITEMS'', ''EQUIPMENT'', ''ACCESSORIES'', ''ATTACHMENTS'', ''PARTS'', ''COMPONENTS'' AND ''SYSTEMS''

4A001 Electronic computers and related equipment, having any of the following (see List of Items Controlled), and "electronic assemblies" and "specially designed" "components" therefor.

LICENSE REQUIREMENTS
Reason for Control: NS, MT, AT, NP

Control(s)	Country chart (see Supp. No. 1 to part 738)
NS applies to entire entry	NS Column 2.
MT applies to items in 4A001.a when the parameters in 4A101 are met or exceeded.	MT Column 1.
AT applies to entire entry	AT Column 1.
NP applies, unless a License Exception is available. See §742.3(b) of the EAR for information on applicable licensing review policies.	N/A.

REPORTING REQUIREMENTS
See §743.1 of the EAR for reporting requirements for exports under License Exceptions, and Validated End-User authorizations.

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

LVS: $5000 for 4A001.a; N/A for MT.

GBS: N/A

SPECIAL CONDITIONS FOR STA

STA: License Exception STA may not be used to ship any commodity in 4A001.a.2 to any of the destinations listed in Country Group A:6 (See Supplement No.1 to part 740 of the EAR).

LIST OF ITEMS CONTROLLED

Related Controls: (1) See also 4A101 and 4A994. Equipment designed or rated for transient ionizing radiation is ''subject to the ITAR'' (see 22 CFR parts 120 through 130). (2) The act of incorporating a radiation hardened integrated circuit into a computer that is specified under ECCN 4A994 or designated as EAR99 does not, in and of itself, cause the computer to meet the parameters of ECCN paragraph 4A001.a.2.

Related Definitions: For the purposes of integrated circuits in 4A001.a.2, 5×10^3 Gy(Si) = 5×10^5 Rads (Si); 5×10^6 Gy (Si)/s = 5×10^8 Rads (Si)/s.

Items:

a. ''Specially designed'' to have any of the following:

a.1. [Reserved]

a.2. Radiation hardened to exceed any of the following specifications:

a.2.a. A total dose of 5×10^3 Gy (Si);

a.2.b. A dose rate upset of 5×10^6 Gy (Si)/s; or

a.2.c. Single Event Upset of 1×10^{-8} Error/bit/day;

Note: 4A001.a.2 does not apply to computers ''specially designed'' for ''civil aircraft'' applications.

b. [Reserved]

4A003 "Digital computers", "electronic assemblies", and related equipment therefor, as follows (see List of Items Controlled) and "specially designed" "components" therefor.

LICENSE REQUIREMENTS

Reason for Control: NS, RS, CC, AT

Control(s)	Country Chart (see Supp. No. 1 to part 738)
NS applies to 4A003.b, .c, and .z.1.	NS Column 1.
NS applies to 4A003.g and z.2.	NS Column 2.
RS applies to 4A003.z.1.a, z.2.a.	To or within any destination worldwide. *See* §742.6(a)(6)(iii)(A) of the EAR.
RS applies to 4A003.z.1.b, z.2.b.	To or within destinations specified in Country Groups D:1, D:4, and D:5 of supplement no. 1 to part 740 of the EAR, excluding any destination also specified in Country Groups A:5 or A:6. *See* §742.6(a)(6)(iii)(B) of the EAR.
CC applies to ''digital computers'' for computerized finger-print equipment.	CC Column 1.
AT applies to entire entry (refer to 4A994 for controls on ''digital computers'' with an APP >0.0128 but ≤70 WT).	AT Column 1.

Note: For all destinations, except those countries in Country Group E:1 or E:2 of Supplement No. 1 to part 740 of the EAR, no license is required (NLR) for computers with an ''Adjusted Peak Performance'' (''APP'') not exceeding 70 Weighted TeraFLOPS (WT) and for ''electronic assemblies'' described in 4A003.c that are not capable of exceeding an ''Adjusted Peak Performance'' (''APP'') exceeding 70 Weighted TeraFLOPS (WT) in aggregation, except certain transfers as set forth in §746.3 (Iraq).

REPORTING REQUIREMENTS

Special Post Shipment Verification reporting and recordkeeping requirements for exports of computers to destinations in Computer Tier 3 may be found in §743.2 of the EAR.

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

LVS: $5000; N/A for 4A003.b, c, and z.

GBS: Yes, for 4A003.g and ''specially designed'' ''parts'' and ''components'' therefor, exported separately or as part of a system.

APP: Yes, for computers controlled by 4A003.b, and ''electronic assemblies'' controlled by 4A003.c, to the exclusion of other technical parameters. See §740.7 of the EAR.

NAC/ACA: Yes, for 4A003.z.

AIA: Yes for 4A003.z.1.a, z.2.a

ACM: Yes for 4A003.z

LPP: Yes for 4A003.z.1.a, z.2.a

Note to List Based License Exceptions: See §740.2(a)(9)(ii) of the EAR for license exception restrictions for ECCN 4A003.z.

LIST OF ITEMS CONTROLLED

Related Controls: See also ECCNs 4A090, 4A994 and 4A980.

Related Definitions: N/A

Items:

Note 1: 4A003 includes the following:

—'Vector processors' (as defined in Note 7 of the ''Technical Note on ''Adjusted Peak Performance'' (''APP'')'');

—*Array processors;*
—*Digital signal processors;*
—*Logic processors;*
—*Equipment designed for ''image enhancement.''*

Note 2: The control status of the ''digital computers'' and related equipment described in 4A003 is determined by the control status of other equipment or systems provided:

a. The ''digital computers'' or related equipment are essential for the operation of the other equipment or systems;

b. The ''digital computers'' or related equipment are not a ''principal element'' of the other equipment or systems; and

N.B. 1: The control status of ''signal processing'' or ''image enhancement'' equipment ''specially designed'' for other equipment with functions limited to those required for the other equipment is determined by the control status of the other equipment even if it exceeds the ''principal element'' criterion.

N.B. 2: For the control status of ''digital computers'' or related equipment for telecommunications equipment, see Category 5, Part 1 (Telecommunications).

c. The ''technology'' for the ''digital computers'' and related equipment is determined by 4E.

a. [Reserved]

b. ''Digital computers'' having an ''Adjusted Peak Performance'' (''APP'') exceeding 70 Weighted TeraFLOPS (WT);

c. ''Electronic assemblies'' ''specially designed'' or modified to be capable of enhancing performance by aggregation of processors so that the ''APP'' of the aggregation exceeds the limit in 4A003.b.;

Note 1: 4A003.c applies only to ''electronic assemblies'' and programmable interconnections not exceeding the limit in 4A003.b when shipped as unintegrated ''electronic assemblies.''

Note 2: 4A003.c does not control ''electronic assemblies'' ''specially designed'' for a product or family of products whose maximum configuration does not exceed the limit of 4A003.b.

d. to f. [Reserved]

N.B.: For ''electronic assemblies,'' modules or equipment, performing analog-to-digital conversions, see 3A002.h.

g. Equipment ''specially designed'' for aggregating the performance of ''digital computers'' by providing external interconnections which allow communications at unidirectional data rates exceeding 2.0 Gbyte/s per link.

Note: 4A003.g does not control internal interconnection equipment (e.g., backplanes, buses) passive interconnection equipment, ''network access controllers'' or ''communication channel controllers''.

h. through y. [Reserved]

z. Commodities specified in this ECCN 4A003 that also meet or exceed the performance parameters in 4A090.

z.1.a. Commodities specified in 4A003.b or .c that also meet or exceed the performance parameters in ECCN 4A090.a;

z.1.b Commodities specified in 4A003.b or .c that also meet or exceed the performance parameters in ECCN 4A090.b;

z.2.a. Commodities specified in 4A003.g that also meet or exceed the performance parameters in ECCN 4A090a; or

z.2.b Commodities specified in 4A003.g that also meet or exceed the performance parameters in ECCN 4A090.b.

4A004 Computers as follows (see List of Items Controlled) and "specially designed" related equipment, "electronic assemblies" and "components" therefor.

LICENSE REQUIREMENTS

Reason for Control: NS, RS, AT

Control(s)	Country Chart (see Supp. No. 1 to part 738)
NS applies to entire entry	NS Column 2.
RS applies to 4A004.z.1	To or within any destination worldwide. *See* § 742.6(a)(6)(iii)(A) of the EAR.
RS applies to 4A004.z.2	To or within destinations specified in Country Groups D:1, D:4, and D:5 of supplement no. 1 to part 740 of the EAR, excluding any destination also specified in Country Groups A:5 or A:6. *See* § 742.6(a)(6)(iii)(B) of the EAR.
AT applies to entire entry	AT Column 1.

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

LVS: $5000, N/A for 4A004.z
GBS: N/A
NAC/ACA: Yes, for 4A004.z.
AIA: Yes for 4A004.z.1
LPP: Yes for 4A004.z.1

Note: See § 740.2(a)(9)(ii) of the EAR for license exception restrictions for ECCN 4A004.z.

LIST OF ITEMS CONTROLLED

Related Controls: See also ECCN 4A090.
Related Definitions: N/A
Items:

a. 'Systolic array computers';
b. 'Neural computers';
c. 'Optical computers'.

Technical Notes: 1. For the purposes of 4A004.a, 'systolic array computers' are computers where the flow and modification of the data is dynamically controllable at the logic gate level by the user.

2. For the purposes of 4A004.b, 'neural computers' are computational devices designed or modified to mimic the behavior of a neuron or a collection of neurons, i.e., computational devices which are distinguished by their hardware capability to modulate the weights and numbers of

the interconnections of a multiplicity of computational components based on previous data.

3. For the purposes of 4A004.c, 'optical computers' are computers designed or modified to use light to represent data and whose computational logic elements are based on directly coupled optical devices.

d. through y. [Reserved]

z.1. Commodities that are described in 4A004 and that also meet or exceed the performance parameters in 4A090.a; or

z.2 Commodities that are described in 4A004 and that also meet or exceed the performance parameters in 4A090.b.

4A005 "Systems," "equipment," and "components" therefor, "specially designed" or modified for the generation, command and control, or delivery of "intrusion software" (see List of Items Controlled).

LICENSE REQUIREMENTS

Reason for Control: NS, RS, AT

Control(s)	Country Chart (see Supp. No. 1 to part 738)
NS applies to entire entry	NS Column 1.
RS applies to items controlled by 4A005.z.1.	To or within any destination worldwide. *See* §742.6(a)(6)(iii)(A) of the EAR.
RS applies to items controlled by 4A005.z.2.	To or within destinations specified in Country Groups D:1, D:4, and D:5 of supplement no. 1 to part 740 of the EAR, excluding any destination also specified in Country Groups A:5 or A:6. *See* §742.6(a)(6)(iii)(B) of the EAR.
AT applies to entire entry	AT Column 1.

REPORTING REQUIREMENTS

See §743.1 of the EAR for reporting requirements for exports under License Exceptions, and Validated End-User authorizations.

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

LVS: N/A

GBS: N/A

APP: N/A

ACE: Yes, except to Country Group E:1 or E:2. See §740.22 of the EAR for eligibility criteria.

NAC/ACA: Yes, for 4A005.z.

AIA: Yes for 4A005.z.1

ACM: Yes for 4A005.z

LPP: Yes for 4A005.z.1

Note: See §740.2(a)(9)(ii) of the EAR for license exception restrictions for ECCN 4A005.z.

SPECIAL CONDITIONS FOR STA

STA: License Exception STA may not be used to ship items specified by ECCN 4A005.

LIST OF ITEMS CONTROLLED

Related Controls: (1) Defense articles described in USML Category XI(b), and software directly related to a defense article, are ''subject to the ITAR'' (see 22 CFR parts 120 through 130). (2) See also ECCN 4A090.

Related Definitions: N/A

Items: The list of items controlled is contained in the ECCN heading, except for the commodities controlled under 4A005.z.

a. through y. [Reserved]

z.1. Commodities that are specified in 4A005 that also meet or exceed the performance parameters in 4A090.a.

z.2 Commodities that are specified in 4A005 that also meet or exceed the performance parameters in 4A090.b.

4A090 Computers as follows (see List of Items Controlled) and related equipment, "electronic assemblies," and "components" therefor.

LICENSE REQUIREMENTS

Reason for Control: RS, AT

Control(s)	Country Chart (see Supp. No. 1 to part 738)
RS applies to 4A090.a	To or within any destination worldwide. *See* §742.6(a)(6)(iii)(A) of the EAR.
RS applies to 4A090.b	To or within destinations specified in Country Groups D:1, D:4, and D:5 of supplement no. 1 to part 740 of the EAR, excluding any destination also specified in Country Groups A:5 or A:6. *See* §742.6(a)(6)(iii)(B) of the EAR.
AT applies to entire entry	AT Column 1.

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

LVS: N/A

GBS: N/A

NAC/ACA: Yes

AIA: Yes for 4A090.a

ACM: Yes

LPP: Yes for 4A090.a

LIST OF ITEMS CONTROLLED

Related Controls: (1) For associated ''software'' for commodities in this ECCN, see 4D090, 5D002.z, and 5D992.z and for associated ''technology'' for commodities in this ECCN, see 4E001. (2) Also ECCNs 4A003.z, 4A004.z, 4A005.z, 5A002.z, 5A004.z, and 5A992.z.

Related Definitions: N/A

Items:

a. Computers, ''electronic assemblies,'' and ''components'' containing integrated circuits, any of which meets or exceeds the limits in 3A090.a.

b. Computers, ''electronic assemblies,'' and ''components'' containing integrated circuits, any of which meets or exceeds the limits in 3A090.b.

Technical Note: For purposes of 4A090.a and .b, computers include ''digital computers,'' ''hybrid computers,'' and analog computers.

4A101 Analog computers, "digital computers" or digital differential analyzers, other than those controlled by 4A001 designed or modified for use in "missiles", having any of the following (see List of Items Controlled).

LICENSE REQUIREMENTS

Reason for Control: MT, AT

Control(s)	Country chart (see Supp. No. 1 to part 738)
MT applies to entire entry	MT Column 1.
AT applies to entire entry	AT Column 1.

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

LVS: N/A

GBS: N/A

LIST OF ITEMS CONTROLLED

Related Controls: The act of incorporating a radiation hardened integrated circuit into a computer that is specified under ECCN 4A994 or designated as EAR99 does not, in and of itself, cause the computer to meet the parameters of ECCN paragraph 4A101.b.

Related Definitions: N/A

Items:

a. Rated for continuous operation at temperatures from below 228 K (−45 °C) to above 328 K (+55 °C); *or*

b. Designed as ruggedized or 'radiation hardened'.

Note: For the purposes of 4A101, 'radiation hardened' means that the ''part,'' ''component'' or equipment is designed or rated to withstand radiation levels which meet or exceed a total irradiation dose of 5×10^5 *rads (Si).*

4A102 "Hybrid computers" "specially designed" for modelling, simulation or design integration of "missiles" or their subsystems. (These items are "subject to the ITAR." See 22 CFR parts 120 through 130.)

4A611 Computers, and "parts," "components," "accessories," and "attachments" "specially designed" therefor, "specially designed" for a military application that are not enumerated in any USML category are controlled by ECCN 3A611.

4A906 Quantum computers and related "electronic assemblies," and "components" therefor, as follows (see List of Items Controlled).

LICENSE REQUIREMENTS

Reason for Control: NS, RS, AT

Control(s)	Country chart (see Supp. No. 1 to part 738)
NS applies to entire entry	Worldwide control. *See § 742.4(a)(5) and (b)(10) of the EAR.*
RS applies to the entire entry	Worldwide control. *See § 742.6(a)(10) and (b)(11) of the EAR.*
AT applies to entire entry	AT Column 1.

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

LVS: N/A

GBS: N/A

IEC: Yes, see §740.2(a)(22) and §740.24 of the EAR.

SPECIAL CONDITIONS FOR STA

STA: License Exception STA may not be used to ship any item in this ECCN to any of the destinations listed in Country Group A:5 or A:6 (See Supplement No.1 to part 740 of the EAR).

LIST OF ITEMS CONTROLLED

Related Controls: See ECCN 4D906 for related ''software'' controls for the ''development'' or ''production'' of this ECCN. See ECCN 4E906 for related ''technology'' controls for the ''development'' or ''production'' of this ECCN.

Related Definitions: N/A

Items:

a. Quantum computers, as follows:

a.1. Quantum computers supporting 34 or more, but fewer than 100, 'fully controlled', 'connected' and 'working' 'physical qubits', and having a 'C–NOT error' of less than or equal to 10^{-4};

a.2. Quantum computers supporting 100 or more, but fewer than 200, 'fully controlled', 'connected' and 'working' 'physical qubits', and having a 'C–NOT error' of less than or equal to 10^{-3};

a.3. Quantum computers supporting 200 or more, but fewer than 350, 'fully controlled', 'connected' and 'working' 'physical qubits', and having a 'C–NOT error' of less than or equal to 2×10^{-3};

a.4. Quantum computers supporting 350 or more, but fewer than 500, 'fully controlled', 'connected' and 'working' 'physical qubits', and having a 'C–NOT error' of less than or equal to 3×10^{-3};

a.5. Quantum computers supporting 500 or more, but fewer than 700, 'fully controlled', 'connected' and 'working' 'physical qubits', and having a 'C–NOT error' of less than or equal to 4×10^{-3};

a.6. Quantum computers supporting 700 or more, but fewer than 1,100, 'fully controlled', 'connected' and 'working' 'physical qubits', and having a 'C–NOT error' of less than or equal to 5×10^{-3};

a.7. Quantum computers supporting 1,100 or more, but fewer than 2,000, 'fully controlled', 'connected' and 'working' 'physical qubits',

and having a 'C–NOT error' of less than or equal to 6×10^{-3};

a.8. Quantum computers supporting 2,000 or more 'fully controlled', 'connected' and 'working' 'physical qubits';

b. Qubit devices and qubit circuits, containing or supporting arrays of 'physical qubits', *and* ''specially designed'' for items specified by 4A906.a;

c. Quantum control components and quantum measurement devices, ''specially designed'' for items specified by 4A906.a;

Note 1: 4A906 applies to circuit model (or gate-based) and one-way (or measurement-based) quantum computers. This entry does not apply to adiabatic (or annealing) quantum computers.

Note 2: Items specified by 4A906 may not necessarily physically contain any qubits. For example, quantum computers based on photonic schemes do not permanently contain a physical item that can be identified as a qubit. Instead, the photonic qubits are generated while the computer is operating and then later discarded.

Note 3: Items specified by 4A906.b include semiconductor, superconducting, and photonic qubit chips and chip arrays; surface ion trap arrays; other qubit confinement technologies; and coherent interconnects between such items.

Note 4: 4A906.c applies to items designed for calibrating, initializing, manipulating or measuring the resident qubits of a quantum computer.

Technical Notes: For the purposes of 4A906:

1. A 'physical qubit' is a two-level quantum system used to represent the elementary unit of quantum logic by means of manipulations and measurements that are not error corrected. 'Physical qubits' are distinguished from logical qubits, in that logical qubits are error-corrected qubits comprised of many 'physical qubits'.

2. 'Fully controlled' means the 'physical qubit' can be calibrated, initialized, gated, and read out, as necessary.

3. 'Connected' means that two-qubit gate operations can be performed between any arbitrary pair of the available 'working' 'physical qubits'. This does not necessarily entail all-to-all connectivity.

4. 'Working' means that the 'physical qubit' performs universal quantum computational work according to the system specifications for qubit operational fidelity.

5. Supporting 34 or more 'fully controlled', 'connected', 'working' 'physical qubits' refers to the capability of a quantum computer to confine, control, measure and process the quantum information embodied in 34 or more 'physical qubits'.

6. 'C–NOT error' is the average physical gate error for the nearest-neighbor two-'physical qubit' Controlled-NOT (C–NOT) gates.

4A980 Computers for fingerprint equipment, n.e.s.

LICENSE REQUIREMENTS

Reason for Control: CC, AT

Control(s)	Country Chart (See Supp. No. 1 to part 738)
CC applies to entire entry	CC Column 1
AT applies to entire entry	AT Column 1

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

LVS: N/A

GBS: N/A

LIST OF ITEMS CONTROLLED

Related Controls: N/A

Related Definitions: N/A

Items: The list of items controlled is contained in the ECCN heading.

Note: 4A980 does not control equipment limited to one finger and designed for user authentication or access control.

4A994 Computers, "electronic assemblies" and related equipment, not controlled by 4A001 or 4A003, and "specially designed" "parts" and "components" therefor (see List of Items Controlled).

LICENSE REQUIREMENTS

Reason for Control: AT

Control(s)	Country chart (see Supp. No. 1 to part 738)
AT applies to entire entry	AT Column 1.

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

LVS: N/A

GBS: N/A

LIST OF ITEMS CONTROLLED

Related Controls: (1) For associated ''software'' for commodities in this ECCN, see 4D994 and for associated ''technology'' for commodities in this ECCN, see 4E992. (2) See also ECCNs 4A003.z, 4A004.z, 4A005.z, 5A002.z, 5A004.z, and 5A992.z.

Related Definitions: N/A

Items:

Note 1: The control status of the ''digital computers'' and related equipment described in 4A994 is determined by the control status of other equipment or systems provided:

a. The ''digital computers'' or related equipment are essential for the operation of the other equipment or systems;

b. The ''digital computers'' or related equipment are not a ''principal element'' of the other equipment or systems; and

N.B. 1: The control status of ''signal processing'' or ''image enhancement'' equipment ''specially designed'' for other equipment with functions limited to those required for the other equipment is determined by the control status of the other equipment even if it exceeds the ''principal element'' criterion.

N.B. 2: For the control status of ''digital computers'' or related equipment for telecommunications equipment, see Category 5, Part 1 (Telecommunications).

c. The ''technology'' for the ''digital computers'' and related equipment is determined by 4E.

a. Electronic computers and related equipment, and ''electronic assemblies'' and ''specially designed'' ''parts'' and ''components'' therefor, rated for operation at an ambient temperature above 343 K (70 °C);

b. ''Digital computers'', including equipment of ''signal processing'' or image enhancement'', having an ''Adjusted Peak Performance'' (''APP'') equal to or greater than 0.0128 Weighted TeraFLOPS (WT);

c. ''Electronic assemblies'' that are ''specially designed'' or modified to enhance performance by aggregation of processors, as follows:

c.1. Designed to be capable of aggregation in configurations of 16 or more processors;

c.2. [Reserved];

Note 1: 4A994.c applies only to ''electronic assemblies'' and programmable interconnections with a ''APP'' not exceeding the limits in 4A994.b, when shipped as unintegrated ''electronic assemblies''. It does not apply to ''electronic assemblies'' inherently limited by nature of their design for use as related equipment controlled by 4A994.k.

Note 2: 4A994.c does not control any ''electronic assembly'' ''specially designed'' for a product or family of products whose maximum configuration does not exceed the limits of 4A994.b.

d. [Reserved];

e. [Reserved];

f. Equipment for ''signal processing'' or ''image enhancement'' having an ''Adjusted Peak Performance'' (''APP'') equal to or greater than 0.0128 Weighted TeraFLOPS WT;

g. [Reserved];

h. [Reserved];

i. Equipment containing ''terminal interface equipment'' exceeding the limits in 5A991;

j. Equipment ''specially designed'' to provide external interconnection of ''digital computers'' or associated equipment that allows communications at data rates exceeding 80 Mbyte/s.

Note: 4A994.j does not control internal interconnection equipment (e.g., backplanes, buses) passive interconnection equipment, ''network access controllers'' or ''communication channel controllers''.

k. ''Hybrid computers'' and ''electronic assemblies'' and ''specially designed'' ''parts'' and ''components'' therefor containing analog-to-digital converters having all of the following characteristics:

k.1. 32 channels or more; and

k.2. A resolution of 14 bit (plus sign bit) or more with a conversion rate of 200,000 conversions/s or more.

l. Computers, ''electronic assemblies,'' and ''components,'' n.e.s., containing integrated circuits, any of which meets or exceeds the limit of ECCN 3A991.p.

Technical Note: For the purposes of 4A994.l, computers include ''digital computers,'' ''hybrid computers,'' and analog computers.

B. ''TEST'', ''INSPECTION'' AND ''PRODUCTION EQUIPMENT'' [RESERVED]

C. ''MATERIALS'' [RESERVED]

D. ''SOFTWARE''

Note: The control status of ''software'' for equipment described in other Categories is dealt with in the appropriate Category.

4D001 "Software" as follows (see List of Items Controlled).

LICENSE REQUIREMENTS

Reason for Control: NS, RS, CC, AT

Control(s)	Country Chart (see Supp. No. 1 to part 738)
NS applies to entire entry	NS Column 1.
RS applies to "software" for commodities controlled by 4A003.z.1.a, z.2.a, 4A004.z.1, and 4A005.z.1.	To or within any destination worldwide. *See* §742.6(a)(6)(iii)(A) of the EAR.
RS applies to "software" for commodities controlled by 4A003.z.1.b, z.2.b, 4A004.z.2, and 4A005.z.2.	To or within destinations specified in Country Groups D:1, D:4, and D:5 of supplement no. 1 to part 740 of the EAR, excluding any destination also specified in Country Groups A:5 or A:6. *See* §742.6(a)(6)(iii)(B) of the EAR.
CC applies to "software" for computerized finger-print equipment controlled by 4A003 for CC reasons.	CC Column 1.
AT applies to entire entry	AT Column 1.

REPORTING REQUIREMENTS

See §743.1 of the EAR for reporting requirements for exports under License Exceptions, and Validated End-User authorizations.

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

TSR: Yes, except for ''software'' for the following:

(1) The ''development'' or ''production'' of commodities with an ''Adjusted Peak Performance'' (''APP'') exceeding 29 WT;

(2) The ''development'' or ''production'' of commodities controlled by 4A005 or ''software'' controlled by 4D004; or

(3) Commodities controlled by 4A003.z, 4A004.z, and 4A005.z

APP: Yes to specific countries (see §740.7 of the EAR for eligibility criteria).

ACE: Yes for 4D001.a (for the ''development'', ''production'' or ''use'' of equipment or ''software'' specified in ECCN 4A005 or 4D004), except to Country Group E:1 or E:2.

See §740.22 of the EAR for eligibility criteria.

AIA: Yes for ''software'' for commodities controlled by 4A003.z.1.a, z.2.a, 4A004.z.1, and 4A005.z.1

ACM: Yes for ''software'' for commodities controlled by 4A003.z

Note: See §740.2(a)(9)(ii) for license exception restrictions for ''software'' for commodities controlled by 4A003.z, 4A004.z, and 4A005.z.

SPECIAL CONDITIONS FOR STA

STA: License Exception STA may not be used to ship or transmit ''software'' ''specially designed'' or modified for the ''development'' or ''production'' of equipment specified by ECCN 4A001.a.2 or for the ''development'' or ''production'' of ''digital computers'' having an 'Adjusted Peak Performance' ('APP') exceeding 29 Weighted TeraFLOPS (WT) to any of the destinations listed in Country Group A:6 (See Supplement No.1 to part 740 of the EAR); may not be used to ship or transmit ''software'' specified in 4D001.a ''specially designed'' for the ''development'' or ''production'' of equipment specified by ECCN 4A005; and may not be used to ship or transmit ''software'' for commodities controlled by 4A003.z.1.a, z.2.a, 4A004.z.1, and 4A005.z.1 to any of the destinations listed in Country Group A:5 or A:6.

LIST OF ITEMS CONTROLLED

Related Controls: N/A

Related Definitions: N/A

Items:

a. ''Software'' ''specially designed'' or modified for the ''development'' or ''production'', of equipment or ''software'' controlled by 4A001, 4A003, 4A004, 4A005 or 4D (except 4D090, 4D906, 4D980, 4D993 or 4D994).

b. ''Software'', other than that controlled by 4D001.a, ''specially designed'' or modified for the ''development'' or ''production'' of equipment as follows:

b.1. ''Digital computers'' having an ''Adjusted Peak Performance'' (''APP'') exceeding 24 Weighted TeraFLOPS (WT);

b.2. ''Electronic assemblies'' ''specially designed'' or modified for enhancing performance by aggregation of processors so that the ''APP'' of the aggregation exceeds the limit in 4D001.b.1.

4D004 "Software" "specially designed" or modified for the generation, command and control, or delivery of "intrusion software."

LICENSE REQUIREMENTS

Reason for Control: NS, AT

Control(s)	Country chart (See Supp. No. 1 to part 738)
NS applies to entire entry	NS Column 1.
AT applies to entire entry	AT Column 1.

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

TSR: N/A

APP: N/A

ACE: Yes, except to Country Group E:1 or E:2. See §740.22 of the EAR for eligibility criteria.

SPECIAL CONDITIONS FOR STA

STA: License Exception STA may not be used to ship or transmit ''software'' specified by ECCN 4D004.

LIST OF ITEMS CONTROLLED

Related Controls: Software described in USML Category XI(b), and software directly related to a defense article, is ''subject to the ITAR''; see §120.10(a)(4).

Related Definitions: N/A

Items:

The list of items controlled is contained in the ECCN heading.

Note: 4D004 does not apply to ''software'' specially designed and limited to provide ''software'' updates or upgrades meeting all the following:

a. The update or upgrade operates only with the authorization of the owner or administrator of the system receiving it; and

b. After the update or upgrade, the ''software'' updated or upgraded is not any of the following:

1. ''Software'' specified by 4D004; or

2. ''Intrusion software.''

4D090 "Software" "specially designed" or modified for the "development" or "production," of computers and related equipment, "electronic assemblies," and "components" therefor specified in ECCN 4A090.

LICENSE REQUIREMENTS

Reason for Control: RS, AT

Control(s)	Country Chart (see Supp. No. 1 to part 738)
RS applies to "software" for commodities controlled by 4A090.a.	To or within any destination worldwide. *See* §742.6(a)(6)(iii)(A) of the EAR.
RS applies to "software" for commodities controlled by 4A090.b.	To or within destinations specified in Country Groups D:1, D:4, and D:5 of supplement no. 1 to part 740 of the EAR, excluding any destination also specified in Country Groups A:5 or A:6. *See* §742.6(a)(6)(iii)(B) of the EAR.
AT applies to entire entry	AT Column 1.

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

TSR: N/A

AIA: Yes for commodities controlled by 4A090.a

ACM: Yes

LIST OF ITEMS CONTROLLED
Related Controls: For associated ''technology'' for software in this ECCN, see 4E001.
Related Definitions: N/A
Items: The list of items controlled is contained in the ECCN heading.

4D906 "Software" "specially designed" or modified for the "development" or "production" of commodities controlled by 4A906.b or 4A906.c.

LICENSE REQUIREMENTS
Reason for Control: NS, RS, AT

Control(s)	Country chart (see Supp. No. 1 to part 738)
NS applies to entire entry	Worldwide control. *See § 742.4(a)(5) and (b)(10) of the EAR.*
RS applies to the entire entry	Worldwide control. *See § 742.6(a)(10) and (b)(11) of the EAR.*
AT applies to entire entry	AT Column 1.

Special Reporting: Deemed exports and deemed reexports of ''software'' specified in this ECCN are subject to reporting requirements in accordance with §743.8 of the EAR.
LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)
TSR: N/A
IEC: Yes, see §740.2(a)(22) and §740.24 of the EAR.
SPECIAL CONDITIONS FOR STA
STA: License Exception STA may not be used to ship any item in this ECCN to any of the destinations listed in Country Group A:5 or A:6 (See Supplement No.1 to part 740 of the EAR).
LIST OF ITEMS CONTROLLED
Related Controls: See ECCN 4E906 for related ''technology'' controls for the ''development'' or ''production'' of this ECCN.
Related Definitions: N/A
Items: The list of items controlled is contained in the ECCN heading.

4D980 "Software" "specially designed" for the "development," "production" or "use" of commodities controlled by 4A980.

LICENSE REQUIREMENTS
Reason for Control: CC, AT

Control(s)	Country Chart (See Supp. No. 1 to part 738)
CC applies to entire entry	CC Column 1
AT applies to entire entry	AT Column 1

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)
TSR: N/A
LIST OF ITEMS CONTROLLED
Related Controls: N/A
Related Definitions: N/A
Items: The list of items controlled is contained in the ECCN heading.

4D993 "Program" proof and validation "software," "software" allowing the automatic generation of "source codes," and operating system "software" that are "specially designed" for "real-time processing" equipment (see List of Items Controlled).

LICENSE REQUIREMENTS
Reason for Control: AT

Control(s)	Country chart (see Supp. No. 1 to part 738)
AT applies to entire entry	AT Column 1

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)
TSR: N/A
LIST OF ITEMS CONTROLLED
Related Controls: N/A
Related Definitions: ''Global interrupt latency time'' is the time taken by the computer system to recognize an interrupt due to the event, service the interrupt and perform a context switch to an alternate memory-resident task waiting on the interrupt.
Items: a. ''Program'' proof and validation ''software'' using mathematical and analytical techniques and designed or modified for ''programs'' having more than 500,000 ''source code'' instructions;
b. ''Software'' allowing the automatic generation of ''source codes'' from data acquired online from external sensors described in the Commerce Control List; *or*
c. Operating system ''software'' ''specially designed'' for ''real-time processing'' equipment that guarantees a ''global interrupt latency time'' of less than 20 microseconds.

4D994 "Software" other than that controlled in 4D001 "specially designed" or modified for the "development," "production," or "use" of commodities controlled by 4A101 or 4A994.

LICENSE REQUIREMENTS
Reason for Control: AT

Control(s)	Country chart (See Supp. No. 1 to part 738)
AT applies to entire entry	AT Column 1

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)
TSR: N/A
LIST OF ITEMS CONTROLLED
Related Controls: N/A
Related Definitions: N/A
Items:

The list of items controlled is contained in the ECCN heading.

E. ''TECHNOLOGY''

4E001 "Technology" as follows (see List of Items Controlled).

LICENSE REQUIREMENTS

Reason for Control: NS, MT, RS, CC, AT

Control(s)	Country Chart (see Supp. No. 1 to part 738)
NS applies to entire entry, except for "technology" for 4A090 or "software" specified by 4D090.	NS Column 1.
MT applies to "technology" for items controlled by 4A001.a and 4A101 for MT reasons.	MT Column 1.
RS applies to "technology" for commodities controlled by 4A003.z.1.a, z.2.a, 4A004.z.1, 4A005.z.1, 4A090.a or "software" specified by 4D001 (for 4A003.z.1.a, z.2.a, 4A004.z.1 and 4A005.z.1), or 4D090.a.	To or within any destination worldwide. *See* §742.6(a)(6)(iii)(A) of the EAR.
RS applies to "technology" for commodities controlled by 4A003.z.1.b, z.2.b, 4A004.z.2, 4A005.z.2, 4A090.b or "software" specified by 4D001 (for 4A003.z.1.b, z.2.b, 4A004.z.2, and 4A005.z.2), or 4D090.b.	To or within destinations specified in Country Groups D:1, D:4, and D:5 of supplement no. 1 to part 740 of the EAR, excluding any destination also specified in Country Groups A:5 or A:6. *See* §742.6(a)(6)(iii)(B) of the EAR.
CC applies to "technology" for computerized fingerprint equipment controlled by 4A003 for CC reasons.	CC Column 1.
AT applies to entire entry	AT Column 1.

REPORTING REQUIREMENTS

See §743.1 of the EAR for reporting requirements for exports under License Exceptions, and Validated End-User authorizations.

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

TSR: Yes, except for the following:

(1) ''Technology'' for the ''development'' or ''production'' of commodities with an ''Adjusted Peak Performance'' (''APP'') exceeding 70 WT or for the ''development'' or ''production'' of commodities controlled by 4A005 or ''software'' controlled by 4D004;

(2) ''Technology'' for the ''development'' of ''intrusion software''; or

(3) ''Technology'' for commodities controlled by 4A003.z, 4A004.z, 4A005.z, 4A090 or ''software'' specified by 4D001 (for 4A003.z, 4A004.z, and 4A005.z), or 4D090

APP: Yes, to specific countries (see §740.7 of the EAR for eligibility criteria).

ACE: Yes for 4E001.a (for the ''development'', ''production'' or ''use'' of equipment or ''software'' specified in ECCN 4A005 or 4D004); and for 4E001.c, except to Country Group E:1 or E:2. See §740.22 of the EAR for eligibility criteria.

AIA: Yes for ''technology'' for commodities controlled by 4A003.z.1.a, z.2.a, 4A004.z.1, 4A005.z.1, 4A090.a or ''software'' specified by 4D001 (for 4A003.z.1.a, z.2.a, 4A004.z.1 and 4A005.z.1), or 4D090.a

ACM: Yes for ''technology'' for commodities controlled by 4A003.z, 4A004.z, 4A005.z, 4A090 or ''software'' specified by 4D001 (for 4A003.z, 4A004.z and 4A005.z), or 4D090.

Note: See §740.2(a)(9)(ii) of the EAR for license exception restrictions for technology for .z paragraphs under ECCNs 4A003, 4A004, 4A005 or 4A090, or ''software'' specified by 4D001 (for 4A003.z, 4A004.z, 4A005.z, and 4A090).

SPECIAL CONDITIONS FOR STA

STA: License Exception STA may not be used to ship or transmit ''technology'' according to the General Technology Note for the ''development'' or ''production'' of any of the following equipment or ''software'': a. Equipment specified by ECCN 4A001.a.2; b. ''Digital computers'' having an 'Adjusted Peak Performance' ('APP') exceeding 70 Weighted TeraFLOPS (WT); c. ''software'' specified in the License Exception STA paragraph found in the License Exception section of ECCN 4D001; or ''technology'' for commodities controlled by 4A003.z.1.b, z.2.b, 4A004.z.2, 4A005.z.2, 4A090.b or ''software'' specified by 4D001 (for 4A003.z.1.b, z.2.b, 4A004.z.2, and 4A005.z.2), or 4D090.b to any of the destinations listed in Country Group A:6 (See Supplement No. 1 to part 740 of the EAR). License Exception STA may not be used to ship or transmit ''technology'' for commodities controlled by 4A003.z.1.a, z.2.a, 4A004.z.1, 4A005.z.1, 4A090.a or ''software'' specified by 4D001 (for 4A003.z.1.a, z.2.a, 4A004.z.1 and 4A005.z.1), or 4D090.a to any of the destinations listed in Country Group A:5 or A:6 (See Supplement No. 1 to part 740 of the EAR).

LIST OF ITEMS CONTROLLED

Related Controls: N/A

Related Definitions: N/A

Items:

a. ''Technology'' according to the General Technology Note, for the ''development'', ''production'', or ''use'' of equipment or ''software'' controlled by 4A (except 4A906, 4A980 or 4A994 and ''use'' of equipment controlled under 4A090) or 4D (except 4D906, 4D980, 4D993, 4D994 and ''use'' of software controlled under 4D090).

b. ''Technology'' according to the General Technology Note, other than that controlled by 4E001.a, for the ''development'' or ''production'' of equipment as follows:

b.1. ''Digital computers'' having an ''Adjusted Peak Performance'' (''APP'') exceeding 24 Weighted TeraFLOPS (WT);

b.2. ''Electronic assemblies'' ''specially designed'' or modified for enhancing performance by aggregation of processors so that the ''APP'' of the aggregation exceeds the limit in 4E001.b.1.

c. ''Technology'' for the ''development'' of ''intrusion software.''

Note 1: 4E001.a and .c do not apply to ''vulnerability disclosure'' or ''cyber incident response''.

Note 2: Note 1 does not diminish national authorities' rights to ascertain compliance with 4E001.a and .c.

4E091 'Parameters' for an artificial intelligence model trained utilizing 10^{26} or more 'operations.'

LICENSE REQUIREMENTS

Reason for Control: RS, AT

Control(s)	Country Chart (see Supp. No. 1 to part 738)
RS applies entire entry	To or within any destination worldwide. See §742.6(a)(13).
AT applies to entire entry	AT Column 1.

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

TSR: N/A

AIA: Yes

ACM: No

SPECIAL CONDITIONS FOR STA

STA: License Exception STA may not be used to ship or transmit ''technology'' specified by ECCN 4E091 to any of the destinations listed in Country Group A:5 or A:6 (See Supplement No.1 to part 740 of the EAR).

LIST OF ITEMS CONTROLLED

Related Controls: N/A

Related Definition: N/A

Items: The list of items controlled is contained in the ECCN heading.

Technical Notes: For the purposes of 4E091:

1. 'Parameters' refers to any value learned during training (e.g., network weights, biases, etc.). 'Parameters' for an artificial intelligence model are also known as model weights.

*2. 'Operations' refers to mathematical operations used for pre-training and any subsequent training, such as fine-tuning the pre-trained model, but does not include the collection and curation of the input training data. Training 'operations' should account for operations required to perform all steps in the pre-training and subsequent training process, including those for forward and backward propagation for all relevant layers, pooling, and convolutions, regardless of the implementation and hardware limitations, and applied to all relevant operations. For example, consider a model composed of a single densely connected layer with I input neurons, O output neurons, and no biases being trained with backpropagation. Such a model would have a total of N = I * O learned parameters. Each forward pass would require N multiply accumulate operations, or (assuming floating point arithmetic) 2N FLOP. Each backward pass would require 2N multiply accumulate operations, or 4N FLOP. Then, in total, each training data point would require 6N FLOP. Training on a data set of size D would require 6ND total FLOP.*

3. If more than ten percent of the 'operations' involve training on data that was not ''published'' as defined in §734.7(a) and was generated by a single data-generation model, then 'operations' the data-generation model used to generate the data should be counted, and if the data-generation model's 'parameters' were not ''published,'' then the training 'operations' used to train the data-generating model should be counted as well. A single data-generation model includes variants of the same model, such as different checkpoints or fine-tuned variants. If multiple models with 'parameters' that were not ''published'' were used to generate data used for more than ten percent of the training 'operations,' then only the training 'operations' of the data-generation model using the most training 'operations' should be counted. No actual training 'operation' should be counted more than once, so if data-generation model A is used to train data-generation model B and data-generation model C, and models B and C are used to train model D, then the operations to train A are only added to the number of operations for model D once.

Notes: 1. In accordance with §734.7 of the EAR, 4E091 does not control the 'parameters' of any artificial intelligence model that have been ''published'' as defined in §734.7(a). 4E091 also does not control the 'parameters' of any artificial intelligence model derived from a model whose parameters have been 'published,' except where the model has been derived using additional training 'operations' that constitute more than 2.5×10^{25} 'operations' or more than 25 percent of the training 'operations' defined in Note 2, whichever is higher.

2. 4E091 does not control the 'parameters' of any artificial intelligence model trained utilizing fewer 'operations' than the number needed, based on the most efficient ''published'' methods to train artificial intelligence models, to train an artificial intelligence model as capable, according to an aggregate of widely used benchmarks, as the most advanced artificial intelligence model that has been ''published'' as defined in §734.7(a) of the EAR. To provide certainty for this exclusion, the number of 'operations' needed should not decrease with algorithmic improvements.

2.a. An exporter may determine whether an AI model falls within this exclusion by either:

2.a.1. Self classifying by relying on guidance published by BIS or technical opinions issued by the U.S. AI Safety Institute and the Department of Energy, should such opinions have been published, or

2.a.2. A classification request to BIS in accordance with the procedures in §§748.1 and 748.3 of the EAR.

4E906 "Technology" according to the General Technology Note as follows (see List of Items Controlled).

LICENSE REQUIREMENTS

Reason for Control: NS, RS, AT

Control(s)	Country chart (see Supp. No. 1 to part 738)
NS applies to entire entry	Worldwide control. *See §742.4(a)(5) and (b)(10) of the EAR.*
RS applies to the entire entry	Worldwide control. *See §742.6(a)(10) and (b)(11) of the EAR.*
AT applies to entire entry	AT Column 1.

Special Reporting: Deemed exports and deemed reexports of ''technology'' specified in this ECCN are subject to reporting requirements in accordance with §743.8 of the EAR.

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

TSR: N/A

IEC: Yes, see §740.2(a)(22) and §740.24 of the EAR.

SPECIAL CONDITIONS FOR STA

STA: License Exception STA may not be used to ship any item in this ECCN to any of the destinations listed in Country Group A:5 or A:6 (See Supplement No.1 to part 740 of the EAR).

LIST OF ITEMS CONTROLLED

Related Controls: N/A

Related Definitions: N/A

Items:

a. ''Technology'' for the ''development'' or ''production'' of items controlled by 4A906.b, 4A906.c, or 4D906;

b. ''Technology'' for ''use'' of ''software'' controlled by 4D906.

4E980 "Technology" for the "development," "production" or "use" of commodities controlled by 4A980.

LICENSE REQUIREMENTS

Reason for Control: CC, AT

Control(s)	Country Chart (See Supp. No. 1 to part 738)
CC applies to entire entry	CC Column 1
AT applies to entire entry	AT Column 1

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

TSR: N/A

LIST OF ITEMS CONTROLLED

Related Controls: N/A

Related Definitions: N/A

Items: The list of items controlled is contained in the ECCN heading.

4E992 " Technology" other than that controlled in 4E001 for the "development," "production," or "use" of equipment controlled by 4A994, or "software" controlled by 4D993 or 4D994.

LICENSE REQUIREMENTS

Reason for Control: AT

Control(s)	Country Chart (See Supp. No. 1 to part 738)
AT applies to entire entry	AT Column 1

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

TSR: N/A

LIST OF ITEMS CONTROLLED

Related Controls: N/A

Related Definitions: N/A

Items: The list of items controlled is contained in the ECCN heading.

4E993 " Technology" for the "development" or "production" of equipment designed for "multi-data-stream processing."

LICENSE REQUIREMENTS

Reason for Control: AT

Control(s)	Country Chart (See Supp. No. 1 to part 738)
AT applies to entire entry	AT Column 1

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

TSR: N/A

LIST OF ITEMS CONTROLLED

Related Controls: N/A

Related Definitions: N/A

Items: The list of items controlled is contained in the ECCN heading.

EAR99 Items subject to the EAR that are not elsewhere specified in this CCL Category or in any other category in the CCL are designated by the number EAR99.

Technical Note on ''Adjusted Peak Performance'' (''APP'')

''APP'' is an adjusted peak rate at which ''digital computers'' perform 64-bit or larger floating point additions and multiplications.

Abbreviations used in this Technical Note n number of processors in the ''digital computer''

I processor number (i . . . . n)

t_i *processor cycle time* ($t_i = 1/F_i$)

F_i *processor frequency*

R_i *peak floating point calculating rate*

W_i *architecture adjustment factor*

''APP'' is expressed in Weighted TeraFLOPS (WT), in units of 10^{12} adjusted floating point operations per second.

Outline of ''APP'' calculation method 1. For each processor i, determine the peak number of 64-bit or larger floating-point operations, FPO_i,

performed per cycle for each processor in the ''digital computer''.

Note In determining FPO, include only 64-bit or larger floating point additions or multiplications. All floating point operations must be expressed in operations per processor cycle; operations requiring multiple cycles may be expressed in fractional results per cycle. For processors not capable of performing calculations on floating-point operands of 64-bits or more the effective calculating rate R is zero.

2. Calculate the floating point rate R for each processor

$R_i = FPO_i/t_i$.

3. Calculate ''APP'' as

''APP'' = $W_1 \times R_1 + W_2 \times R_2 + . . . + W_n \times R_n$.

4. For 'vector processors', $W_i = 0.9$. *For non-'vector processors',* $W_i = 0.3$.

Note 1: For processors that perform compound operations in a cycle, such as an addition and multiplication, each operation is counted.

Note 2: For a pipelined processor the effective calculating rate R is the faster of the pipelined rate, once the pipeline is full, or the non-pipelined rate.

Note 3: The calculating rate R of each contributing processor is to be calculated at its maximum value theoretically possible before the ''APP'' of the combination is derived. Simultaneous operations are assumed to exist when the computer manufacturer claims concurrent, parallel, or simultaneous operation or execution in a manual or brochure for the computer.

Note 4: Do not include processors that are limited to input/output and peripheral functions (e.g., disk drive, communication and video display) when calculating ''APP''.

Note 5: ''APP'' values are not to be calculated for processor combinations(inter)connected by ''Local Area Networks'', Wide Area Networks, I/O shared connections/devices, I/O controllers and any communication interconnection implemented by ''software''.

Note 6: ''APP'' values must be calculated for processor combinations containing processors ''specially designed'' to enhance performance by aggregation, operating simultaneously and sharing memory.

Technical Notes 1. Aggregate all processors and accelerators operating simultaneously and located on the same die.

2. Processor combinations share memory when any processor is capable of accessing any memory location in the system through the hardware transmission of cache lines or memory words, without the involvement of any software mechanism, which may be achieved using ''electronic assemblies'' specified in 4A003.c, z.1, or z.3.

Note 7: A 'vector processor' is defined as a processor with built-in instructions that perform multiple calculations on floating-point vectors (one-dimensional arrays of 64-bit or larger numbers) simultaneously, having at least 2 vector functional units and at least 8 vector registers of at least 64 elements each.

CATEGORY 5—TELECOMMUNICATIONS AND ''INFORMATION SECURITY''

PART 1—TELECOMMUNICATIONS

Notes: 1. The control status of ''components'', test and ''production'' equipment, and ''software'' therefor which are ''specially designed'' for telecommunications equipment or systems is determined in Category 5, Part 1.

N.B.: For ''lasers'' ''specially designed'' for telecommunications equipment or systems, see ECCN 6A005.

2. ''Digital computers'', related equipment or ''software'', when essential for the operation and support of telecommunications equipment described in this Category, are regarded as ''specially designed'' ''components'', provided they are the standard models customarily supplied by the manufacturer. This includes operation, administration, maintenance, engineering or billing computer systems.

3. Commodities in ECCN 5A001.j, and related ''software'' specified in 5D001.c (for 5A001.j) that are also controlled in ECCNs 5A002.a, 5A002.z.1, 5A002.z.6, 5A004.a, 5A004.b, 5A004.z, 5D002.c.1, 5D002.c.3, 5D002.z.6, 5D002.z.8, or z 5D002.z.9, remain controlled in Category 5—Part 2 by those entries. Category 5—Part 2 does not apply to elements of source code that implement functionality controlled by these Category 5 Part 1 ECCNs, or to any item subject to the EAR where Encryption Item (EI) functionality is absent, removed or otherwise non-existent.

4. Items in ECCN 5A001.j, 5B001.a (for 5A001.j), related ''software'' specified in 5D001.a (for 5A001.j) and 5D001.c (for 5A001.j or 5B001.a (for 5A001.j)) and related ''technology'' specified in ECCN 5E001.a (for 5A001.j and 5D001.a (for 5A001.j)) that are also controlled for Surreptitious Listening (SL) reasons under another ECCN, will continue to be classified under the SL ECCN.

A. ''END ITEMS'', ''EQUIPMENT'', ''ACCESSORIES'', ''ATTACHMENTS'', ''PARTS'', ''COMPONENTS'' AND ''SYSTEMS''

5A001 Telecommunications systems, equipment, "components" and "accessories," as follows (see List of Items Controlled).

LICENSE REQUIREMENTS

Reason for Control: NS, SL, AT

Control(s)	Country chart (see Supp. No.1 to part 738)
NS applies to 5A001.a, b.5, .e, .f.3 and .h.	NS Column 1.
NS applies to 5A001.b (except .b.5), .c, .d, .f (except f.3), .g, and .j.	NS Column 2.

Control(s)	Country chart (see Supp. No.1 to part 738)
SL applies to 5A001.f.1	A license is required for all destinations, as specified in §742.13 of the EAR. Accordingly, a column specific to this control does not appear on the Commerce Country Chart (Supplement No. 1 to Part 738 of the EAR). **Note to SL paragraph:** *This licensing requirement does not supersede, nor does it implement, construe or limit the scope of any criminal statute, including, but not limited to the Omnibus Safe Streets Act of 1968, as amended.*
AT applies to entire entry	AT Column 1.

REPORTING REQUIREMENTS

See §743.1 of the EAR for reporting requirements for exports under License Exceptions, and Validated End-User authorizations.

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

LVS: N/A for 5A001.a, b.5, .e, f.3 and .h; $5000 for 5A001.b.1, .b.2, .b.3, .b.6, .d, f.2, f.4, and .g; $3000 for 5A001.c.

GBS: Yes, except 5A001.a, b.5, e, and h.

ACE: Yes for 5A001.j, except to Country Group E:1 or E:2. See §740.22 of the EAR for eligibility criteria.

SPECIAL CONDITIONS FOR STA

STA: License Exception STA may not be used to ship any commodity in 5A001.j to any of the destinations listed in Country Group A:5 or A:6 (See Supplement No. 1 to part 740 of the EAR), or any commodity in 5A001.b.3, .b.5 or .h to any of the destinations listed in Country Group A:6 (See Supplement No.1 to part 740 of the EAR).

LIST OF ITEMS CONTROLLED

Related Controls: (1) See USML Category XI for controls on direction-finding ''equipment'' including types of ''equipment'' in ECCN 5A001.e and any other military or intelligence electronic ''equipment'' that is ''subject to the ITAR.'' (2) See USML Category XI(a)(4)(iii) for controls on electronic attack and jamming ''equipment'' defined in 5A001.f and .h that are subject to the ITAR. (3) The act of incorporating a radiation hardened integrated circuit into telecommunications equipment that is specified under ECCN 5A991 or designated as EAR99 does not, in and of itself, cause the telecommunications equipment to meet the specifications of ECCN paragraph 5A001.a.2. (4) See also ECCNs 5A101, 5A980, and 5A991.

a. Any type of telecommunications equipment having any of the following characteristics, functions or features:

a.1. ''Specially designed'' to withstand transitory electronic effects or electromagnetic pulse effects, both arising from a nuclear explosion;

a.2. Specially hardened to withstand gamma, neutron or ion radiation;

a.3. ''Specially designed'' to operate below 218 K (−55 °C); *or*

a.4. ''Specially designed'' to operate above 397 K (124 °C);

Note: 5A001.a.3 and 5A001.a.4 apply only to electronic equipment.

b. Telecommunication systems and equipment, and ''specially designed'' ''components'' and ''accessories'' therefor, having any of the following characteristics, functions or features:

b.1 Being underwater untethered communications systems having any of the following:

b.1.a. An acoustic carrier frequency outside the range from 20 kHz to 60 kHz;

b.1.b. Using an electromagnetic carrier frequency below 30 kHz; *or*

b.1.c. Using electronic beam steering techniques; *or*

b.1.d. Using ''lasers'' or light-emitting diodes (LEDs), with an output wavelength greater than 400 nm and less than 700 nm, in a ''local area network'';

b.2. Being radio equipment operating in the 1.5 MHz to 87.5 MHz band and having all of the following:

b.2.a.. Automatically predicting and selecting frequencies and ''total digital transfer rates'' per channel to optimize the transmission; *and*

b.2.b. Incorporating a linear power amplifier configuration having a capability to support multiple signals simultaneously at an output power of 1 kW or more in the frequency range of 1.5 MHz or more but less than 30 MHz, or 250 W or more in the frequency range of 30 MHz or more but not exceeding 87.5 MHz, over an ''instantaneous bandwidth'' of one octave or more and with an output harmonic and distortion content of better than −80 dB;

b.3. Being radio equipment employing ''spread spectrum'' techniques, including ''frequency hopping'' techniques, not controlled in 5A001.b.4 and having any of the following:

b.3.a. User programmable spreading codes; *or*

b.3.b. A total transmitted bandwidth which is 100 or more times the bandwidth of any one information channel and in excess of 50 kHz;

Note: 5A001.b.3.b does not control radio equipment ''specially designed'' for use with any of the following:

a. Civil cellular radio-communications systems; or

b. Fixed or mobile satellite Earth stations for commercial civil telecommunications.

Note: 5A001.b.3 does not control equipment operating at an output power of 1 W or less.

b.4. Being radio equipment employing ultra-wideband modulation techniques, having user programmable channelizing codes, scrambling codes, or network identification codes and having any of the following:

b.4.a. A bandwidth exceeding 500 MHz; *or*

b.4.b. A ''fractional bandwidth'' of 20% or more;

b.5. Being digitally controlled radio receivers having all of the following:

b.5.a. More than 1,000 channels;

b.5.b. A 'channel switching time' of less than 1 ms;

b.5.c. Automatic searching or scanning of a part of the electromagnetic spectrum; *and*

b.5.d. Identification of the received signals or the type of transmitter; *or*

Note: 5A001.b.5 does not control radio equipment ''specially designed'' for use with civil cellular radio-communications systems.

Technical Note: For the purposes of 5A001.b.5.b, 'channel switching time' means the time (i.e., delay) to change from one receiving frequency to another, to arrive at or within ±0.05% of the final specified receiving frequency. Items having a specified frequency range of less than ±0.05% around their center frequency are defined to be incapable of channel frequency switching.

b.6. Employing functions of digital ''signal processing'' to provide 'voice coding' output at rates of less than 700 bit/s.

Technical Notes: 1. For variable rate 'voice coding', 5A001.b.6 applies to the 'voice coding' output of continuous speech.

2. For the purposes of 5A001.b.6, 'voice coding' is defined as the technique to take samples of human voice and then convert these samples of human voice into a digital signal taking into account specific characteristics of human speech.

c. Optical fibers of more than 500 m in length and specified by the manufacturer as being capable of withstanding a 'proof test' tensile stress of 2×10^9 N/m^2 or more;

N.B.: For underwater umbilical cables, see 8A002.a.3.

Technical Note: For the purposes of 5A001.c, 'proof test' is the on-line or off-line production screen testing that dynamically applies a prescribed tensile stress over a 0.5 to 3 m length of fiber at a running rate of 2 to 5 m/s while passing between capstans approximately 150 mm in diameter. The ambient temperature is a nominal 293 K (20 °C) and relative humidity 40%. Equivalent national standards may be used for executing the proof test.

d. ''Electronically steerable phased array antennae'' as follows:

d.1. Rated for operation above 31.8 GHz, but not exceeding 57 GHz, and having an Effective Radiated Power (ERP) equal to or greater than +20 dBm (22.15 dBm Effective Isotropic Radiated Power (EIRP));

d.2. Rated for operation above 57 GHz, but not exceeding 66 GHz, and having an ERP equal to or greater than +24 dBm (26.15 dBm EIRP);

d.3. Rated for operation above 66 GHz, but not exceeding 90 GHz, and having an ERP equal to or greater than +20 dBm (22.15 dBm EIRP);

d.4. Rated for operation above 90 GHz;

Note 1: 5A001.d does not control 'electronically steerable phased array antennae' for landing systems with instruments meeting ICAO standards covering Microwave Landing Systems (MLS).

Note 2: 5A001.d does not apply to antennae ''specially designed'' for any of the following:

a. Civil cellular or WLAN radio-communications systems;

b. IEEE 802.15 or wireless HDMI; or

c. Fixed or mobile satellite earth stations for commercial civil telecommunications.

Technical Note: For the purposes of 5A001.d, 'electronically steerable phased array antenna' is an antenna which forms a beam by means of phase coupling, (i.e., the beam direction is controlled by the complex excitation coefficients of the radiating elements) and the direction of that beam can be varied (both in transmission and reception) in azimuth or in elevation, or both, by application of an electrical signal.

e. Radio direction finding equipment operating at frequencies above 30 MHz and having all of the following, and ''specially designed'' ''components'' therefor:

e.1. ''Instantaneous bandwidth'' of 10 MHz or more; and

e.2. Capable of finding a Line Of Bearing (LOB) to non-cooperating radio transmitters with a signal duration of less than 1 ms;

f. Mobile telecommunications interception or jamming equipment, and monitoring equipment therefor, as follows, and ''specially designed'' ''components'' therefor:

f.1. Interception equipment designed for the extraction of voice or data, transmitted over the air interface;

f.2. Interception equipment not specified in 5A001.f.1, designed for the extraction of client device or subscriber identifiers (*e.g.*, IMSI, TIMSI or IMEI), signaling, or other metadata transmitted over the air interface;

f.3. Jamming equipment ''specially designed'' or modified to intentionally and selectively interfere with, deny, inhibit, degrade or seduce mobile telecommunication services and performing any of the following:

f.3.a. Simulate the functions of Radio Access Network (RAN) equipment;

f.3.b. Detect and exploit specific characteristics of the mobile telecommunications protocol employed (*e.g.*, GSM); *or*

f.3.c. Exploit specific characteristics of the mobile telecommunications protocol employed (*e.g.*, GSM);

f.4. Radio Frequency (RF) monitoring equipment designed or modified to identify

the operation of items specified in 5A001.f.1, 5A001.f.2 or 5A001.f.3.

Note: 5A001.f.1 and 5A001.f.2 do not apply to any of the following:

a. Equipment ''specially designed'' for the interception of analog Private Mobile Radio (PMR), IEEE 802.11 WLAN;

b. Equipment designed for mobile telecommunications network operators; or

c. Equipment designed for the ''development'' or ''production'' of mobile telecommunications equipment or systems.

N.B. 1: See also the International Traffic in Arms Regulations (ITAR) (22 CFR parts 120–130). For items specified by 5A001.f.1 (including as previously specified by 5A001.i), see also 5A980 and the U.S. Munitions List (22 CFR part 121).

N.B. 2: For radio receivers see 5A001.b.5.

g. Passive Coherent Location (PCL) systems or equipment, ''specially designed'' for detecting and tracking moving objects by measuring reflections of ambient radio frequency emissions, supplied by non-radar transmitters.

Technical Note: For the purposes of 5A001.g, non-radar transmitters may include commercial radio, television or cellular telecommunications base stations.

Note: 5A001.g. does not control:

a. Radio-astronomical equipment; or

b. Systems or equipment, that require any radio transmission from the target.

h. Counter Improvised Explosive Device (IED) equipment and related equipment, as follows:

h.1. Radio Frequency (RF) transmitting equipment, not specified by 5A001.f, designed or modified for prematurely activating or preventing the initiation of Improvised Explosive Devices (IEDs);

h.2. Equipment using techniques designed to enable radio communications in the same frequency channels on which co-located equipment specified by 5A001.h.1 is transmitting.

N.B.: See also Category XI of the International Traffic in Arms Regulations (ITAR) (22 CFR parts 120–130).

i. [Reserved]

N.B.: *See 5A001.f.1 for items previously specified by 5A001.i.*

j. IP network communications surveillance systems or equipment, and ''specially designed'' components therefor, having all of the following:

j.1. Performing all of the following on a carrier class IP network (*e.g.*, national grade IP backbone):

j.1.a. Analysis at the application layer (*e.g.*, Layer 7 of Open Systems Interconnection (OSI) model (ISO/IEC 7498–1));

j.1.b. Extraction of selected metadata and application content (*e.g.*, voice, video, messages, attachments); *and*

j.1.c. Indexing of extracted data; *and*

j.2. Being ''specially designed'' to carry out all of the following:

j.2.a. Execution of searches on the basis of ''hard selectors''; *and*

j.2.b. Mapping of the relational network of an individual or of a group of people.

Note: 5A001.j does not apply to ''systems'' or ''equipment'', ''specially designed'' for any of the following:

a. Marketing purpose;

b. Network Quality of Service (QoS); or

c. Quality of Experience (QoE).

N.B.: See also the International Traffic in Arms Regulations (ITAR) (22 CFR parts 120–130). Defense articles described in USML Category XI(b) are ''subject to the ITAR.''

5A101 Telemetering and telecontrol equipment, including ground equipment, designed or modified for unmanned aerial vehicle (including cruise missiles, target drones, and reconnaissance drones) or rocket systems (including ballistic missiles, space launch vehicles, and sounding rockets) capable of a maximum "range" equal to or greater than 300 km.

LICENSE REQUIREMENTS

Reason for Control: MT, AT

Control(s)	Country Chart (See Supp. No. 1 to part 738)
MT applies to entire entry	MT Column 1
AT applies to entire entry	AT Column 1

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

LVS: N/A

GBS: N/A

LIST OF ITEMS CONTROLLED

Related Controls: N/A

Related Definitions: N/A

Items: The list of items controlled is contained in the ECCN heading.

Note: 5A101 does not control:

1. Telecontrol equipment ''specially designed'' to be used for remote control of recreational model planes, boats or vehicles and having an electric field strength of not more than 200 microvolts per meter at a distance of 500 meters;

2. Equipment designed or modified for manned aircraft or satellites;

3. Ground based equipment designed or modified for terrestrial or marine applications;

4. Equipment designed for commercial, civil, or safety of life (e.g., data integrity or flight safety) Global Navigation Satellite System services.

Note: ECCN 5A101 does not include items not designed or modified for unmanned aerial vehicles (including cruise missiles, target drones, and reconnaissance drones) or rocket systems (including ballistic missiles, space launch vehicles and sounding rockets) capable of a maximum ''range'' equal to or greater than 300km (e.g., telemetry circuit cards limited by design to reception only and designed for use in personal computers).

5A611 Telecommunications equipment, and "parts," "components," "accessories," and "attachments" "specially designed" therefor, "specially designed" for a military application that are not enumerated in any USML category are controlled by ECCN 3A611.

5A980 Devices primarily useful for the surreptitious interception of wire, oral, or electronic communications, other than those controlled under 5A001.f.1; and "parts," "components" and "accessories" therefor.

LICENSE REQUIREMENTS

Reason for Control: SL, AT

Control(s): SL and AT apply to entire entry. A license is required for all destinations, as specified in §742.13 of the EAR. Accordingly, a column specific to this control does not appear on the Commerce Country Chart (Supplement No. 1 to Part 738 of the EAR).

Note: This licensing requirement does not supersede, nor does it implement, construe or limit the scope of any criminal statute, including, but not limited to the Omnibus Safe Streets Act of 1968, as amended.

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

LVS: N/A

GBS: N/A

LIST OF ITEMS CONTROLLED

Unit: $ value.

Related Controls: (1) See ECCN 5A001.f.1 for systems or equipment, ''specially designed'' or modified to intercept and process the air interface of 'mobile telecommunications', and ''specially designed'' components therefor. (2) See ECCN 5D980 for ''software'' for the ''development'', ''production'' or ''use'' of equipment controlled by 5A980. (3) See ECCN 5E980 for the ''technology'' for the ''development'', ''production'', and ''use'' of equipment controlled by 5A980.

Related Definitions: N/A

Items: The list of items controlled is contained in the ECCN heading.

5A991 Telecommunication equipment, not controlled by 5A001 (see List of Items Controlled).

LICENSE REQUIREMENTS

Reason for Control: AT

Control(s)	Country Chart (See Supp. No. 1 to part 738)
AT applies to entire entry	AT Column 1.

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

LVS: N/A

GBS: N/A

LIST OF ITEMS CONTROLLED

Related Controls: See also 5E101 and 5E991.

Related Definitions: (1) ''Asynchronous transfer mode'' (''ATM'') is a transfer mode in which the information is organized into cells; it is asynchronous in the sense that the recurrence of cells depends on the required or instantaneous bit rate. (2) ''Bandwidth of one voice channel'' is data communication equipment designed to operate in one voice channel of 3,100 Hz, as defined in CCITT Recommendation G.151. (3) ''Communications channel controller'' is the physical interface that controls the flow of synchronous or asynchronous digital information. It is an assembly that can be integrated into computer or telecommunications equipment to provide communications access. (4) ''Datagram'' is a self-contained, independent entity of data carrying sufficient information to be routed from the source to the destination data terminal equipment without reliance on earlier exchanges between this source and destination data terminal equipment and the transporting network. (5) ''Fast select'' is a facility applicable to virtual calls that allows data terminal equipment to expand the possibility to transmit data in call set-up and clearing ''packets'' beyond the basic capabilities of a virtual call. (6) ''Gateway'' is the function, realized by any combination of equipment and ''software'', to carry out the conversion of conventions for representing, processing or communicating information used on one system into the corresponding, but different conventions used in another system. (7) ''Integrated Services Digital Network'' (ISDN) is a unified end-to-end digital network, in which data originating from all types of communication (*e.g.*, voice, text, data, still and moving pictures) are transmitted from one port (terminal) in the exchange (switch) over one access line to and from the subscriber. (8) ''Packet'' is a group of binary digits including data and call control signals that is switched as a composite whole. The data, call control signals, and possible error control information are arranged in a specified format.

Items: a. Any type of telecommunications equipment, not controlled by 5A001.a, ''specially designed'' to operate outside the temperature range from 219 K (−54 °C) to 397 K (124 °C).

b. Telecommunication transmission equipment and systems, and ''specially designed'' ''parts,'' ''components'' and ''accessories'' therefor, having any of the following characteristics, functions or features:

Note: Telecommunication transmission equipment:

a. Categorized as follows, or combinations thereof:

1. Radio equipment (e.g., transmitters, receivers and transceivers);

2. Line terminating equipment;

3. Intermediate amplifier equipment;
4. Repeater equipment;
5. Regenerator equipment;
6. Translation encoders (transcoders);
7. Multiplex equipment (statistical mutiplex included);
8. Modulators/demodulators (modems);
9. Transmultiplex equipment (see CCITT Rec. G701);
10. ''Stored program controlled'' digital crossconnection equipment;
11. ''Gateways'' and bridges;
12. ''Media access units''; and
b. Designed for use in single or multi-channel communication via any of the following:
1. Wire (line);
2. Coaxial cable;
3. Optical fiber cable;
4. Electromagnetic radiation; or
5. Underwater acoustic wave propagation.

b.1. Employing digital techniques, including digital processing of analog signals, and designed to operate at a ''digital transfer rate'' at the highest multiplex level exceeding 45 Mbit/s or a ''total digital transfer rate'' exceeding 90 Mbit/s;

Note: 5A991.b.1 does not control equipment ''specially designed'' to be integrated and operated in any satellite system for civil use.

b.2. Modems using the ''bandwidth of one voice channel'' with a ''data signaling rate'' exceeding 9,600 bits per second;

b.3. Being ''stored program controlled'' digital cross connect equipment with ''digital transfer rate'' exceeding 8.5 Mbit/s per port.

b.4. Being equipment containing any of the following:

b.4.a. ''Network access controllers'' and their related common medium having a ''digital transfer rate'' exceeding 33 Mbit/s; *or*

b.4.b. ''Communication channel controllers'' with a digital output having a ''data signaling rate'' exceeding 64,000 bit/s per channel;

Note: If any uncontrolled equipment contains a ''network access controller'', it cannot have any type of telecommunications interface, except those described in, but not controlled by 5A991.b.4.

b.5. Employing a ''laser'' and having any of the following characteristics:

b.5.a. A transmission wavelength exceeding 1,000 nm; *or*

b.5.b. Employing analog techniques and having a bandwidth exceeding 45 MHz;

Note: 5A991.b.5.b does not control commercial TV systems.

b.5.c. Employing coherent optical transmission or coherent optical detection techniques (also called optical heterodyne or homodyne techniques);

b.5.d. Employing wavelength division multiplexing techniques; *or*

b.5.e. Performing ''optical amplification'';

b.6. Radio equipment operating at input or output frequencies exceeding:

b.6.a. 31 GHz for satellite-earth station applications; *or*

b.6.b. 26.5 GHz for other applications;

Note: 5A991.b.6. does not control equipment for civil use when conforming with an International Telecommunications Union (ITU) allocated band between 26.5 GHz and 31 GHz.

b.7. Being radio equipment employing any of the following:

b.7.a. Quadrature-amplitude-modulation (QAM) techniques above level 4 if the ''total digital transfer rate'' exceeds 8.5 Mbit/s;

b.7.b. QAM techniques above level 16 if the ''total digital transfer rate'' is equal to or less than 8.5 Mbit/s;

b.7.c. Other digital modulation techniques and having a ''spectral efficiency'' exceeding 3 bit/s/Hz; or

b.7.d. Operating in the 1.5 MHz to 87.5 MHz band and incorporating adaptive techniques providing more than 15 dB suppression of an interfering signal.

Notes: 1. 5A991.b.7 does not control equipment ''specially designed'' to be integrated and operated in any satellite system for civil use.

2. 5A991.b.7 does not control radio relay equipment for operation in an ITU allocated band:

a. Having any of the following:

a.1. Not exceeding 960 MHz; or

a.2. With a ''total digital transfer rate'' not exceeding 8.5 Mbit/s; and

b. Having a ''spectral efficiency'' not exceeding 4 bit/s/Hz.

c. ''Stored program controlled'' switching equipment and related signaling systems, having any of the following characteristics, functions or features, and ''specially designed'' ''parts,'' ''components'' and ''accessories'' therefor:

Note: Statistical multiplexers with digital input and digital output which provide switching are treated as ''stored program controlled'' switches.

c.1. ''Data (message) switching'' equipment or systems designed for ''packet-mode operation'' and ''parts,'' electronic assemblies and ''components'' therefor, n.e.s.

c.2. [Reserved]

c.3. Routing or switching of ''datagram'' packets;

c.4. [Reserved]

Note: The restrictions in 5A991.c.3 do not apply to networks restricted to using only ''network access controllers'' or to ''network access controllers'' themselves.

c.5. Multi-level priority and pre-emption for circuit switching;

Note: 5A991.c.5 does not control single-level call preemption.

c.6. Designed for automatic hand-off of cellular radio calls to other cellular switches or

automatic connection to a centralized subscriber data base common to more than one switch;

c.7. Containing ''stored program controlled'' digital cross connect equipment with ''digital transfer rate'' exceeding 8.5 Mbit/s per port.

c.8. ''Common channel signaling'' operating in either non-associated or quasi-associated mode of operation;

c.9. ''Dynamic adaptive routing'';

c.10. Being packet switches, circuit switches and routers with ports or lines exceeding any of the following:

c.10.a. A ''data signaling rate'' of 64,000 bit/s per channel for a ''communications channel controller''; *or*

Note: 5A991.c.10.a does not control multiplex composite links composed only of communication channels not individually controlled by 5A991.b.1.

c.10.b. A ''digital transfer rate'' of 33 Mbit/s for a ''network access controller'' and related common media;

Note: 5A991.c.10 does not control packet switches or routers with ports or lines not exceeding the limits in 5A991.c.10.

c.11. ''Optical switching'';

c.12. Employing ''Asynchronous Transfer Mode'' (''ATM'') techniques.

d. Optical fibers and optical fiber cables of more than 50 m in length designed for single mode operation;

e. Centralized network control having all of the following characteristics:

e.1. Receives data from the nodes; *and*

e.2. Process these data in order to provide control of traffic not requiring operator decisions, and thereby performing ''dynamic adaptive routing'';

Note: 5A991.e does not preclude control of traffic as a function of predictable statistical traffic conditions.

f. Phased array antennas, operating above 10.5 GHz, containing active elements and distributed ''parts'' or ''components,'' and designed to permit electronic control of beam shaping and pointing, except for landing systems with instruments meeting International Civil Aviation Organization (ICAO) standards (microwave landing systems (MLS)).

g. Mobile communications equipment, n.e.s., and ''parts,'' electronic assemblies and ''components'' therefor; *or*

h. Radio relay communications equipment designed for use at frequencies equal to or exceeding 19.7 GHz and ''parts'' and ''components'' therefor, n.e.s.

B. ''TEST'', ''INSPECTION'' AND ''PRODUCTION EQUIPMENT''

5B001 Telecommunication test, inspection and production equipment, "components" and "accessories," as follows (See List of Items Controlled).

LICENSE REQUIREMENTS

Reason for Control: NS, AT

Control(s)	Country chart (See Supp. No. 1 to part 738)
NS applies to entire entry	NS Column 2.
AT applies to entire entry	AT Column 1.

REPORTING REQUIREMENTS

See §743.1 of the EAR for reporting requirements for exports under License Exceptions, and Validated End-User authorizations.

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

LVS: $5000, except N/A for 5B001.a (for 5A001.j)

GBS: Yes, except N/A for 5B001.a (for 5A001.j)

ACE: Yes for 5B001.a (for equipment and ''specially designed'' ''components'' or ''accessories'' therefor, ''specially designed'' for the ''development'' or ''production'' of equipment, functions or features, controlled by 5A001.j), except to Country Group E:1 or E:2. See §740.22 of the EAR for eligibility criteria.

SPECIAL CONDITIONS FOR STA

STA: License Exception STA may not be used to ship 5B001.a equipment and ''specially designed'' components or ''accessories'' therefor, ''specially designed'' for the ''development'' or ''production'' of equipment, functions or features specified by in ECCN 5A001.b.3, .b.5 or .h to any of the destinations listed in Country Group A:6 (See Supplement No.1 to part 740 of the EAR) and 5A001.j to any of the destinations listed in Country Group A:5 or A:6.

LIST OF ITEMS CONTROLLED

Related Controls: See also 5B991.

Related Definition: N/A

Items:

a. Equipment and ''specially designed'' ''components'' or ''accessories'' therefor, ''specially designed'' for the ''development'' or ''production'' of equipment, functions or features, controlled by 5A001;

Note: 5B001.a does not apply to optical fiber characterization equipment.

b. Equipment and ''specially designed'' ''components'' or ''accessories'' therefor, ''specially designed'' for the ''development'' of any of the following telecommunication transmission or switching equipment:

b.1. [Reserved]

b.2. Equipment employing a ''laser'' and having any of the following:

b.2.a. A transmission wavelength exceeding 1750 nm; or

b.2.b. [Reserved]

b.2.c. [Reserved]

b.2.d. Employing analog techniques and having a bandwidth exceeding 2.5 GHz; or

Note: 5B001.b.2.d. does not include equipment ''specially designed'' for the ''development'' of commercial TV systems.

b.3. [Reserved]

b.4. Radio equipment employing Quadrature-Amplitude-Modulation (QAM) techniques above level 1,024.

5B991 Telecommunications test equipment, n.e.s.

LICENSE REQUIREMENTS

Reason for Control: AT

Control(s)	Country Chart (See Supp. No. 1 to part 738)
AT applies to entire entry	AT Column 1.

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

LVS: N/A

GBS: N/A

LIST OF ITEMS CONTROLLED

Related Controls: N/A

Related Definitions: N/A

Items: The list of items controlled is contained in the ECCN heading.

C. ''MATERIALS''

5C991 Preforms of glass or of any other material optimized for the manufacture of optical fibers controlled by 5A991.

LICENSE REQUIREMENTS

Reason for Control: AT

Control(s)	Country Chart (See Supp. No. 1 to part 738)
AT applies to entire entry	AT Column 1

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

LVS: N/A

GBS: N/A

LIST OF ITEMS CONTROLLED

Related Controls: N/A

Related Definitions: N/A

Items: The list of items controlled is contained in the ECCN heading.

D. ''SOFTWARE''

5D001 "Software" as follows (see List of Items Controlled).

LICENSE REQUIREMENTS

Reason for Control: NS, SL, AT

Control(s)	Country chart (see Supp. No. 1 to part 738)
NS applies to entire entry	NS Column 1
SL applies to the entire entry as applicable for equipment, functions, features, or characteristics controlled by 5A001.f.1.	A license is required for all destinations, as specified in §742.13 of the EAR. Accordingly, a column specific to this control does not appear on the Commerce Country Chart (Supplement No. 1 to Part 738 of the EAR). *Note to SL paragraph: This licensing requirement does not supersede, nor does it implement, construe or limit the scope of any criminal statute, including, but not limited to the Omnibus Safe Streets Act of 1968, as amended.*
AT applies to entire entry	AT Column 1.

REPORTING REQUIREMENTS

See §743.1 of the EAR for reporting requirements for exports under License Exceptions, and Validated End-User authorizations.

LIST BASED LICENSE EXCEPTIONS

(See Part 740 for a description of all license exceptions).

TSR: Yes, except for exports and reexports to destinations outside of those countries listed in Country Group A:5 (See Supplement No. 1 to part 740 of the EAR) of ''software'' controlled by 5D001.a and ''specially designed'' for items controlled by 5A001.b.5 and 5A001.h, and N/A for ''software'' classified under ECCN 5D001.a (for 5A001.j) or 5D001.c (for 5A001.j or 5B001.a (for 5A001.j)).

ACE: Yes for 5D001.a (for 5A001.j) and 5D001.c (for 5A001.j or 5B001.a (for 5A001.j)), except to Country Group E:1 or E:2. See §740.22 of the EAR for eligibility criteria.

SPECIAL CONDITIONS FOR STA

STA: License Exception STA may not be used to ship or transmit 5D001.a ''software'' ''specially designed'' for the ''development'' or ''production'' of equipment, functions or features, specified by ECCN 5D001.a (for 5A001.j) and 5D001.c (for 5A001.j or 5B001.a (for 5A001.j)) to any of the destinations listed in Country Group A:5 or A:6 (See Supplement No.1 to part 740 of the EAR); 5A001.b.3, .b.5 or .h; and for 5D001.b. for ''software'' ''specially designed'' or modified to support ''technology'' specified by the STA paragraph in the License Exception section of ECCN 5E001 to any of the destinations listed in Country Group A:6.

LIST OF ITEMS CONTROLLED

Related Controls: See also 5D980 and 5D991.

Related Definitions: N/A

Items:

a. ''Software'' ''specially designed'' or modified for the ''development'', ''production'' or ''use'' of equipment, functions or features controlled by 5A001;

b. [Reserved]

c. Specific ''software'' ''specially designed'' or modified to provide characteristics, functions or features of equipment, controlled by 5A001 or 5B001;

d. ''Software'' ''specially designed'' or modified for the ''development'' of any of the following telecommunication transmission or switching equipment:

d.1. [Reserved]

d.2. Equipment employing a ''laser'' and having any of the following:

d.2.a. A transmission wavelength exceeding 1,750 nm; *or*

d.2.b. Employing analog techniques and having a bandwidth exceeding 2.5 GHz; *or*

Note: 5D001.d.2.b does not control ''software'' ''specially designed'' or modified for the ''development'' of commercial TV systems.

d.3. [Reserved]

d.4. Radio equipment employing Quadrature-Amplitude-Modulation (QAM) techniques above level 1,024.

e. ''Software'', other than that specified by 5D001.a or 5D001.c, ''specially designed'' or modified for monitoring or analysis by law enforcement, providing all of the following:

e.1. Execution of searches on the basis of ''hard selectors'' of either the content of communication or metadata acquired from a communications service provider using a 'handover interface'; *and*

Technical Notes:

1. For the purposes of 5D001.e, a 'handover interface' is a physical and logical interface, designed for use by an authorised law enforcement authority, across which targeted interception measures are requested from a communications service provider and the results of interception are delivered from a communications service provider to the requesting authority. The 'handover interface' is implemented within systems or equipment (e.g., mediation devices) that receive and validate the interception request, and deliver to the requesting authority only the results of interception that fulfil the validated request.

2. 'Handover interfaces' may be specified by international standards (including but not limited to ETSI TS 101 331, ETSI TS 101 671, 3GPP TS 33.108) or national equivalents.

e.2. Mapping of the relational network or tracking the movement of targeted individuals based on the results of searches on content of communication or metadata or searches as described in 5D001.e.1.

Note: 5D001.e does not apply to ''software'' ''specially designed'' or modified for any of the following:

a. Billing purposes;

b. Network Quality of Service (QoS);

c. Quality of Experience (QoE);

d. Mediation devices; or

e. Mobile payment or banking use.

5D101 "Software" "specially designed" or modified for the "use" of equipment controlled by 5A101.

LICENSE REQUIREMENTS

Reason for Control: MT, AT

Control(s)	Country Chart (See Supp. No. 1 to part 738)
MT applies to entire entry	MT Column 1
AT applies to entire entry	AT Column 1

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

TSR: N/A

LIST OF ITEMS CONTROLLED

Related Controls: N/A

Related Definitions: N/A

Items: The list of items controlled is contained in the ECCN heading.

5D980 Other "software", other than that controlled by 5D001 (for the equipment, functions, features, or characteristics controlled by 5A001. f.1, or to support certain "technology" controlled by 5E001.a), as follows (see List of Items Controlled).

LICENSE REQUIREMENTS

Reason for Control: SL, AT

Controls: SL and AT apply to entire entry. A license is required for all destinations, as specified in §742.13 of the EAR. Accordingly, a column specific to this control does not appear on the Commerce Country Chart (Supplement No. 1 to Part 738 of the EAR).

Note: This licensing requirement does not supersede, nor does it implement, construe or limit the scope of any criminal statute, including, but not limited to the Omnibus Safe Streets Act of 1968, as amended.

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

TSR: N/A

LIST OF ITEMS CONTROLLED

Related Controls: See also 5D001.a and .c for software controls for equipment, functions, features or characteristics controlled by 5A001.f.1 and also 5D001.b for controls on ''software'' ''specially designed'' or modified to support ''technology'' controlled by 5E001.a (for 5A001.f.1 equipment, functions or features, and for 5D001.a ''software'' for 5A001.f.1 equipment). See 5E980 for ''technology'' for the ''development'', ''production'', and ''use'' of equipment controlled by 5A980 or ''software'' controlled by 5D980.

Related Definitions: N/A

Items: a. ''Software'' primarily useful for the surreptitious interception of wire, oral, and electronic communications.

b. ''Software'' primarily useful for the ''development'', ''production'', or ''use'' of equipment controlled by 5A980.

5D991 "Software" "specially designed" or modified for the "development," "production" or "use" of equipment controlled by 5A991 and 5B991, and dynamic adaptive routing software as described as follows (see List of Items Controlled).

LICENSE REQUIREMENTS

Reason for Control: AT

Control(s)	Country Chart (See Supp. No. 1 to part 738)
AT applies to entire entry	AT Column 1

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

TSR: N/A

LIST OF ITEMS CONTROLLED

Related Controls: N/A

Related Definitions: N/A

Items: a. ''Software'', other than in machine-executable form, ''specially designed'' for ''dynamic adaptive routing''.

b. [Reserved]

E. ''TECHNOLOGY''

5E001 "Technology" as follows (see List of Items Controlled).

LICENSE REQUIREMENTS

Reason for Control: NS, SL, AT

Control(s)	Country chart (see Supp. No. 1 to part 738)
NS applies to entire entry	NS Column 1.
SL applies to ''technology'' for the ''development'' or ''production'' of equipment, functions or features controlled by 5A001.f.1, or for the ''development'' or ''production'' of ''software'' controlled by ECCN 5D001.a (for 5A001.f.1).	A license is required for all destinations, as specified in §742.13 of the EAR. Accordingly, a column specific to this control does not appear on the Commerce Country Chart (Supplement No. 1 to Part 738 of the EAR). *Note to SL paragraph: This licensing requirement does not supersede, implement, construe or limit the scope of any criminal statute, including, but not limited to, the Omnibus Safe Streets Act of 1968, as amended.*
AT applies to entire entry	AT Column 1.

REPORTING REQUIREMENTS

See §743.1 of the EAR for reporting requirements for exports under License Exceptions and Validated End-User authorizations.

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR DESCRIPTION OF ALL LICENSE EXCEPTIONS)

TSR: Yes, except for exports or reexports to destinations outside of those countries listed in Country Group A:5 (See Supplement No. 1 to part 740 of the EAR) of ''technology'' controlled by 5E001 for the ''development'' or ''production'' of the following:

(1) Items controlled by 5A001.b.5, .h or .j;

(2) ''Software'' controlled by 5D001.a that is ''specially designed'' for the ''development'' or ''production'' of equipment, functions or features controlled by 5A001.b.5, 5A001.h, 5A001.j, or 5B001.a (for 5A001.j); or

(3) ''Software'' controlled by 5D001.c (for 5A001.j or 5B001.a (for 5A001.j)).

ACE: Yes, for 5E001.a (for 5A001.j, 5B001.a (for 5A001.j), 5D001.a (for 5A001.j), or 5D001.c (for 5A001.j or 5B001.a (for 5A001.j))) except to Country Group E:1 or E:2. See §740.22 of the EAR for eligibility criteria.

SPECIAL CONDITIONS FOR STA

STA: License Exception STA may not be used to ship or transmit ''technology'' according to the General Technology Note for the ''development'' or ''production'' of equipment, functions or features specified by 5A001.b.3, .b.5 or .h; or for ''software'' in 5D001.a or .c, that is specified in the STA paragraph in the License Exception section of ECCN 5D001 to any of the destinations listed in Country Group A:6 (See Supplement No.1 to part 740 of the EAR); or ''technology'' specified in 5E001.a according to the General Technology Note for the ''development'' or ''production'' of equipment, functions or features specified by 5A001.j, 5B001.a (for 5A001.j), 5D001.a (for 5A001.j), 5D001.c (for 5A001.j or 5B001.a) to any destinations listed in Country Group A:5 or A:6.

LIST OF ITEMS CONTROLLED

Related Controls: (1) See also 5E101, 5E980 and 5E991. (2) ''Technology'' for ''development'' or ''production'' of ''Monolithic Microwave Integrated Circuit'' (''MMIC'') amplifiers that meet the control criteria given at 3A001.b.2 or .z (for commodities also described in 3A001.b.2) is controlled in 3E001; 5E001.d refers only to that additional ''technology'' ''required'' for telecommunications.

Related Definitions: N/A

Items:

a. ''Technology'' according to the General Technology Note for the ''development'', ''production'' or ''use'' (excluding operation) of equipment, functions or features, controlled by 5A001 or ''software'' controlled by 5D001.a or 5D001.e.

b. Specific ''technology'', as follows:

b.1. ''Technology'' ''required'' for the ''development'' or ''production'' of telecommunications equipment ''specially designed'' to be used on board satellites;

b.2. ''Technology'' for the ''development'' or ''use'' of ''laser'' communication techniques with the capability of automatically acquiring and tracking signals and maintaining communications through exoatmosphere or sub-surface (water) media;

b.3. ''Technology'' for the ''development'' of digital cellular radio base station receiving equipment whose reception capabilities that allow multi-band, multi-channel, multi-

mode, multi-coding algorithm or multi-protocol operation can be modified by changes in ''software'';

b.4. ''Technology'' for the ''development'' of ''spread spectrum'' techniques, including ''frequency hopping'' techniques.

Note: 5E001.b.4 does not apply to ''technology'' for the ''development'' of any of the following:

a. Civil cellular radio-communications systems; or

b. Fixed or mobile satellite Earth stations for commercial civil telecommunications.

c. ''Technology'' according the General Technology Note for the ''development'' or ''production'' of any of the following:

c.1. [Reserved]

c.2. Equipment employing a ''laser'' and having any of the following:

c.2.a. A transmission wavelength exceeding 1,750 nm;

c.2.b. [Reserved]

c.2.c. [Reserved]

c.2.d. Employing wavelength division multiplexing techniques of optical carriers at less than 100 GHz spacing; *or*

c.2.e. Employing analog techniques and having a bandwidth exceeding 2.5 GHz;

Note: 5E001.c.2.e does not control ''technology'' for commercial TV systems.

N.B.: For ''technology'' for the ''development'' or ''production'' of non-telecommunications equipment employing a ''laser'', see Product Group E of Category 6, e.g., 6E00x

c.3. Equipment employing ''optical switching'' and having a switching time less than 1 ms; *or*

c.4. Radio equipment having any of the following:

c.4.a. Quadrature-Amplitude-Modulation (QAM) techniques above level 1,024; *or*

c.4.b. Operating at input or output frequencies exceeding 31.8 GHz; *or*

Note: 5E001.c.4.b does not control ''technology'' for equipment designed or modified for operation in any frequency band which is ''allocated by the ITU'' for radio-communications services, but not for radio-determination.

c.4.c. Operating in the 1.5 MHz to 87.5 MHz band and incorporating adaptive techniques providing more than 15 dB suppression of an interfering signal; *or*

c.5. [Reserved]

c.6. Mobile equipment having all of the following:

c.6.a. Operating at an optical wavelength greater than or equal to 200nm and less than or equal to 400nm; *and*

c.6.b. Operating as a ''local area network'';

d. ''Technology'' according to the General Technology Note for the ''development'' or ''production'' of ''Monolithic Microwave Integrated Circuit'' (''MMIC'') amplifiers ''specially designed'' for telecommunications and that are any of the following:

Technical Note: For purposes of 5E001.d, the parameter peak saturated power output may also be referred to on product data sheets as output power, saturated power output, maximum power output, peak power output, or peak envelope power output.

d.1. Rated for operation at frequencies exceeding 2.7 GHz up to and including 6.8 GHz with a ''fractional bandwidth'' greater than 15%, and having any of the following:

d.1.a. A peak saturated power output greater than 75 W (48.75 dBm) at any frequency exceeding 2.7 GHz up to and including 2.9 GHz;

d.1.b. A peak saturated power output greater than 55 W (47.4 dBm) at any frequency exceeding 2.9 GHz up to and including 3.2 GHz;

d.1.c. A peak saturated power output greater than 40 W (46 dBm) at any frequency exceeding 3.2 GHz up to and including 3.7 GHz; *or*

d.1.d. A peak saturated power output greater than 20 W (43 dBm) at any frequency exceeding 3.7 GHz up to and including 6.8 GHz;

d.2. Rated for operation at frequencies exceeding 6.8 GHz up to and including 16 GHz with a ''fractional bandwidth'' greater than 10%, and having any of the following:

d.2.a. A peak saturated power output greater than 10W (40 dBm) at any frequency exceeding 6.8 GHz up to and including 8.5 GHz; or

d.2.b. A peak saturated power output greater than 5W (37 dBm) at any frequency exceeding 8.5 GHz up to and including 16 GHz;

d.3. Rated for operation with a peak saturated power output greater than 3 W (34.77 dBm) at any frequency exceeding 16 GHz up to and including 31.8 GHz, and with a ''fractional bandwidth'' of greater than 10%;

d.4. Rated for operation with a peak saturated power output greater than 0.1 nW (−70 dBm) at any frequency exceeding 31.8 GHz up to and including 37 GHz;

d.5. Rated for operation with a peak saturated power output greater than 1 W (30 dBm) at any frequency exceeding 37 GHz up to and including 43.5 GHz, and with a ''fractional bandwidth'' of greater than 10%;

d.6. Rated for operation with a peak saturated power output greater than 31.62 mW (15 dBm) at any frequency exceeding 43.5 GHz up to and including 75 GHz, and with a ''fractional bandwidth'' of greater than 10%;

d.7. Rated for operation with a peak saturated power output greater than 10 mW (10 dBm) at any frequency exceeding 75 GHz up to and including 90 GHz, and with a ''fractional bandwidth'' of greater than 5%; or

d.8. Rated for operation with a peak saturated power output greater than 0.1 nW (−70 dBm) at any frequency exceeding 90 GHz;

e. ''Technology'' according to the General Technology Note for the ''development'' or ''production'' of electronic devices and circuits, ''specially designed'' for telecommunications and containing ''components'' manufactured from ''superconductive'' materials, ''specially designed'' for operation at temperatures below the ''critical temperature''

of at least one of the ''superconductive'' constituents and having any of the following:

e.1. Current switching for digital circuits using ''superconductive'' gates with a product of delay time per gate (in seconds) and power dissipation per gate (in watts) of less than 10^{-14} J; *or*

e.2. Frequency selection at all frequencies using resonant circuits with Q-values exceeding 10,000.

5E101 "Technology" according to the General Technology Note for the "development," "production" or "use" of equipment or software controlled by 5A101 or 5D101.

LICENSE REQUIREMENTS

Reason for Control: MT, AT

Control(s)	Country Chart (See Supp. No. 1 to part 738)
MT applies to entire entry	MT Column 1
AT applies to entire entry	AT Column 1

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

TSR: N/A

LIST OF ITEMS CONTROLLED

Related Controls: N/A

Related Definitions: N/A

Items: The list of items controlled is contained in the ECCN heading.

5E980 "Technology", other than that controlled by 5E001.a (for 5A001.f.1, and for 5D001.a (for 5A001.f.1)), primarily useful for the "development", "production", or "use" of equipment, functions or features, of equipment controlled by 5A980 or "software" controlled by 5D980.

LICENSE REQUIREMENTS

Reason for Control: SL, AT

Controls: SL and AT apply to entire entry. A license is required for all destinations, as specified in §742.13 of the EAR. Accordingly, a column specific to this control does not appear on the Commerce Country Chart (Supplement No. 1 to Part 738 of the EAR).

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

TSR: N/A

LIST OF ITEMS CONTROLLED

Related Controls: See also 5D001.a and .c (for 5A001.f.1 equipment), 5D001.b (supporting 5E001.a ''technology'' for 5A001.f.1 equipment, or for 5D001.a ''software'' (for 5A001.f.1equipment)), and 5E001.a (for 5A001.f.1 equipment, or for 5D001.a ''software'' for 5A001.f.1 equipment).

Related Definitions: N/A

Items: The list of items controlled is contained in the ECCN heading.

5E991 "Technology" for the "Development", "Production" or "Use" of Equipment Controlled by 5A991 or 5B991, or "Software" Controlled by 5D991, and Other "Technologies" as Follows (see List of Items Controlled).

LICENSE REQUIREMENTS

Reason for Control: AT

Control(s)	Country Chart (See Supp. No. 1 to part 738)
AT applies to entire entry	AT Column 1

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

TSR: N/A

LIST OF ITEMS CONTROLLED

Related Controls: N/A

Related Definitions: (1) ''Synchronous digital hierarchy'' (SDH) is a digital hierarchy providing a means to manage, multiplex, and access various forms of digital traffic using a synchronous transmission format on different types of media. The format is based on the Synchronous Transport Module (STM) that is defined by CCITT Recommendation G.703, G.707, G.708, G.709 and others yet to be published. The first level rate of 'SDH' is 155.52 Mbits/s. (2) 'Synchronous optical network' (SONET) is a network providing a means to manage, multiplex and access various forms of digital traffic using a synchronous transmission format on fiber optics. The format is the North America version of 'SDH' and also uses the Synchronous Transport Module (STM). However, it uses the Synchronous Transport Signal (STS) as the basic transport module with a first level rate of 51.81 Mbits/s. The SONET standards are being integrated into those of 'SDH'.

Items: a. Specific ''technologies'' as follows:

a.1. ''Technology'' for the processing and application of coatings to optical fiber ''specially designed'' to make it suitable for underwater use;

a.2. ''Technology'' for the ''development'' of equipment employing 'Synchronous Digital Hierarchy' ('SDH') or 'Synchronous Optical Network' ('SONET') techniques.

PART 2—''INFORMATION SECURITY''

Note 1: [Reserved]

Note 2: Category 5—Part 2, ''information security'' products, when accompanying their user for the user's personal use or as tools of trade, are eligible for License Exceptions TMP or BAG, subject to the terms and conditions of these license exceptions.

Note 3: Cryptography Note: ECCNs 5A002, 5D002.a.1, .b, .c.1, z.1, z.5, and z.6, do not control items as follows:

a. Items meeting all of the following:

1. Generally available to the public by being sold, without restriction, from stock at retail selling points by means of any of the following:

a. Over-the-counter transactions;

b. Mail order transactions;

c. Electronic transactions; or

d. Telephone call transactions;

2. The cryptographic functionality cannot be easily changed by the user;

3. Designed for installation by the user without further substantial support by the supplier; and

4. When necessary, details of the items are accessible and will be provided, upon request, to the appropriate authority in the exporter's country in order to ascertain compliance with conditions described in paragraphs a.1 through a.3 of this Note;

b. Hardware components or 'executable software', of existing items described in paragraph a. of this Note, that have been designed for these existing items, and meeting all of the following:

1. ''Information security'' is not the primary function or set of functions of the component or 'executable software';

2. The component or 'executable software' does not change any cryptographic functionality of the existing items, or add new cryptographic functionality to the existing items;

3. The feature set of the component or 'executable software' is fixed and is not designed or modified to customer specification; and

4. When necessary, as determined by the appropriate authority in the exporter's country, details of the component or 'executable software', and details of relevant end-items are accessible and will be provided to the authority upon request, in order to ascertain compliance with conditions described above.

Technical Note: For the purpose of the Cryptography Note, 'executable software' means ''software'' in executable form, from an existing hardware component excluded from 5A002, by the Cryptography Note.

Note: 'Executable software' does not include complete binary images of the ''software'' running on an end-item.

Note to the Cryptography Note: 1. To meet paragraph a. of Note 3, all of the following must apply:

a. The item is of potential interest to a wide range of individuals and businesses; and

b. The price and information about the main functionality of the item are available before purchase without the need to consult the vendor or supplier. A simple price inquiry is not considered to be a consultation.

2. In determining eligibility of paragraph a. of Note 3, BIS may take into account relevant factors such as quantity, price, required technical skill, existing sales channels, typical customers, typical use or any exclusionary practices of the supplier.

N.B. to Note 3 (Cryptography Note): You must submit a classification request or self-classification report to BIS for certain mass market encryption commodities and software eligible for the Cryptography Note employing a key length greater than 64 bits for the symmetric algorithm (or, for commodities and software not implementing any symmetric algorithms, employing a key length greater than 768 bits for asymmetric algorithms described by Technical note 2.b to 5A002.a or greater than 128 bits for elliptic curve algorithms, or any asymmetric algorithm described by Technical Note 2.c to 5A002.a) in accordance with the requirements of §740.17(b) of the EAR in order to be released from the ''EI'' and ''NS'' controls of ECCN 5A002 or 5D002. For mass market commodities and software that do not require a self-classification report pursuant to §740.17(b) and (e)(3) of the EAR, such items are also released from ''EI'' and ''NS'' controls and controlled under ECCN 5A992 or 5D992.

A. ''END ITEMS,'' ''EQUIPMENT,'' ''ACCESSORIES,'' ''ATTACHMENTS,'' ''PARTS,'' ''COMPONENTS,'' AND ''SYSTEMS''

I. CRYPTOGRAPHIC ''INFORMATION SECURITY''

5A002 "Information security" systems, equipment and "components," as follows (see List of Items Controlled).

LICENSE REQUIREMENTS

Reason for Control: NS, RS, AT, EI

Control(s)	Country Chart (see Supp. No. 1 to part 738)
NS applies to entire entry	NS Column 1.
RS applies to items controlled by 5A002.z.1.a, z.2.a, z.3.a, z.4.a, z.5.a.	To or within any destination worldwide. *See* §742.6(a)(6)(iii)(A) of the EAR.
RS applies to items controlled by 5A002.z.1.b, z.2.b, z.3.b, z.4.b, z.5.b.	To or within destinations specified in Country Groups D:1, D:4, and D:5 of supplement no. 1 to part 740 of the EAR, excluding any destination also specified in Country Groups A:5 or A:6. *See* §742.6(a)(6)(iii)(B) of the EAR.
AT applies to entire entry	AT Column 1.
EI applies to entire entry	Refer to §742.15 of the EAR.

License Requirements Note: See §744.17 of the EAR for additional license requirements for microprocessors having a processing speed of 5 GFLOPS or more and an arithmetic logic unit with an access width of 32 bit or more, including those incorporating ''information security'' functionality, and associated ''software'' and ''technology'' for the ''production'' or ''development'' of such microprocessors.

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

LVS: Yes: $500 for ''components,''

N/A for systems and equipment. N/A for 5A002.z.

GBS: N/A

ENC: Yes for certain EI controlled commodities, see §740.17 of the EAR for eligibility.

NAC/ACA: Yes, for 5A002.z.1.b, z.2.b

AIA: Yes 5A002.z.1.a, z.2.a, z.3.a, z.4.a, z.5.a

ACM: Yes for 5A002.z
LPP: Yes for 5A002.z.1.a, z.2.a, z.3.a, z.4.a, z.5.a

Note: See § 740.2(a)(9)(ii) of the EAR for license exception restrictions for ECCN 5A002.z.

LIST OF ITEMS CONTROLLED

Related Controls: (1) ECCN 5A002.a controls ''components'' providing the means or functions necessary for ''information security.'' All such ''components'' are presumptively ''specially designed'' and controlled by 5A002.a. (2) See USML Categories XI (including XI(b)) and XIII(b) (including XIII(b)(2)) for controls on systems, equipment, and components described in 5A002.d or .e that are ''subject to the ITAR'' (see 22 CFR parts 120 through 130). (3) For ''satellite navigation system'' receiving equipment containing or employing decryption see 7A005, and for related decryption ''software'' and ''technology'' see 7D005 and 7E001. (4) Noting that items may be controlled elsewhere on the CCL, examples of items not controlled by ECCN 5A002.a.4 include the following: (a) An automobile where the only 'cryptography for data confidentiality' having a 'described security algorithm' is performed by a Category 5—Part 2 Note 3 eligible mobile telephone that is built into the car. In this case, secure phone communications support a non-primary function of the automobile but the mobile telephone (equipment), as a standalone item, is not controlled by ECCN 5A002 because it is excluded by the Cryptography Note (Note 3) (See ECCN 5A992.c). (b) An exercise bike with an embedded Category 5—Part 2 Note 3 eligible web browser, where the only controlled cryptography is performed by the web browser. In this case, secure web browsing supports a non-primary function of the exercise bike but the web browser (''software''), as a standalone item, is not controlled by ECCN 5D002 because it is excluded by the Cryptography Note (Note 3) (See ECCN 5D992.c). (5) After classification or self-classification in accordance with § 740.17(b) of the EAR, mass market encryption commodities that meet eligibility requirements are released from ''EI'' and ''NS'' controls. These commodities are designated 5A992.c. (6) See also ECCNs 3A090 and 4A090.

Related Definitions: N/A
Items:

a. Designed or modified to use 'cryptography for data confidentiality' having a 'described security algorithm', where that cryptographic capability is usable, has been activated, or can be activated by any means other than secure ''cryptographic activation'', as follows:

a.1. Items having ''information security'' as a primary function;

a.2. Digital communication or networking systems, equipment or components, not specified in paragraph 5A002.a.1;

a.3. Computers, other items having information storage or processing as a primary function, and components therefor, not specified in paragraphs 5A002.a.1 or .a.2;

N.B.: For operating systems see also 5D002.a.1 and .c.1.

a.4. Items, not specified in paragraphs 5A002.a.1 to a.3, where the 'cryptography for data confidentiality' having a 'described security algorithm' meets all of the following:

a.4.a. It supports a non-primary function of the item; *and*

a.4.b. It is performed by incorporated equipment or ''software'' that would, as a standalone item, be specified by ECCNs 5A002, 5A003, 5A004, 5B002 or 5D002.

N.B. to paragraph a.4: See Related Control Paragraph (4) of this ECCN 5A002 for examples of items not controlled by 5A002.a.4.

Technical Notes: 1. For the purposes of 5A002.a, 'cryptography for data confidentiality' means ''cryptography'' that employs digital techniques and performs any cryptographic function other than any of the following:

1.a. ''Authentication;''

1.b. Digital signature;

1.c. Data integrity;

1.d. Non-repudiation;

1.e. Digital rights management, including the execution of copy-protected ''software;''

1.f. Encryption or decryption in support of entertainment, mass commercial broadcasts or medical records management; or

1.g. Key management in support of any function described in paragraphs 1.a to 1.f of this Technical Note paragraph 1.

2. For the purposes of 5A002.a, 'described security algorithm' means any of the following:

2.a. A ''symmetric algorithm'' employing a key length in excess of 56 bits, not including parity bits;

2.b. An ''asymmetric algorithm'' where the security of the algorithm is based on any of the following:

2.b.1. Factorization of integers in excess of 512 bits (e.g., RSA);

2.b.2. Computation of discrete logarithms in a multiplicative group of a finite field of size greater than 512 bits (e.g., Diffie-Hellman over Z/pZ); or

2.b.3. Discrete logarithms in a group other than mentioned in paragraph 2.b.2 of this Technical Note in excess of 112 bits (e.g., Diffie-Hellman over an elliptic curve); or

2.c. An ''asymmetric algorithm'' where the security of the algorithm is based on any of the following:

2.c.1. Shortest vector or closest vector problems associated with lattices (e.g., NewHope, Frodo, NTRUEncrypt, Kyber, Titanium);

2.c.2. Finding isogenies between Supersingular elliptic curves (e.g., Supersingular Isogeny Key Encapsulation); or

2.c.3. Decoding random codes (e.g., McEliece, Niederreiter).

Technical Note: An algorithm described by Technical Note 2.c. may be referred to as being

post-quantum, quantum-safe or quantum-resistant.

Note 1: Details of items must be accessible and provided upon request, in order to establish any of the following:

a. Whether the item meets the criteria of 5A002.a.1 to a.4; or

b. Whether the cryptographic capability for data confidentiality specified by 5A002.a is usable without ''cryptographic activation.''

Note 2: 5A002.a does not control any of the following items, or specially designed ''information security'' components therefor:

a. Smart cards and smart card 'readers/writers' as follows:

a.1. A smart card or an electronically readable personal document (e.g., token coin, e-passport) that meets any of the following:

a.1.a. The cryptographic capability meets all of the following:

a.1.a.1. It is restricted for use in any of the following:

a.1.a.1.a. Equipment or systems, not described by 5A002.a.1 to a.4;

a.1.a.1.b. Equipment or systems, not using 'cryptography for data confidentiality' having a 'described security algorithm'; or

a.1.a.1.c. Equipment or systems, excluded from 5A002.a by entries b. to f. of this Note; and

a.1.a.2. It cannot be reprogrammed for any other use; or

a.1.b. Having all of the following:

a.1.b.1. It is specially designed and limited to allow protection of 'personal data' stored within;

a.1.b.2. Has been, or can only be, personalized for public or commercial transactions or individual identification; and

a.1.b.3. Where the cryptographic capability is not user-accessible;

Technical Note to paragraph a.1.b.1 of Note 2: For the purposes of 5A002.a Note 2.–a.1.b.1, 'personal data' includes any data specific to a particular person or entity, such as the amount of money stored and data necessary for ''authentication.''

a.2. 'Readers/writers' specially designed or modified, and limited, for items specified by paragraph a.1 of this Note;

Technical Note to paragraph a.2 of Note 2: 'For the purposes of 5A002.a Note 2.a.2, 'readers/writers' include equipment that communicates with smart cards or electronically readable documents through a network.

b. Cryptographic equipment specially designed and limited for banking use or 'money transactions';

Technical Note to paragraph b. of Note 2: For the purposes of 5A002.a Note 2.b, 'money transactions' in 5A002 Note 2 paragraph b. includes the collection and settlement of fares or credit functions.

c. Portable or mobile radiotelephones for civil use (e.g., for use with commercial civil cellular radio communication systems) that are not capable of transmitting encrypted data directly to another radiotelephone or equipment (other than Radio Access Network (RAN) equipment), nor of passing encrypted data through RAN equipment (e.g., Radio Network Controller (RNC) or Base Station Controller (BSC));

d. Cordless telephone equipment not capable of end-to-end encryption where the maximum effective range of unboosted cordless operation (i.e., a single, unrelayed hop between terminal and home base station) is less than 400 meters according to the manufacturer's specifications;

e. Portable or mobile radiotelephones and similar client wireless devices for civil use, that implement only published or commercial cryptographic standards (except for anti-piracy functions, which may be non-published) and also meet the provisions of paragraphs a.2 to a.4 of the Cryptography Note (Note 3 in Category 5—Part 2), that have been customized for a specific civil industry application with features that do not affect the cryptographic functionality of these original non-customized devices;

f. Items, where the ''information security'' functionality is limited to wireless ''personal area network '' functionality implementing only published or commercial cryptographic standards;

g. Mobile telecommunications Radio Access Network (RAN) equipment designed for civil use, which also meet the provisions of paragraphs a.2 to a.4 of the Cryptography Note (Note 3 in Category 5—Part 2), having an RF output power limited to 0.1W (20 dBm) or less, and supporting 16 or fewer concurrent users;

h. Routers, switches, gateways or relays, where the ''information security'' functionality is limited to the tasks of ''Operations, Administration or Maintenance'' (''OAM'') implementing only published or commercial cryptographic standards;

i. General purpose computing equipment or servers, where the ''information security'' functionality meets all of the following:

i.1. Uses only published or commercial cryptographic standards; and

i.2. Is any of the following:

i.2.a. Integral to a CPU that meets the provisions of Note 3 in Category 5—Part 2;

i.2.b. Integral to an operating system that is not specified by 5D002; or

i.2.c. Limited to ''OAM'' of the equipment; or

j. Items specially designed for a 'connected civil industry application', meeting all of the following:

j.1. Being any of the following:

j.1.a. A network-capable endpoint device meeting any of the following:

j.1.a.1. The ''information security'' functionality is limited to securing 'non-arbitrary data' or the tasks of ''Operations, Administration or Maintenance'' (''OAM''); or

j.1.a.2. The device is limited to a specific 'connected civil industry application'; or

j.1.b. Networking equipment meeting all of the following:

j.1.b.1. Being specially designed to communicate with the devices specified by paragraph j.1.a. above; and

j.1.b.2. The ''information security'' functionality is limited to supporting the 'connected civil industry application' of devices specified by paragraph j.1.a. above, or the tasks of ''OAM'' of this networking equipment or of other items specified by paragraph j. of this Note; and

j.2. Where the ''information security'' functionality implements only published or commercial cryptographic standards, and the cryptographic functionality cannot easily be changed by the user.

Technical Notes: 1. For the purposes of 5A002.a Note 2.j, 'connected civil industry application' means a network-connected consumer or civil industry application other than ''information security'', digital communication, general purpose networking or computing.

2. For the purposes of 5A002.a Note 2.j.1.a.1, 'non-arbitrary data' means sensor or metering data directly related to the stability, performance or physical measurement of a system (e.g., temperature, pressure, flow rate, mass, volume, voltage, physical location, etc.), that cannot be changed by the user of the device.

b. Being a 'cryptographic activation token';

Technical Note: For the purposes of 5A002.b, a 'cryptographic activation token' is an item designed or modified for any of the following:

1. Converting, by means of ''cryptographic activation'', an item not specified by Category 5—Part 2 into an item specified by 5A002.a or 5D002.c.1, and not released by the Cryptography Note (Note 3 in Category 5—Part 2); or

2. Enabling by means of ''cryptographic activation'', additional functionality specified by 5A002.a of an item already specified by Category 5—Part 2;

c. Designed or modified to use or perform ''quantum cryptography'';

Technical Note: For the purposes of 5A002.c,''quantum cryptography'' is also known as Quantum Key Distribution (QKD).

d. Designed or modified to use cryptographic techniques to generate channelizing codes, scrambling codes or network identification codes, for systems using ultra-wideband modulation techniques and having any of the following:

d.1. A bandwidth exceeding 500 MHz; *or*

d.2. A ''fractional bandwidth'' of 20% or more;

e. Designed or modified to use cryptographic techniques to generate the spreading code for ''spread spectrum'' systems, not specified by 5A002.d, including the hopping code for ''frequency hopping'' systems.

f. through y. [Reserved]

z. Other commodities, as follows:

z.1.a. Commodities that are described in 5A002.a and that also meet or exceed the performance parameters in 3A090.a or 4A090.a;

z.1.b Commodities that are described in 5A002.a and that also meet or exceed the performance parameters in 3A090.b or 4A090.b;

z.2.a Commodities that are described in 5A002.b and that also meet or exceed the performance parameters in 3A090.a or 4A090.a;

z.2.b Commodities that are described in 5A002.b and that also meet or exceed the performance parameters in 3A090.b or 4A090.b;

z.3.a Commodities that are described in 5A002.c and that also meet or exceed the performance parameters in 3A090.a or 4A090.a;

z.3.b Commodities that are described in 5A002.c and that also meet or exceed the performance parameters in 3A090.b or 4A090.b;

z.4.a Commodities that are described in 5A002.d and that also meet or exceed the performance parameters in 3A090.a or 4A090.a;

z.4.b Commodities that are described in 5A002.d and that also meet or exceed the performance parameters in 3A090.b or 4A090.b;

z.5.a Commodities that are described in 5A002.e and that also meet or exceed the performance parameters in 3A090.a or 4A090.a; or

z.5.b Commodities that are described in 5A002.e and that also meet or exceed the performance parameters in 3A090.b or 4A090.b.

5A992 Equipment not controlled by 5A002 (see List of Items Controlled)

LICENSE REQUIREMENTS

Reason for Control: RS, AT

Control(s)	Country Chart (see Supp. No. 1 to part 738)
RS applies to items controlled by 5A992.z.1.	To or within any destination worldwide. *See* § 742.6(a)(6)(iii)(A) of the EAR.
RS applies to items controlled by 5A992.z.2.	To or within destinations specified in Country Groups D:1, D:4, and D:5 of supplement no. 1 to part 740 of the EAR, excluding any destination also specified in Country Groups A:5 or A:6. *See* § 742.6(a)(6)(iii)(B) of the EAR.
AT applies to entire entry	AT Column 1.

License Requirements Note: See § 744.17 of the EAR for additional license requirements for microprocessors having a processing speed of 5 GFLOPS or more and an arithmetic logic unit with an access width of 32 bit or more, including those incorporating ''information security'' functionality, and associated ''software'' and ''technology'' for the ''production'' or ''development'' of such microprocessors.

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

LVS: N/A

GBS: N/A

NAC/ACA: Yes, for 5A992.z.2; N/A for all other 5A992 commodities.

AIA: Yes for 5A992.z.1

ACM: Yes for 5A992.z

LPP: Yes for 5A992.z.1

Note: See §740.2(a)(9)(ii) of the EAR for license exception restrictions for ECCN 5A992.z.

LIST OF ITEMS CONTROLLED

Related Controls: See also ECCNs 3A090 and 4A090.

Related Definitions: N/A

Items:

a. [Reserved]

b. [Reserved]

c. Commodities classified as mass market encryption commodities in accordance with §740.17(b) of the EAR.

d. through y. [Reserved]

z.1. Commodities that are described in 5A992.c and that also meet or exceed the performance parameters in 3A090.a or 4A090.a; or

z.2 Commodities that are described in 5A992.c and that also meet or exceed the performance parameters in 3A090.b or 4A090.b.

II. NON-CRYPTOGRAPHIC ''INFORMATION SECURITY''

5A003 "Systems," "equipment" and "components," for non-cryptographic "information security," as follows (see List of Items Controlled).

LICENSE REQUIREMENTS

Reason for Control: NS, AT

Control(s)	Country chart (see Supp. No. 1 to part 738)
NS applies to entire entry	NS Column 2.
AT applies to entire entry	AT Column 1.

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

LVS: Yes: $500 for ''components.''

N/A for systems and equipment.

GBS: N/A

LIST OF ITEMS CONTROLLED

Related Controls: N/A

Related Definitions: N/A

Items:

a. Communications cable systems designed or modified to use mechanical, electrical or electronic means to detect surreptitious intrusion;

Note: 5A003.a applies only to physical layer security. For the purpose of 5A003.a, the physical layer includes Layer 1 of the Reference Model of Open Systems Interconnection (OSI) (ISO/IEC 7498–1).

b. ''Specially designed'' or modified to reduce the compromising emanations of information-bearing signals beyond what is necessary for health, safety or electromagnetic interference standards.

III. DEFEATING, WEAKENING, OR BYPASSING ''INFORMATION SECURITY''

5A004 "Systems," "equipment" and "components" for defeating, weakening or bypassing "information security," as follows (see List of Items Controlled).

LICENSE REQUIREMENTS

Reason for Control: NS, RS, AT, EI

Control(s)	Country Chart (see Supp. No. 1 to part 738)
NS applies to entire entry	NS Column 1.
RS applies to items controlled by 5A004.z.1.a, z.2.a.	To or within any destination worldwide. *See* §742.6(a)(6)(iii)(A) of the EAR.
RS applies to items controlled by 5A004.z.1.b, z.2.b.	To or within destinations specified in Country Groups D:1, D:4, and D:5 of supplement no. 1 to part 740 of the EAR, excluding any destination also specified in Country Groups A:5 or A:6. *See* §742.6(a)(6)(iii)(B) of the EAR.
AT applies to entire entry	AT Column 1.
EI applies to entire entry	Refer to §742.15 of the EAR.

LICENSE REQUIREMENTS

See §744.17 of the EAR for additional license requirements for microprocessors having a processing speed of 5 GFLOPS or more and an arithmetic logic unit with an access width of 32 bit or more, including those incorporating ''information security'' functionality, and associated ''software'' and ''technology'' for the ''production'' or ''development'' of such microprocessors.

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

LVS: Yes: $500 for ''components''; N/A for 5A004.z. N/A for systems and equipment.

GBS: N/A

ENC: Yes for certain EI controlled commodities. See §740.17 of the EAR for eligibility.

NAC/ACA: Yes, for 5A004.z.1.b, z.2.b

AIA: Yes for 5A004.z.1.a, z.2.a

ACM: Yes for 5A004.z

LPP: Yes for 5A004.z.1.a, z.2.a

Note: See §740.2(a)(9)(ii) of the EAR for license exception restrictions for ECCN 5A004.z.

LIST OF ITEMS CONTROLLED

Related Controls: (1) ECCN 5A004.a controls ''components'' providing the means or functions necessary for ''information security.'' All such ''components'' are presumptively ''specially designed'' and controlled by 5A004.a. (2) See also ECCNs 3A090 and 4A090.

Related Definitions: N/A

Items:

a. Designed or modified to perform 'cryptanalytic functions.'

Note: 5A004.a includes systems or equipment, designed or modified to perform 'cryptanalytic functions' by means of reverse engineering.

Technical Note: For the purposes of 5A004.a, 'cryptanalytic functions' are functions designed to defeat cryptographic mechanisms in order to derive confidential variables or sensitive data, including clear text, passwords or cryptographic keys.

b. Items, not specified by ECCNs 4A005 or 5A004.a, designed to perform all of the following:

b.1. 'Extract raw data' from a computing or communications device; *and*

b.2. Circumvent ''authentication'' or authorization controls of the device, in order to perform the function described in 5A004.b.1.

Technical Note: For the purposes of 5A004.b.1, 'extract raw data' from a computing or communications device means to retrieve binary data from a storage medium, e.g., RAM, flash or hard disk, of the device without interpretation by the device's operating system or filesystem.

Note 1: 5A004.b does not apply to systems or equipment specially designed for the ''development'' or ''production'' of a computing or communications device.

Note 2: 5A004.b does not include:

a. Debuggers, hypervisors;

b. Items limited to logical data extraction;

c. Data extraction items using chip-off or JTAG; or

d. Items specially designed and limited to jailbreaking or rooting.

c. through y. [Reserved]

z. Other commodities, as follows:

z.1.a Commodities that are described in 5A004.a and that also meet or exceed the performance parameters in 3A090.a or 4A090.a;

z.1.b Commodities that are described in 5A004.a and that also meet or exceed the performance parameters in 3A090.b or 4A090.b;

z.2.a Commodities that are described in 5A004.b and that also meet or exceed the performance parameters in 3A090.a or 4A090.a; or

z.2.b Commodities that are described in 5A004.b and that also meet or exceed the performance parameters in 3A090.b or 4A090.b.

B. Test, Inspection and ''Production Equipment''

5B002 "Information Security" test, inspection and "production" equipment, as follows (see List of Items Controlled).

License Requirements

Reason for Control: NS, AT

Control(s)	Country chart (see Supp. No. 1 to part 738)
NS applies to entire entry	NS Column 1.
AT applies to entire entry	AT Column 1.

List Based License Exceptions (See Part 740 for a Description of All License Exceptions)

LVS: N/A

GBS: N/A

ENC: Yes for certain EI controlled equipment, see §740.17 of the EAR for eligibility.

List of Items Controlled

Related Controls: N/A

Related Definitions: N/A

Items:

a. Equipment ''specially designed'' for the ''development'' or ''production'' of equipment controlled by 5A002, 5A003, 5A004 or 5B002.b;

b. Measuring equipment ''specially designed'' to evaluate and validate the ''information security'' functions of equipment controlled by 5A002, 5A003 or 5A004, or of ''software'' controlled by 5D002.a, z.1 through z.4, or 5D002.c or z.6 through z.9.

C. ''Materials'' [Reserved]

D. ''Software''

5D002 "Software" as follows (see List of Items Controlled).

License Requirements

Reason for Control: NS, RS, AT, EI

Control(s)	Country Chart (see Supp. No. 1 to part 738)
NS applies to entire entry	NS Column 1.
RS applies to "software" controlled by 5D002.z.1.a, z.2.a, z.3.a, z.4.a, z.5.a, z.6.a, z.7.a, z.8.a, and z.9.a.	To or within any destination worldwide. *See* §742.6(a)(6)(iii)(A) of the EAR.
RS applies to "software" controlled by 5D002.z.1.b, z.2.b, z.3.b, z.4.b, z.5.b, z.6.b, z.7.b, z.8.b, and z.9.b.	To or within destinations specified in Country Groups D:1, D:4, and D:5 of supplement no. 1 to part 740 of the EAR, excluding any destination also specified in Country Groups A:5 or A:6. *See* §742.6(a)(6)(iii)(B) of the EAR.
AT applies to entire entry	AT Column 1.
EI applies to "software" in 5D002.a.1, a.3, .b, c.1 and c.3, for commodities or "software" controlled for EI reasons in ECCN 5A002, 5A004 or 5D002.	Refer to §742.15 of the EAR. *Note: Encryption software is controlled because of its functional capacity, and not because of any informational value of such software; such software is not accorded the same treatment under the EAR as other "software'; and for export licensing purposes, encryption software is treated under the EAR in the same manner as a commodity included in ECCN 5A002.*

License Requirements Note: See §744.17 of the EAR for additional license requirements for microprocessors having a processing speed of 5 GFLOPS or more and an arithmetic logic unit with an access width of 32 bit or more, including those incorporating ''information security''

functionality, and associated ''software'' and ''technology'' for the ''production'' or ''development'' of such microprocessors.

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

TSR: N/A

ENC: Yes for certain EI controlled software. See §740.17 of the EAR for eligibility.

NAC/ACA: Yes, for 5D002.z.

AIA: Yes for 5D002.z.1.a, z.2.a, z.3.a, z.4.a, z.5.a, z.6.a, z.7.a, z.8.a, and z.9.a

ACM: Yes for 5D002.z

Note: See §740.2(a)(9)(ii) of the EAR for license exception restrictions for ECCN 5D002.z.

LIST OF ITEMS CONTROLLED

Related Controls: (1) After classification or self-classification in accordance with §740.17(b) of the EAR, mass market encryption software that meets eligibility requirements is released from ''EI'' and ''NS'' controls. This software is designated as 5D992.c. (2) See also ECCNs 3D001 as it applies to ''software'' for commodities controlled by 3A001.z and 3A090, and 4D001 as it applies to ''software'' for commodities controlled by 4A003.z, 4A004.z, and 4A005.z.

Related Definitions: 5D002.a controls ''software'' designed or modified to use ''cryptography'' employing digital or analog techniques to ensure ''information security.''

Items:

a. ''Software'' ''specially designed'' or modified for the ''development,'' ''production'' or ''use'' of any of the following:

a.1. Equipment specified by 5A002 or ''software'' specified by 5D002.c.1;

a.2. Equipment specified by 5A003 or ''software'' specified by 5D002.c.2; *or*

a.3. Equipment or ''software'', as follows:

a.3.a. Equipment specified by 5A004.a or ''software'' specified by 5D002.c.3.a;

a.3.b. Equipment specified by 5A004.b or ''software'' specified by 5D002.c.3.b;

b. ''Software'' having the characteristics of a 'cryptographic activation token' specified by 5A002.b;

c. ''Software'' having the characteristics of, or performing or simulating the functions of, any of the following:

c.1. Equipment specified by 5A002.a, .c, .d or .e;

Note: 5D002.c.1 does not apply to ''software'' limited to the tasks of ''OAM'' implementing only published or commercial cryptographic standards.

c.2. Equipment specified by 5A003; *or*

c.3. Equipment, as follows:

c.3.a. Equipment specified by 5A004.a;

c.3.b. Equipment specified by 5A004.b.

Note: 5D002.c.3.b does not apply to ''intrusion software''.

d. [Reserved]

N.B.: See 5D002.b for items formerly specified in 5D002.d.

e. through y. [Reserved]

z. Other software, as follows:

z.1.a Software that is described in 5D002.a.1, and that also meet or exceed the performance parameters in 3D001 for 3A090.a or 4D001 for 4A090.a;

z.1.b Software that is described in 5D002.a.1, and that also meet or exceed the performance parameters in 3D001 for 3A090.b or 4D001 for 4A090.b;

z.2.a Software that is described in 5D002.a.2, and that also meet or exceed the performance parameters in 3D001 for 3A090.a or 4D001 for 4A090.a;

z.2.b Software that is described in 5D002.a.2, and that also meet or exceed the performance parameters in 3D001 for 3A090.b or 4D001 for 4A090.b;

z.3.a Software that is described in 5D002.a.3a, and that also meet or exceed the performance parameters in 3D001 for 3A090.a or 4D001 for 4A090.a;

z.3.b Software that is described in 5D002.a.3a, and that also meet or exceed the performance parameters in 3D001 for 3A090.b or 4D001 for 4A090.b;

z.4.a Software that is described in 5D002.a.3.b, and that also meet or exceed the performance parameters in 3D001 for 3A090.a or 4D001 for 4A090.a;

z.4.b Software that is described in 5D002.a.3.b, and that also meet or exceed the performance parameters in 3D001 for 3A090.b or 4D001 for 4A090.b;

z.5.a Software that is described in 5D002.b and that also meet or exceed the performance parameters in 3D001 for 3A090.a or 4D001 for 4A090.a;

z.5.b Software that is described in 5D002.b and that also meet or exceed the performance parameters in 3D001 for 3A090.b or 4D001 for 4A090.b;

z.6.a Software that is described in 5D002.c.1 and that also meet or exceed the performance parameters in 3D001 for 3A090.a or 4D001 for 4A090.a;

z.6.b Software that is described in 5D002.c.1 and that also meet or exceed the performance parameters in 3D001 for 3A090.b or 4D001 for 4A090.b;

z.7.a Software that is described in 5D002.c.2 and that also meet or exceed the performance parameters in 3D001 for 3A090.a or 4D001 for 4A090.a;

z.7.b Software that is described in 5D002.c.2 and that also meet or exceed the performance parameters in 3D001 for 3A090.b or 4D001 for 4A090.b;

z.8.a Software that is described in 5D002.c.3.a and that also meet or exceed the performance parameters in 3D001 for 3A090.a or 4D001 for 4A090.a;

z.8.b Software that is described in 5D002.c.3.a and that also meet or exceed the performance parameters in 3D001 for 3A090.b or 4D001 for 4A090.b;

z.9.a Software that is described in 5D002.c.3.b and that also meet or exceed the

performance parameters in 3D001 for 3A090.a or 4D001 for 4A090.a; or

z.9.b Software that is described in 5D002.c.3.b and that also meet or exceed the performance parameters in 3D001 for 3A090.b or 4D001 for 4A090.b.

5D992 "Information Security" "software," not controlled by 5D002, as follows (see List of Items Controlled).

LICENSE REQUIREMENTS

Reason for Control: RS, AT

Control(s)	Country Chart (see Supp. No. 1 to part 738)
RS applies to "software" controlled by 5D992.z.1.	To or within any destination worldwide. *See* §742.6(a)(6)(iii)(A) of the EAR.
RS applies to "software" controlled by 5D992.z.2.	To or within destinations specified in Country Groups D:1, D:4, and D:5 of supplement no. 1 to part 740 of the EAR, excluding any destination also specified in Country Groups A:5 or A:6. *See* §742.6(a)(6)(iii)(B) of the EAR.
AT applies to entire entry	AT Column 1.

License Requirements Note: See §744.17 of the EAR for additional license requirements for microprocessors having a processing speed of 5 GFLOPS or more and an arithmetic logic unit with an access width of 32 bit or more, including those incorporating "information security" functionality, and associated "software" and "technology" for the "production" or "development" of such microprocessors.

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

TSR: N/A

NAC/ACA: Yes, for 5D992.z.

AIA: Yes for 5D992.z.1

ACM: Yes for 5D992.z

Note: See §740.2(a)(9)(ii) of the EAR for license exception restrictions for ECCN 5D992.z.

LIST OF ITEMS CONTROLLED

Related Controls: (1) This entry does not control "software" designed or modified to protect against malicious computer damage, *e.g.*, viruses, where the use of "cryptography" is limited to authentication, digital signature and/or the decryption of data or files. (2) See also ECCNs 3D001 as it applies to "software" for commodities controlled by 3A001.z and 3A090, and 4D001 as it applies to "software" for commodities controlled by 4A003.z, 4A004.z, and 4A005.z.

Related Definitions: N/A

Items:

a. [Reserved]

b. [Reserved]

c. "Software" classified as mass market encryption software in accordance with §740.17(b) of the EAR.

d. through y. [Reserved]

z.1 Other software that is described in 5D992 and that also meet or exceed the performance parameters in 3D001 for 3A090.a or 4D001 for 4A090.a; or

z.2 Other software that is described in 5D992 and that also meet or exceed the performance parameters in 3D001 for 3A090.b or 4D001 for 4A090.b.

E. "TECHNOLOGY"

5E002 "Technology" as follows (see List of Items Controlled).

LICENSE REQUIREMENTS

Reason for Control: NS, RS, AT, EI

Control(s)	Country Chart (see Supp. No. 1 to part 738)
NS applies to entire entry	NS Column 1.
RS applies to "technology" for commodities controlled by 5A002.z.1.a, z.2.a, z.3.a, z.4.a, z.5.a or 5A004.z.1.a, z.2.a or "software" specified by 5D002 (for 5A002.z.1.a, z.2.a, z.3.a, z.4.a, z.5.a or 5A004.z.1.a, z.2.a commodities).	To or within any destination worldwide. *See* §742.6(a)(6)(iii)(A) of the EAR.
RS applies to "technology" for commodities controlled by 5A002.z.1.b, z.2.b, z.3.b, z.4.b, z.5.b or 5A004.z.1.b, z.2.b or "software" specified by 5D002 (for 5A002.z.1.b, z.2.b, z.3.b, z.4.b, z.5.b or 5A004.z.1.b, z.2.b commodities).	To or within destinations specified in Country Groups D:1, D:4, and D:5 of supplement no. 1 to part 740 of the EAR, excluding any destination also specified in Country Groups A:5 or A:6. *See* §742.6(a)(6)(iii)(B) of the EAR.
AT applies to entire entry	AT Column 1.
EI applies to "technology" in 5E002.a for commodities or "software" controlled for EI reasons in ECCNs 5A002, 5A004 or 5D002, and to "technology" in 5E002.b.	Refer to §742.15 of the EAR.

License Requirements Notes: (1) See §744.17 of the EAR for additional license requirements for microprocessors having a processing speed of 5 GFLOPS or more and an arithmetic logic unit with an access width of 32 bit or more, including those incorporating "information security" functionality, and associated "software" and "technology" for the "production" or "development" of such microprocessors.

(2) When a person performs or provides technical assistance that incorporates, or otherwise draws upon, "technology" that was either obtained in the United States or is of U.S.-origin, then a release of the "technology" takes place. Such technical assistance, when rendered with the intent to aid in the "development" or "production" of encryption commodities or software that would be controlled for "EI" reasons under

ECCN 5A002, 5A004 or 5D002, may require authorization under the EAR even if the underlying encryption algorithm to be implemented is from the public domain or is not of U.S.-origin.

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

TSR: N/A

ENC: Yes for certain EI controlled technology. See §740.17 of the EAR for eligibility.

AIA: Yes for ''technology'' for commodities controlled by 5A002.z.1.a, z.2.a, z.3.a, z.4.a, z.5.a or 5A004.z.1.a, z.2.a or ''software'' specified by 5D002 (for 5A002.z.1.a, z.2.a, z.3.a, z.4.a, z.5.a or 5A004.z.1.a, z.2.a commodities)

ACM: Yes for ''technology'' for commodities controlled by 5A002.z or 5A004.z or ''software'' specified by 5D002 (for 5A002.z or 5A004.z commodities

Note: See §740.2(a)(9)(ii) of the EAR for license exception restrictions for technology for .z paragraphs under ECCNs 5A002, 5A004 or ''software'' specified by 5D002 (for 5A002.z or 5A004.z commodities).

LIST OF ITEMS CONTROLLED

Related Controls: See also 5E992. This entry does not control ''technology'' ''required'' for the ''use'' of equipment excluded from control under the Related Controls paragraph or the Technical Notes in ECCN 5A002 or ''technology'' related to equipment excluded from control under ECCN 5A002.

Related Definitions: N/A

Items:

a. ''Technology'' according to the General Technology Note for the ''development,'' ''production'' or ''use'' of equipment controlled by 5A002, 5A003, 5A004 or 5B002, or of ''software'' controlled by 5D002.a, z.1 through z.3, or 5D002.c, z.6 through z.8.

Note: 5E002.a does not apply to ''technology'' for items specified by 5A004.b, z.3 or z.4, 5D002.a.3.b, z.4, or 5D002.c.3.b.

b. ''Technology'' having the characteristics of a 'cryptographic activation token' specified by 5A002.b, z.2.

Note: 5E002 includes ''information security'' technical data resulting from procedures carried out to evaluate or determine the implementation of functions, features or techniques specified in Category 5—Part 2.

5E992 "Information Security" "technology" according to the General Technology Note, not controlled by 5E002, as follows (see List of Items Controlled).

LICENSE REQUIREMENTS

Reason for Control: RS, AT

Control(s)	Country Chart (see Supp. No. 1 to part 738)
RS applies to ''technology'' for commodities controlled by 5A992.z.1 or "software'' controlled by 5D992.z.1.	To or within any destination worldwide. *See* §742.6(a)(6)(iii)(A) of the EAR.
RS applies to ''technology'' for commodities controlled by 5A992.z.2 or "software'' controlled by 5D992.z.2.	To or within destinations specified in Country Groups D:1, D:4, and D:5 of supplement no. 1 to part 740 of the EAR, excluding any destination also specified in Country Groups A:5 or A:6. *See* §742.6(a)(6)(iii)(B) of the EAR.
AT applies to entire entry	AT Column 1.

License Requirements Note: See §744.17 of the EAR for additional license requirements for microprocessors having a processing speed of 5 GFLOPS or more and an arithmetic logic unit with an access width of 32 bit or more, including those incorporating ''information security'' functionality, and associated ''software'' and ''technology'' for the ''production'' or ''development'' of such microprocessors.

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

TSR: N/A

NAC/ACA: N/A

AIA: Yes for ''technology'' for commodities controlled by 5A992.z.1 or ''software'' controlled by 5D992.z.1

ACM: Yes for ''technology'' for commodities controlled by 5A992.z or ''software'' controlled by 5D992.z

Note: See §740.2(a)(9)(ii) of the EAR for license exception restrictions for technology for .z paragraphs under ''technology'' for commodities controlled by 5A992.z or ''software'' controlled by 5D992.z.

LIST OF ITEMS CONTROLLED

Related Controls: N/A

Related Definitions: N/A

Items:

a. [Reserved]

b. ''Technology'', n.e.s., for the ''use'' of mass market commodities controlled by 5A992 or mass market ''software'' controlled by 5D992.

EAR99 Items subject to the EAR that are not elsewhere specified in this CCL Category or in any other category in the CCL are designated by the number EAR99.

CATEGORY 6—SENSORS AND LASERS

A. ''END ITEMS'', ''EQUIPMENT'', ''ACCESSORIES'', ''ATTACHMENTS'', ''PARTS'', ''COMPONENTS'' AND ''SYSTEMS''

6A001 Acoustic systems, equipment and "components," as follows (see List of Items Controlled).

LICENSE REQUIREMENTS

Reason for Control: NS, AT

Control(s)	Country chart (see supp. No. 1 to part 738)
NS applies to entire entry	NS Column 2
AT applies to entire entry	AT Column 1

REPORTING REQUIREMENTS

See §743.1 of the EAR for reporting requirements for exports under License Exceptions, and Validated End-User authorizations.

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

LVS: $3000; N/A for 6A001.a.1.b.1 object detection and location systems having a transmitting frequency below 5 kHz or a sound pressure level exceeding 210 dB (reference 1 μPa at 1 m) for equipment with an operating frequency in the band from 2 kHz to 30 kHz inclusive; 6A001.a.1.e, 6A001.a.2.a.1, a.2.a.2, 6A001.a.2.a.3, a.2.a.5, a.2.a.6, 6A001.a.2.b; processing equipment controlled by 6A001.a.2.c, and ''specially designed'' for real-time application with towed acoustic hydrophone arrays; a.2.e.1, a.2.e.2; and bottom or bay cable systems controlled by 6A001.a.2.f and having processing equipment ''specially designed'' for real-time application with bottom or bay cable systems.

GBS: Yes for 6A001.a.1.b.4.

SPECIAL CONDITIONS FOR STA

STA: License Exception STA may not be used to ship commodities in 6A001.a.1.b, 6A001.a.1.e or 6A001.a.2 (except .a.2.a.4) to any of the destinations listed in Country Group A:6 (See Supplement No.1 to part 740 of the EAR).

LIST OF ITEMS CONTROLLED

Related Controls: See also 6A991.

Related Definitions: N/A

Items:

a. Marine acoustic systems, equipment and ''specially designed'' ''components'' therefor, as follows:

a.1. Active (transmitting or transmitting-and-receiving) systems, equipment and ''specially designed'' ''components'' therefor, as follows:

Note: 6A001.a.1 does not control equipment as follows:

a. Depth sounders operating vertically below the apparatus, not including a scanning function exceeding ± 20°, and limited to measuring the depth of water, the distance of submerged or buried objects or fish finding;

b. Acoustic beacons, as follows:

1. Acoustic emergency beacons;

2. Pingers ''specially designed'' for relocating or returning to an underwater position.

a.1.a. Acoustic seabed survey equipment as follows:

a.1.a.1. Surface vessel survey equipment designed for sea bed topographic mapping and having all of the following:

a.1.a.1.a. Designed to take measurements at an angle exceeding 20° from the vertical;

a.1.a.1.b. Designed to measure seabed topography at seabed depths exceeding 600 m;

a.1.a.1.c.'Sounding resolution' less than 2; and

a.1.a.1.d. 'Enhancement' of the depth ''accuracy'' through compensation for all the following:

a.1.a.1.d.1. Motion of the acoustic sensor;

a.1.a.1.d.2. In-water propagation from sensor to the seabed and back; and

a.1.a.1.d.3. Sound speed at the sensor;

Technical Notes: 1. For the purposes of 6A001.a.1.a.1.c, 'sounding resolution' is the swath width (degrees) divided by the maximum number of soundings per swath.

2. For the purposes of 6A001.a.1.a, 'enhancement' includes the ability to compensate by external means.

a.1.a.2. Underwater survey equipment designed for seabed topographic mapping and having any of the following:

Technical Note: For the purposes of 6A001.a.1.a.2, the acoustic sensor pressure rating determines the depth rating.

a.1.a.2.a. Having all of the following:

a.1.a.2.a.1. Designed or modified to operate at depths exceeding 300 m; and

a.1.a.2.a.2. 'Sounding rate' greater than 3,800 m/s; *or*

Technical Note: For the purposes of 6A001.a.1.a.2.a.2, 'sounding rate' is the product of the maximum speed (m/s) at which the sensor can operate and the maximum number of soundings per swath assuming 100% coverage. For systems that produce soundings in two directions (3D sonars), the maximum of the 'sounding rate' in either direction should be used.

a.1.a.2.b. Survey equipment, not specified by 6A001.a.1.a.2.a, having all of the following:

a.1.a.2.b.1. Designed or modified to operate at depths exceeding 100 m;

a.1.a.2.b.2. Designed to take measurements at an angle exceeding 20° from the vertical;

a.1.a.2.b.3. Having any of the following:

a.1.a.2.b.3.a. Operating frequency below 350 kHz; *or*

a.1.a.2.b.3.b. Designed to measure seabed topography at a range exceeding 200 m from the acoustic sensor; *and*

a.1.a.2.b.4. 'Enhancement' of the depth ''accuracy'' through compensation of all of the following:

a.1.a.2.b.4.a. Motion of the acoustic sensor;

a.1.a.2.b.4.b. In-water propagation from sensor to the seabed and back; *and*

a.1.a.2.b.4.c. Sound speed at the sensor.

a.1.a.3. Side Scan Sonar (SSS) or Synthetic Aperture Sonar (SAS), designed for seabed imaging and having all of the following, and ''specially designed'' transmitting and receiving acoustic arrays therefor:

a.1.a.3.a. Designed or modified to operate at depths exceeding 500 m; and

a.1.a.3.b. An 'area coverage rate' of greater than 570 m^2/s while operating at the maximum range that it can operate with an 'along track resolution' of less than 15 cm; *and*

a.1.a.3.c. An 'across track resolution' of less than 15 cm;

Technical Notes: For the purposes of 6A001.a.1.a.3:

1. 'Area coverage rate' (m_2/s) is twice the product of the sonar range (m) and the maximum speed (m/s) at which the sensor can operate at that range.

2. 'Along track resolution' (cm), for SSS only, is the product of azimuth (horizontal) beamwidth (degrees) and sonar range (m) and 0.873.

3. 'Across track resolution' (cm) is 75 divided by the signal bandwidth (kHz).

a.1.b Systems or transmitting and receiving arrays, designed for object detection or location, having any of the following:

a.1.b.1. A transmitting frequency below 10 kHz;

a.1.b.2. Sound pressure level exceeding 224dB (reference 1 μPa at 1 m) for equipment with an operating frequency in the band from 10 kHz to 24 kHz inclusive;

a.1.b.3. Sound pressure level exceeding 235 dB (reference 1 μPa at 1 m) for equipment with an operating frequency in the band between 24 kHz and 30 kHz;

a.1.b.4. Forming beams of less than 1° on any axis and having an operating frequency of less than 100 kHz;

a.1.b.5. Designed to operate with an unambiguous display range exceeding 5,120 m; *or*

a.1.b.6. Designed to withstand pressure during normal operation at depths exceeding 1,000 m and having transducers with any of the following:

a.1.b.6.a. Dynamic compensation for pressure; *or*

a.1.b.6.b. Incorporating other than lead zirconate titanate as the transduction element;

a.1.c. Acoustic projectors, including transducers, incorporating piezoelectric, magnetostrictive, electrostrictive, electrodynamic or hydraulic elements operating individually or in a designed combination and having any of the following:

Notes: 1. The control status of acoustic projectors, including transducers, ''specially designed'' for other equipment is determined by the control status of the other equipment.

2. 6A001.a.1.c does not control electronic sources that direct the sound vertically only, or mechanical (e.g., air gun or vapor-shock gun) or chemical (e.g., explosive) sources.

3. Piezoelectric elements specified in 6A001.a.1.c include those made from lead-magnesium-niobate/lead-titanate ($Pb(Mg_{1/3}Nb_{2/3})O_3$–$PbTiO_3$, or PMN–PT) single crystals grown from solid solution or lead-indium-niobate/lead-magnesium niobate/lead-titanate ($Pb(In_{1/2}Nb_{1/2})O_3$–$Pb(Mg_{1/3}Nb_{2/3})O_3$–$PbTiO_3$, or PIN–PMN–PT) single crystals grown from solid solution.

a.1.c.1. Operating at frequencies below 10 kHz and having any of the following:

a.1.c.1.a. Not designed for continuous operation at 100% duty cycle and having a radiated 'free-field Source Level (SLRMS)' exceeding (10log(f) + 169.77)dB (reference 1 μPa at 1 m) where f is the frequency in Hertz of maximum Transmitting Voltage Response (TVR) below 10 kHz; *or*

a.1.c.1.b. Designed for continuous operation at 100% duty cycle and having a continuously radiated 'free-field Source Level (SLRMS)' at 100% duty cycle exceeding (10log(f) + 159.77)dB (reference 1 μPa at 1 m) where f is the frequency in Hertz of maximum Transmitting Voltage Response (TVR) below 10 kHz; *or*

Technical Note: For the purposes of 6A001.a.1.c.1, the 'free-field Source Level (SL_{RMS})' is defined along the maximum response axis and in the far field of the acoustic projector. It can be obtained from the Transmitting Voltage Response using the following equation: $SL_{RMS} = (TVR + 20log\ V_{RMS})$ dB (ref 1μPa at 1 m), where SL_{RMS} is the source level, TVR is the Transmitting Voltage Response and V_{RMS} is the Driving Voltage of the Projector.

a.1.c.2. [Reserved]

N.B. See 6A001.a.1.c.1 for items previously specified in 6A001.a.1.c.2.

a.1.c.3. Side-lobe suppression exceeding 22 dB;

a.1.d. Acoustic systems and equipment, designed to determine the position of surface vessels or underwater vehicles and having all of the following, and ''specially designed'' ''components'' therefor:

a.1.d.1. Detection range exceeding 1,000 m; *and*

a.1.d.2. Determined position error of less than 10 m rms (root mean square) when measured at a range of 1,000 m;

Note: 6A001.a.1.d includes:

a. Equipment using coherent ''signal processing'' between two or more beacons and the hydrophone unit carried by the surface vessel or underwater vehicle;

b. Equipment capable of automatically correcting speed-of-sound propagation errors for calculation of a point.

a.1.e. Active individual sonars, ''specially designed'' or modified to detect, locate and automatically classify swimmers or divers, having all of the following, and ''specially designed'' transmitting and receiving acoustic arrays therefor:

a.1.e.1. Detection range exceeding 530 m;

a.1.e.2. Determined position error of less than 15 m rms (root mean square) when measured at a range of 530 m; *and*

a.1.e.3. Transmitted pulse signal bandwidth exceeding 3 kHz;

N.B.: For diver detection systems ''specially designed'' or modified for military use, see the U.S. Munitions List in the International Traffic in Arms Regulations (ITAR) (22 CFR part 121).

Note: For 6A001.a.1.e, where multiple detection ranges are specified for various environments, the greatest detection range is used.

a.2. Passive systems, equipment and ''specially designed'' ''components'' therefor, as follows:

Note: 6A001.a.2 also applies to receiving equipment, whether or not related in normal application to separate active equipment, and ''specially designed'' components therefor.

a.2.a. Hydrophones having any of the following:

Note: The control status of hydrophones ''specially designed'' for other equipment is determined by the control status of the other equipment.

Technical Notes: For the purposes of 6A001.a.2.a:

1. Hydrophones consist of one or more sensing elements producing a single acoustic output channel. Those that contain multiple elements can be referred to as a hydrophone group.

2. Underwater acoustic transducers designed to operate as passive receivers are hydrophones.

a.2.a.1. Incorporating continuous flexible sensing elements;

a.2.a.2. Incorporating flexible assemblies of discrete sensing elements with either a diameter or length less than 20 mm and with a separation between elements of less than 20 mm;

a.2.a.3. Having any of the following sensing elements:

a.2.a.3.a. Optical fibers;

a.2.a.3.b. 'Piezoelectric polymer films' other than polyvinylidene-fluoride (PVDF) and its co-polymers {P(VDF-TrFE) and P(VDF–TFE)};

a.2.a.3.c. 'Flexible piezoelectric composites';

a.2.a.3.d. Lead-magnesium- niobate/lead-titanate (*i.e.*, $Pb(Mg_{1/3}Nb_{2/3})O_3$-$PbTiO_3$, or PMN–PT) piezoelectric single crystals grown from solid solution; *or*

a.2.a.3.e. Lead-indium-niobate/lead-magnesium niobate/lead-titanate (*i.e.*, $Pb(In_{1/2}Nb_{1/2})O_3$-$Pb(Mg_{1/3}Nb_{2/3})O_3$–$PbTiO_3$, or PIN–PMN–PT) piezoelectric single crystals grown from solid solution;

a.2.a.4. A 'hydrophone sensitivity' better than −180dB at any depth with no acceleration compensation;

a.2.a.5. Designed to operate at depths exceeding 35 m with acceleration compensation; *or*

a.2.a.6. Designed for operation at depths exceeding 1,000 m and having a 'hydrophone sensitivity' better than −230 dB below 4 kHz;

Technical Notes: 1. For the purposes of 6A001.a.2.a.3.b, 'piezoelectric polymer film' sensing elements consist of polarized polymer film that is stretched over and attached to a supporting frame or spool (mandrel).

2. For the purposes of 6A001.a.2.a.3.c, 'flexible piezoelectric composite' sensing elements consist of piezoelectric ceramic particles or fibers combined with an electrically insulating, acoustically transparent rubber, polymer or epoxy compound, where the compound is an integral part of the sensing elements.

3. For the purposes of 6A001.a.2.a, 'hydrophone sensitivity' is defined as twenty times the logarithm to the base 10 of the ratio of rms output voltage to a 1 V rms reference, when the hydrophone sensor, without a pre-amplifier, is placed in a plane wave acoustic field with an rms pressure of 1 μPa. For example, a hydrophone of −160 dB (reference 1 V per μPa) would yield an output voltage of 10^{-8} V in such a field, while one of −180 dB sensitivity would yield only 10^{-9} V output. Thus, −160 dB is better than −180 dB.

a.2.b. Towed acoustic hydrophone arrays having any of the following:

Technical Note: For the purposes of 6A001.a.2.b, hydrophones arrays consist of a number of hydrophones providing multiple acoustic output channels.

a.2.b.1. Hydrophone group spacing of less than 12.5 m or 'able to be modified' to have hydrophone group spacing of less than 12.5 m;

a.2.b.2. Designed or 'able to be modified' to operate at depths exceeding 35m;

Technical Note: For the purposes of 6A001.a.2.b.2, 'able to be modified' in 6A001.a.2.b means having provisions to allow a change of the wiring or interconnections to alter hydrophone group spacing or operating depth limits. These provisions are: spare wiring exceeding 10% of the number of wires, hydrophone group spacing adjustment blocks or internal depth limiting devices that are adjustable or that control more than one hydrophone group.

a.2.b.3. Heading sensors controlled by 6A001.a.2.d;

a.2.b.4. Longitudinally reinforced array hoses;

a.2.b.5. An assembled array of less than 40 mm in diameter;

a.2.b.6. [Reserved];

a.2.b.7. Hydrophone characteristics controlled by 6A001.a.2.a; *or*

a.2.b.8. Accelerometer-based hydro-acoustic sensors specified by 6A001.a.2.g;

a.2.c. Processing equipment, ''specially designed'' for towed acoustic hydrophone arrays, having ''user-accessible programmability'' and time or frequency domain processing and correlation, including spectral analysis, digital filtering and beamforming using Fast Fourier or other transforms or processes;

a.2.d. Heading sensors having all of the following:

a.2.d.1. An ''accuracy'' of better than ± 0.5°; *and*

a.2.d.2. Designed to operate at depths exceeding 35 m or having an adjustable or removable depth sensing device in order to operate at depths exceeding 35 m;

N.B.: For inertial heading systems, see 7A003.c.

a.2.e. Bottom or bay-cable hydrophone arrays having any of the following:

a.2.e.1. Incorporating hydrophones controlled by 6A001.a.2.a;

a.2.e.2. Incorporating multiplexed hydrophone group signal modules having all of the following characteristics:

a.2.e.2.a. Designed to operate at depths exceeding 35 m or having an adjustable or removal depth sensing device in order to operate at depths exceeding 35 m; *and*

a.2.e.2.b. Capable of being operationally interchanged with towed acoustic hydrophone array modules; *or*

a.2.e.3. Incorporating accelerometer-based hydro-acoustic sensors specified by 6A001.a.2.g;

a.2.f. Processing equipment, ''specially designed'' for bottom or bay cable systems, having ''user-accessible programmability'' and time or frequency domain processing and correlation, including spectral analysis, digital filtering and beamforming using Fast Fourier or other transforms or processes;

a.2.g. Accelerometer-based hydro-acoustic sensors having all of the following:

a.2.g.1. Composed of three accelerometers arranged along three distinct axes;

a.2.g.2. Having an overall 'acceleration sensitivity' better than 48 dB (reference 1,000 mV rms per 1g);

a.2.g.3. Designed to operate at depths greater than 35 meters; *and*

a.2.g.4. Operating frequency below 20 kHz;

Note: 6A001.a.2.g does not apply to particle velocity sensors or geophones.

Technical Notes: 1. For the purposes of 6A001.a.2.g, accelerometer-based hydro-acoustic sensors are also known as vector sensors.

2. For the purposes of 6A001.a.2.g.2, 'acceleration sensitivity' is defined as twenty times the logarithm to the base 10 of the ratio of rms output voltage to a 1 V rms reference, when the hydro-acoustic sensor, without a preamplifier, is placed in a plane wave acoustic field with an rms acceleration of 1 g (i.e., 9.81 m/s^2).

b. Correlation-velocity and Doppler-velocity sonar log equipment designed to measure the horizontal speed of the equipment carrier relative to the sea bed, as follows:

b.1. Correlation-velocity sonar log equipment having any of the following characteristics:

b.1.a. Designed to operate at distances between the carrier and the sea bed exceeding 500 m; *or*

b.1.b. Having speed ''accuracy'' better than 1% of speed;

b.2. Doppler-velocity sonar log equipment having speed ''accuracy'' better than 1% of speed;

Note 1: 6A001.b does not apply to depth sounders limited to any of the following: a. Measuring the depth of water;

b. Measuring the distance of submerged or buried objects; or

c. Fish finding.

Note 2: 6A001.b does not apply to equipment ''specially designed'' for installation on surface vessels.

c. [Reserved]

N.B.: For diver deterrent acoustic systems, see 8A002.r.

6A002 Optical sensors and equipment, and "components" therefor, as follows (see List of Items Controlled).

LICENSE REQUIREMENTS

Reason for Control: NS, MT, CC, RS, AT, UN

Control(s)	Country chart (see Supp. No. 1 to part 738)
NS applies to entire entry	NS Column 2
MT applies to optical detectors in 6A002.a.1, or a.3 that are "specially designed" or modified to protect "missiles" against nuclear effects (*e.g.,* Electromagnetic Pulse (EMP), X-rays, combined blast and thermal effects), and usable for "missiles".	MT Column 1
RS applies to 6A002.a.1, a.2, a.3 (except a.3.d.2.a and a.3.e for lead selenide based focal plane arrays (FPAs)), .c, and .f..	RS Column 1
CC applies to police-model infrared viewers in 6A002.c.	CC Column 1
AT applies to entire entry	AT Column 1
UN applies to 6A002.a.1, a.2, a.3 and .c.	See §746.1(b) for UN controls

REPORTING REQUIREMENTS

See §743.1 of the EAR for reporting requirements for exports under License Exceptions, and Validated End-User authorizations.

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

LVS: $500 for 6A002.f.

$3000; except N/A for MT and for 6A002.a.1, a.2, a.3, .c, and .f.

GBS: N/A

LIST OF ITEMS CONTROLLED

Related Controls: (1) See USML Category XII(e) for infrared focal plane arrays, image intensifier tubes, and related parts and components, subject to the ITAR. (2) See USML Category XV(e) for space-qualified focal plane arrays subject to the ITAR. (3) See also ECCNs 6A102, 6A202, and 6A992. (4) See ECCN 0A919 for foreign-made military commodities that incorporate commodities described in 6A002. (5) Section 744.9 imposes a license requirement on commodities described in ECCN 6A002 if being exported, reexported, or transferred (in-country) for use by a military end-user or for incorporation into an item controlled by ECCN 0A919. (6) See USML Categories XII(e) and XV(e)(3) for read-out integrated circuits ''subject to the ITAR.''

(7) See 6B002 for masks and reticles, ''specially designed'' for optical sensors specified by 6A002.a.1.b or 6A002.a.1.d.

Related Definitions: N/A

Items:

a. Optical detectors as follows:

a.1. ''Space-qualified'' solid-state detectors as follows:

Note: For the purposes of 6A002.a.1, solid-state detectors include ''focal plane arrays''.

a.1.a. ''Space-qualified'' solid-state detectors having all of the following:

a.1.a.1. A peak response in the wavelength range exceeding 10 nm but not exceeding 300 nm; *and*

a.1.a.2. A response of less than 0.1% relative to the peak response at a wavelength exceeding 400 nm;

a.1.b. ''Space-qualified'' solid-state detectors having all of the following:

a.1.b.1. A peak response in the wavelength range exceeding 900 nm but not exceeding 1,200 nm; *and*

a.1.b.2. A response ''time constant'' of 95 ns or less;

a.1.c. ''Space-qualified'' solid-state detectors having a peak response in the wavelength range exceeding 1,200 nm but not exceeding 30,000 nm;

a.1.d. ''Space-qualified'' ''focal plane arrays'' having more than 2,048 elements per array and having a peak response in the wavelength range exceeding 300 nm but not exceeding 900 nm;

a.2. Image intensifier tubes and ''specially designed'' ''components'' therefor, as follows:

Note: 6A002.a.2 does not control non-imaging photomultiplier tubes having an electron sensing device in the vacuum space limited solely to any of the following:

a. A single metal anode; or

b. Metal anodes with a center to center spacing greater than 500 µm.

Technical Note: For the purposes of 6A002.a.2, 'charge multiplication' is a form of electronic image amplification and is defined as the generation of charge carriers as a result of an impact ionization gain process. 'Charge multiplication' sensors may take the form of an image intensifier tube, solid state detector or ''focal plane array''.

a.2.a. Image intensifier tubes having all of the following:

a.2.a.1. A peak response in the wavelength range exceeding 400 nm but not exceeding 1,050 nm;

a.2.a.2. Electron image amplification using any of the following:

a.2.a.2.a. A microchannel plate with a hole pitch (center-to-center spacing) of 12 µm or less; *or*

a.2.a.2.b. An electron sensing device with a non-binned pixel pitch of 500 µm or less, ''specially designed'' or modified to achieve 'charge multiplication' other than by a microchannel plate; *and*

a.2.a.3. Any of the following photocathodes:

a.2.a.3.a. Multialkali photocathodes (*e.g.*, S–20 and S–5) having a luminous sensitivity exceeding 350 µA/lm;

a.2.a.3.b. GaAs or GaInAs photocathodes; *or*

a.2.a.3.c. Other ''III–V compound'' semiconductor photocathodes having a maximum ''radiant sensitivity'' exceeding 10 mA/W;

a.2.b. Image intensifier tubes having all of the following:

a.2.b.1. A peak response in the wavelength range exceeding 1,050 nm but not exceeding 1,800 nm;

a.2.b.2. Electron image amplification using any of the following:

a.2.b.2.a. A microchannel plate with a hole pitch (center-to-center spacing) of 12 µm or less; *or*

a.2.b.2.b. An electron sensing device with a non-binned pixel pitch of 500 µm or less, ''specially designed'' or modified to achieve 'charge multiplication' other than by a microchannel plate; *and*

a.2.b.3. ''III/V compound'' semiconductor (*e.g.*, GaAs or GaInAs) photocathodes and transferred electron photocathodes, having a maximum ''radiant sensitivity'' exceeding 15 mA/W;

a.2.c. ''Specially designed'' ''components'' as follows:

a.2.c.1. Microchannel plates having a hole pitch (center-to-center spacing) of 12 µm or less;

a.2.c.2. An electron sensing device with a non-binned pixel pitch of 500 µm or less, ''specially designed'' or modified to achieve 'charge multiplication' other than by a microchannel plate;

a.2.c.3. ''III–V compound'' semiconductor (*e.g.*, GaAs or GaInAs) photocathodes and transferred electron photocathodes;

Note: 6A002.a.2.c.3 does not control compound semiconductor photocathodes designed to achieve a maximum ''radiant sensitivity'' of any of the following:

a. 10 mA/W or less at the peak response in the wavelength range exceeding 400 nm but not exceeding 1,050 nm; or

b. 15 mA/W or less at the peak response in the wavelength range exceeding 1,050 nm but not exceeding 1,800 nm.

a.3. Non-''space-qualified'' ''focal plane arrays'' as follows:

N.B.:

'Microbolometer' non-''space-qualified'' ''focal plane arrays'' are only specified by 6A002.a.3.f.

Technical Note: For the purposes of 6A002.a.3, linear or two-dimensional multi-element detector arrays are referred to as ''focal plane arrays'';

Note 1: 6A002.a.3 includes photoconductive arrays and photovoltaic arrays.

Note 2: 6A002.a.3 does not control:

a. Multi-element (not to exceed 16 elements) encapsulated photoconductive cells using either lead sulphide or lead selenide;

b. Pyroelectric detectors using any of the following:

b.1. Triglycine sulphate and variants;

b.2. Lead-lanthanum-zirconium titanate and variants;

b.3. Lithium tantalate;

b.4. Polyvinylidene fluoride and variants; or

b.5. Strontium barium niobate and variants.

c. ''Focal plane arrays'' ''specially designed'' or modified to achieve 'charge multiplication' and limited by design to have a maximum ''radiant sensitivity'' of 10 mA/W or less for wavelengths exceeding 760 nm, having all of the following:

c.1. Incorporating a response limiting mechanism designed not to be removed or modified; and

c.2. Any of the following:

c.2.a. The response limiting mechanism is integral to or combined with the detector element; or

c.2.b. The ''focal plane array'' is only operable with the response limiting mechanism in place.

d. Thermopile arrays having less than 5,130 elements;

Technical Note: For the purposes of 6A002.a.3 Note 2.c.2.a, a response limiting mechanism integral to the detector element is designed not to be removed or modified without rendering the detector inoperable.

a.3.a. Non-''space-qualified'' ''focal plane arrays'' having all of the following:

a.3.a.1. Individual elements with a peak response within the wavelength range exceeding 900 nm but not exceeding 1,050 nm; *and*

a.3.a.2. Any of the following:

a.3.a.2.a. A response ''time constant'' of less than 0.5 ns; *or*

a.3.a.2.b. ''Specially designed'' or modified to achieve 'charge multiplication' and having a maximum ''radiant sensitivity'' exceeding 10 mA/W;

a.3.b. Non-''space-qualified'' ''focal plane arrays'' having all of the following:

a.3.b.1. Individual elements with a peak response in the wavelength range exceeding 1,050 nm but not exceeding 1,200 nm; *and*

a.3.b.2. Any of the following:

a.3.b.2.a. A response ''time constant'' of 95 ns or less; *or*

a.3.b.2.b. ''Specially designed'' or modified to achieve 'charge multiplication' and having a maximum ''radiant sensitivity'' exceeding 10 mA/W;

a.3.c. Non-''space-qualified'' non-linear (2-dimensional) ''focal plane arrays'' having individual elements with a peak response in the wavelength range exceeding 1,200 nm but not exceeding 30,000 nm;

N.B.: Silicon and other material based 'microbolometer' non-''space-qualified'' ''focal plane arrays'' are only specified by 6A002.a.3.f.

a.3.d. Non-''space-qualified'' linear (1-dimensional) ''focal plane arrays'' having all of the following:

a.3.d.1. Individual elements with a peak response in the wavelength range exceeding 1,200 nm but not exceeding 3,000 nm; *and*

a.3.d.2. Any of the following:

a.3.d.2.a. A ratio of 'scan direction' dimension of the detector element to the 'cross-scan direction' dimension of the detector element of less than 3.8; *or*

a.3.d.2.b. Signal processing in the detector elements;

Note: 6A002.a.3.d does not control ''focal plane arrays'' (not to exceed 32 elements) having detector elements limited solely to germanium material.

Technical Note: For the purposes of 6A002.a.3.d, 'cross-scan direction' is defined as the axis parallel to the linear array of detector elements and the 'scan direction' is defined as the axis perpendicular to the linear array of detector elements.

a.3.e. Non-''space-qualified'' linear (1-dimensional) ''focal plane arrays'' having individual elements with a peak response in the wavelength range exceeding 3,000 nm but not exceeding 30,000 nm;

a.3.f. Non-''space-qualified'' non-linear (2-dimensional) infrared ''focal plane arrays'' based on 'microbolometer' material having individual elements with an unfiltered response in the wavelength range equal to or exceeding 8,000 nm but not exceeding 14,000 nm;

Technical Note: For the purposes of 6A002.a.3.f, 'microbolometer' is defined as a thermal imaging detector that, as a result of a temperature change in the detector caused by the absorption of infrared radiation, is used to generate any usable signal.

a.3.g. Non-''space-qualified'' ''focal plane arrays'' having all of the following:

a.3.g.1. Individual detector elements with a peak response in the wavelength range exceeding 400 nm but not exceeding 900 nm;

a.3.g.2. ''Specially designed'' or modified to achieve 'charge multiplication' and having a maximum ''radiant sensitivity'' exceeding 10 mA/W for wavelengths exceeding 760 nm; *and*

a.3.g.3. Greater than 32 elements;

b. ''Monospectral imaging sensors'' and ''multispectral imaging sensors'', designed for remote sensing applications and having any of the following:

b.1. An Instantaneous-Field-Of-View (IFOV) of less than 200 μrad (microradians); *or*

b.2. Specified for operation in the wavelength range exceeding 400 nm but not exceeding 30,000 nm and having all the following:

b.2.a. Providing output imaging data in digital format; *and*

b.2.b. Having any of the following characteristics:

b.2.b.1. ''Space-qualified''; *or*

b.2.b.2. Designed for airborne operation, using other than silicon detectors, and having an IFOV of less than 2.5 mrad (milliradians);

Note: 6A002.b.1 does not control ''monospectral imaging sensors'' with a peak response in the wavelength range exceeding 300 nm but not exceeding 900 nm and only incorporating any of the following non-''space-qualified'' detectors or non -''space-qualified'' ''focal plane arrays'':

a. Charge Coupled Devices (CCD) not designed or modified to achieve 'charge multiplication'; or

b. Complementary Metal Oxide Semiconductor (CMOS) devices not designed or modified to achieve 'charge multiplication'.

c. 'Direct view' imaging equipment incorporating any of the following:

c.1. Image intensifier tubes having the characteristics listed in 6A002.a.2.a or 6A002.a.2.b;

c.2. ''Focal plane arrays'' having the characteristics listed in 6A002.a.3; *or*

c.3. Solid state detectors specified by 6A002.a.1;

Technical Note: For the purposes of 6A002.c,'direct view' refers to imaging equipment that presents a visual image to a human observer without converting the image into an electronic signal for television display, and that cannot record or store the image photographically, electronically or by any other means.

Note: 6A002.c does not control equipment as follows, when incorporating other than GaAs or GaInAs photocathodes:

a. Industrial or civilian intrusion alarm, traffic or industrial movement control or counting systems;

b. Medical equipment;

c. Industrial equipment used for inspection, sorting or analysis of the properties of materials;

d. Flame detectors for industrial furnaces;

e. Equipment ''specially designed'' for laboratory use.

d. Special support ''components'' for optical sensors, as follows:

d.1. ''Space-qualified'' cryocoolers;

d.2. Non-''space-qualified'' cryocoolers having a cooling source temperature below 218 K (−55 °C), as follows:

d.2.a. Closed cycle type with a specified Mean-Time-To-Failure (MTTF) or Mean-Time-Between-Failures (MTBF), exceeding 2,500 hours;

d.2.b. Joule-Thomson (JT) self-regulating minicoolers having bore (outside) diameters of less than 8 mm;

d.3. Optical sensing fibers specially fabricated either compositionally or structurally, or modified by coating, to be acoustically, thermally, inertially, electromagnetically or nuclear radiation sensitive.

Note: 6A002.d.3 does not apply to encapsulated optical sensing fibers ''specially designed'' for bore hole sensing applications.

e. [Reserved]

f. 'Read-Out Integrated Circuits' ('ROIC') ''specially designed'' for ''focal plane arrays'' specified by 6A002.a.3.

Note: 6A002.f does not apply to read-out integrated circuits ''specially designed'' for civil automotive applications.

Technical Note: For the purposes of 6A002.f, a 'Read-Out Integrated Circuit' ('ROIC') is an integrated circuit designed to underlie or be bonded to a ''focal plane array'' (''FPA'') and used to read-out (i.e., extract and register) signals produced by the detector elements. At a minimum the 'ROIC' reads the charge from the detector elements by extracting the charge and applying a multiplexing function in a manner that retains the relative spatial position and orientation information of the detector elements for processing inside or outside the 'ROIC'.

6A003 Cameras, systems or equipment, and "components" therefor, as follows (see List of Items Controlled).

Reason for Control: NS, NP, RS, AT, UN

Control(s)	Country Chart (see Supp. No. 1 to part 738)
NS applies to entire entry	NS Column 2
NP applies to cameras controlled by 6A003.a.3 or a.4 and to plug-ins in 6A003.a.6 for cameras controlled by 6A003.a.3 or a.4.	NP Column 1
RS applies to 6A003.b.3, 6A003.b.4.a, 6A003.b.4.c and to items controlled in 6A003.b.4.b that have a frame rate greater than 60 Hz or that incorporate a focal plane array with more than 111,000 elements, or to items in 6A003.b.4.b when being exported or reexported to be embedded in a civil product. (But see §742.6(a)(2)(iii) and (v) for certain exemptions).	RS Column 1
RS applies to items controlled in 6A003.b.4.b that have a frame rate of 60 Hz or less and that incorporate a focal plane array with not more than 111,000 elements if not being exported or reexported to be embedded in a civil product.	RS Column 2
AT applies to entire entry	AT Column 1
UN applies to 6A003.b.3 and b.4.	See §746.1(b) for UN controls

License Requirement Note: Commodities that are not subject to the ITAR but are of the type described in USML Category XII(c) are controlled as cameras in ECCN 6A003 when they incorporate a camera controlled in this ECCN.

REPORTING REQUIREMENTS

See §743.3 of the EAR for thermal camera reporting for exports that are not authorized by an individually validated license of

thermal imaging cameras controlled by ECCN 6A003.b.4.b to destinations in Country Group A:1 (see Supplement No. 1 to part 740 of the EAR), must be reported to BIS.

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

LVS: $1500, except N/A for 6A003.a.3 through a.6, b.1, b.3 and b.4.

GBS: N/A

SPECIAL CONDITIONS FOR STA

STA: License Exception STA may not be used to ship any commodity in 6A003.b.3 or b.4 to any of the destinations listed in Country Group A:6 (See Supplement No.1 to part 740 of the EAR).

LIST OF ITEMS CONTROLLED

Related Controls: (1) See ECCNs 6E001 (''development''), 6E002 (''production''), and 6E201 (''use'') for technology for items controlled under this entry. (2) Also see ECCN 6A203. (3) See ECCN 0A919 for foreign made military commodities that incorporate cameras described in 6A003. (4) Section 744.9 imposes a license requirement on cameras described in 6A003 if being exported, reexported, or transferred (in-country) for use by certain military end-users or for incorporation into a commodity controlled by ECCN 0A919. (5) See USML Category XII(c) and (e) for cameras subject to the ITAR. (6) Also see ECCN 6A293.

Related Definitions: N/A

Items:

a. Instrumentation cameras and ''specially designed'' ''components'' therefor, as follows:

Note: Instrumentation cameras, controlled by 6A003.a.3 to 6A003.a.5, with modular structures should be evaluated by their maximum capability, using plug-ins available according to the camera manufacturer's specifications.

a.1. [Reserved]

a.2. [Reserved]

a.3. Electronic streak cameras having temporal resolution better than 50 ns;

a.4. Electronic framing cameras having a speed exceeding 1,000,000 frames/s;

a.5. Electronic cameras having all of the following:

a.5.a. An electronic shutter speed (gating capability) of less than 1μs per full frame; *and*

a.5.b. A read out time allowing a framing rate of more than 125 full frames per second;

a.6. Plug-ins having all of the following characteristics:

a.6.a. ''Specially designed'' for instrumentation cameras which have modular structures and that are controlled by 6A003.a; *and*

a.6.b. Enabling these cameras to meet the characteristics specified by 6A003.a.3, 6A003.a.4 or 6A003.a.5, according to the manufacturer's specifications;

b. Imaging cameras as follows:

Note: 6A003.b does not control television or video cameras ''specially designed'' for television broadcasting.

b.1. Video cameras incorporating solid state sensors, having a peak response in the wavelength range exceeding 10 nm, but not exceeding 30,000 nm and having all of the following:

b.1.a. Having any of the following:

b.1.a.1. More than 4 x 10^6 ''active pixels'' per solid state array for monochrome (black and white) cameras;

b.1.a.2. More than 4 x 10^6 ''active pixels'' per solid state array for color cameras incorporating three solid state arrays; *or*

b.1.a.3. More than 12 x 10^6 ''active pixels'' for solid state array color cameras incorporating one solid state array; *and*

b.1.b. Having any of the following:

b.1.b.1. Optical mirrors controlled by 6A004.a.;

b.1.b.2. Optical control equipment controlled by 6A004.d.; *or*

b.1.b.3. The capability for annotating internally generated 'camera tracking data';

Technical Notes: 1. For the purposes of 6A003.b.1, digital video cameras should be evaluated by the maximum number of ''active pixels'' used for capturing moving images.

2. For the purposes of 6A003.b.1.b.3, 'camera tracking data' is the information necessary to define camera line of sight orientation with respect to the earth. This includes: (1) the horizontal angle the camera line of sight makes with respect to the earth's magnetic field direction and; (2) the vertical angle between the camera line of sight and the earth's horizon.

b.2. Scanning cameras and scanning camera systems, having all of the following:

b.2.a. A peak response in the wavelength range exceeding 10 nm, but not exceeding 30,000 nm;

b.2.b. Linear detector arrays with more than 8,192 elements per array; *and*

b.2.c. Mechanical scanning in one direction;

Note: 6A003.b.2 does not apply to scanning cameras and scanning camera systems, ''specially designed'' for any of the following:

a. Industrial or civilian photocopiers;

b. Image scanners ''specially designed'' for civil, stationary, close proximity scanning applications (e.g., reproduction of images or print contained in documents, artwork, or photographs); or

c. Medical equipment.

b.3. Imaging cameras incorporating image intensifier tubes having the characteristics listed in 6A002.a.2.a or 6A002.a.2.b;

b.4. Imaging cameras incorporating ''focal plane arrays'' having any of the following:

b.4.a. Incorporating ''focal plane arrays'' controlled by 6A002.a.3.a to 6A002.a.3.e;

b.4.b. Incorporating ''focal plane arrays'' controlled by 6A002.a.3.f; *or*

b.4.c. Incorporating ''focal plane arrays'' controlled by 6A002.a.3.g;

Note 1: Imaging cameras described in 6A003.b.4 include ''focal plane arrays'' combined with sufficient ''signal processing'' electronics, beyond the read out integrated circuit, to enable as a minimum the output of an analog or digital signal once power is supplied.

Note 2: 6A003.b.4.a does not control imaging cameras incorporating linear ''focal plane arrays'' with 12 elements or fewer, not employing time-delay-and-integration within the element and designed for any of the following:

a. Industrial or civilian intrusion alarm, traffic or industrial movement control or counting systems;

b. Industrial equipment used for inspection or monitoring of heat flows in buildings, equipment, or industrial processes;

c. Industrial equipment used for inspection, sorting or analysis of the properties of materials;

d. Equipment ''specially designed'' for laboratory use; or

e. Medical equipment.

Note 3: 6A003.b.4.b does not control imaging cameras having any of the following:

a. A maximum frame rate equal to or less than 9 Hz;

b. Having all of the following:

1. Having a minimum horizontal or vertical 'Instantaneous-Field-of-View (IFOV)' of at least 2 mrad (milliradians);

2. Incorporating a fixed focal-length lens that is not designed to be removed;

3. Not incorporating a 'direct view' display; and

Technical Note: For the purposes of 6A003.b.4 Note 3.b.3, 'direct view' refers to an imaging camera operating in the infrared spectrum that presents a visual image to a human observer using a near-to-eye micro display incorporating any light-security mechanism.

4. Having any of the following:

a. No facility to obtain a viewable image of the detected field-of-view; or

b. The camera is designed for a single kind of application and designed not to be user modified; or

Technical Note: For the purposes of 6A003.b.4 Note 3.b.1, 'Instantaneous-Field-of-View (IFOV)' is the lesser figure of the 'Horizontal IFOV' or the 'Vertical IFOV'.

'Horizontal IFOV' = horizontal Field-of-View (FOV)/number of horizontal detector elements

'Vertical IFOV'= vertical Field-of-View (FOV)/number of vertical detector elements.

c. The camera is ''specially designed'' for installation into a civilian passenger land vehicle and having all of the following:

1. The placement and configuration of the camera within the vehicle are solely to assist the driver in the safe operation of the vehicle;

2. Is operable only when installed in any of the following:

a. The civilian passenger land vehicle for which it was intended and the vehicle weighs less than 4,500 kg (gross vehicle weight); or

b. A ''specially designed'', authorized maintenance test facility; and

3. Incorporates an active mechanism that forces the camera not to function when it is removed from the vehicle for which it was intended.

Note: When necessary, details of the items will be provided, upon request, to the Bureau of Industry and Security in order to ascertain compliance with the conditions described in Note 3.b.4 and Note 3.c in this Note to 6A003.b.4.b.

Note 4: 6A003.b.4.c does not apply to 'imaging cameras' having any of the following characteristics:

a. Having all of the following:

1. Where the camera is ''specially designed'' for installation as an integrated component into indoor and wall-plug-operated systems or equipment, limited by design for a single kind of application, as follows:

a. Industrial process monitoring, quality control, or analysis of the properties of materials;

b. Laboratory equipment ''specially designed'' for scientific research;

c. Medical equipment;

d. Financial fraud detection equipment; and

2. Is only operable when installed in any of the following:

a. The system(s) or equipment for which it was intended; or

b. A ''specially designed,'' authorized maintenance facility; and

3. Incorporates an active mechanism that forces the camera not to function when it is removed from the system(s) or equipment for which it was intended;

b. Where the camera is ''specially designed'' for installation into a civilian passenger land vehicle or passenger and vehicle ferries and having all of the following:

1. The placement and configuration of the camera within the vehicle or ferry are solely to assist the driver or operator in the safe operation of the vehicle or ferry;

2. Is only operable when installed in any of the following:

a. The civilian passenger land vehicle for which it was intended and the vehicle weighs less than 4,500 kg (gross vehicle weight);

b. The passenger and vehicle ferry for which it was intended and having a length overall (LOA) 65 m or greater; or

c. A ''specially designed'', authorized maintenance test facility; and

3. Incorporates an active mechanism that forces the camera not to function when it is removed from the vehicle for which it was intended;

c. Limited by design to have a maximum ''radiant sensitivity'' of 10 mA/W or less for wavelengths exceeding 760 nm, having all of the following:

1. Incorporating a response limiting mechanism designed not to be removed or modified; and

2. Incorporates an active mechanism that forces the camera not to function when the response limiting mechanism is removed; and

3. Not ''specially designed'' or modified for underwater use; or

d. Having all of the following:

1. Not incorporating a 'direct view' or electronic image display;

2. Has no facility to output a viewable image of the detected field of view;

3. The ''focal plane array'' is only operable when installed in the camera for which it was intended; and

4. The ''focal plane array'' incorporates an active mechanism that forces it to be permanently inoperable when removed from the camera for which it was intended.

Note: When necessary, details of the item will be provided, upon request, to the Bureau of Industry and Security in order to ascertain compliance with the conditions described in Note 4 above.

b.5. Imaging cameras incorporating solid-state detectors specified by 6A002.a.1.

6A004 Optical equipment and "components," as follows (see List of Items Controlled).

LICENSE REQUIREMENTS

Reason for Control: NS, AT

Control(s)	Country chart (see supp. No. 1 to part 738)
NS applies to entire entry	NS Column 2
AT applies to entire entry	AT Column 1

REPORTING REQUIREMENTS

See §743.1 of the EAR for reporting requirements for exports under License Exceptions, and Validated End-User authorizations.

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

LVS: $3000

GBS: Yes for 6A004.a.1, a.2, a.4, .b, d.2, and .f.

SPECIAL CONDITIONS FOR STA

STA: Paragraph (c)(2) of License Exception STA may not be used to ship any commodity in 6A004.c or .d to any of the destinations listed in Country Group A:6 (See Supplement No. 1 to part 740 of the EAR).

LIST OF ITEMS CONTROLLED

Related Controls: (1) For optical mirrors or 'aspheric optical elements' ''specially designed'' for lithography ''equipment,'' see ECCN 3B001. (2) See USML Category XII(e) for gimbals ''subject to the ITAR.'' (3) See also 6A994.

Related Definitions: An 'aspheric optical element' is any element used in an optical system whose imaging surface or surfaces are designed to depart from the shape of an ideal sphere.

Items:

a. Optical mirrors (reflectors) as follows:

Technical Note: For the purposes of 6A004.a, Laser Induced Damage Threshold (LIDT) is measured according to ISO 21254–1:2011.

a.1. 'Deformable mirrors' having an active optical aperture greater than 10 mm and having any of the following, and ''specially designed'' components therefor:

a.1.a. Having all the following:

a.1.a.1. A mechanical resonant frequency of 750 Hz or more; *and*

a.1.a.2. More than 200 actuators; *or*

a.1.b. A Laser Induced Damage Threshold (LIDT) being any of the following:

a.1.b.1. Greater than 1 kW/cm^2 using a ''CW laser''; *or*

a.1.b.2. Greater than 2 J/cm^2 using 20 ns ''laser'' pulses at 20 Hz repetition rate;

Technical Notes: For the purposes of 6A004.a.1:

1. 'Deformable mirrors' are mirrors having any of the following:

a. A single continuous optical reflecting surface which is dynamically deformed by the application of individual torques or forces to compensate for distortions in the optical waveform incident upon the mirror; or

b. Multiple optical reflecting elements that can be individually and dynamically repositioned by the application of torques or forces to compensate for distortions in the optical waveform incident upon the mirror.

2. 'Deformable mirrors' are also known as adaptive optic mirrors.

a.2. Lightweight monolithic mirrors having an average ''equivalent density'' of less than 30 kg/m^2 and a total mass exceeding 10 kg;

a.3. Lightweight ''composite'' or foam mirror structures having an average ''equivalent density'' of less than 30 kg/m^2 and a total mass exceeding 2 kg;

Note: 6A004.a.2 and 6A004.a.3 do not apply to mirrors ''specially designed'' to direct solar radiation for terrestrial heliostat installations.

a.4. Mirrors ''specially designed'' for beam steering mirror stages specified in 6A004.d.2.a with a flatness of λ/10 or better (λ is equal to 633 nm) and having any of the following:

a.4.a. Diameter or major axis length greater than or equal to 100 mm; *or*

a.4.b. Having all of the following:

a.4.b.1. Diameter or major axis length greater than 50 mm but less than 100 mm; *and*

a.4.b.2. A Laser Induced Damage Threshold (LIDT) being any of the following:

a.4.b.2.a. Greater than 10 kW/cm2 using a ''CW laser''; *or*

a.4.b.2.b. Greater than 20 J/cm2 using 20 ns ''laser'' pulses at 20 Hz repetition rate;

N.B. For optical mirrors ''specially designed'' for lithography equipment, see 3B001.

b. Optical ''components'' made from zinc selenide (ZnSe) or zinc sulfide (ZnS) with transmission in the wavelength range exceeding 3,000 nm but not exceeding 25,000 nm and having any of the following:

b.1. Exceeding 100 cm^3 in volume; *or*

b.2. Exceeding 80 mm in diameter or length of major axis and 20 mm in thickness (depth);

c. ''Space-qualified'' ''components'' for optical systems, as follows:

c.1. ''Components'' lightweighted to less than 20% ''equivalent density'' compared with a solid blank of the same aperture and thickness;

c.2. Raw substrates, processed substrates having surface coatings (single-layer or multi-layer, metallic or dielectric, conducting, semiconducting or insulating) or having protective films;

c.3. Segments or assemblies of mirrors designed to be assembled in space into an optical system with a collecting aperture equivalent to or larger than a single optic 1 m in diameter;

c.4. ''Components'' manufactured from ''composite'' materials having a coefficient of linear thermal expansion, in any coordinate direction, equal to or less than 5×10^{-6}/K;

d. Optical control equipment as follows:

d.1. Equipment ''specially designed'' to maintain the surface figure or orientation of the ''space-qualified'' ''components'' controlled by 6A004.c.1 or 6A004.c.3;

d.2. Steering, tracking, stabilisation and resonator alignment equipment as follows:

d.2.a. Beam steering mirror stages designed to carry mirrors having diameter or major axis length greater than 50 mm and having all of the following, and ''specially designed'' electronic control equipment therefor:

d.2.a.1. A maximum angular travel of ±26 mrad or more;

d.2.a.2. A mechanical resonant frequency of 500 Hz or more; *and*

d.2.a.3. An angular ''accuracy'' of 10 µrad (microradians) or less (better);

d.2.b. Resonator alignment equipment having bandwidths equal to or more than 100 Hz and an ''accuracy'' of 10 µrad or less (better);

d.3. Gimbals having all of the following:

d.3.a. A maximum slew exceeding 5°;

d.3.b. A bandwidth of 100 Hz or more;

d.3.c. Angular pointing errors of 200 µrad (microradians) or less; *and*

d.3.d. Having any of the following:

d.3.d.1. Exceeding 0.15 m but not exceeding 1 m in diameter or major axis length and capable of angular accelerations exceeding 2 rad (radians)/s^2; *or*

d.3.d.2. Exceeding 1 m in diameter or major axis length and capable of angular accelerations exceeding 0.5 rad (radians)/s^2;

d.4. [Reserved]

e. 'Aspheric optical elements' having all of the following:

e.1. Largest dimension of the optical-aperture greater than 400 mm;

e.2. Surface roughness less than 1 nm (rms) for sampling lengths equal to or greater than 1 mm; *and*

e.3. Coefficient of linear thermal expansion's absolute magnitude less than 3×10^{-6}/K at 25 °C;

Technical Note: 1. For the purposes of 6A004.e, an 'aspheric optical element' is any element used in an optical system whose imaging surface or surfaces are designed to depart from the shape of an ideal sphere.

2. For the purposes of 6A004.e.2, manufacturers are not required to measure the surface roughness unless the optical element was designed or manufactured with the intent to meet, or exceed, the control parameter.

Note: 6A004.e does not control 'aspheric optical elements' having any of the following:

a. Largest optical-aperture dimension less than 1 m and focal length to aperture ratio equal to or greater than 4.5:1;

b. Largest optical-aperture dimension equal to or greater than 1 m and focal length to aperture ratio equal to or greater than 7:1;

c. Designed as Fresnel, flyeye, stripe, prism or diffractive optical elements;

d. Fabricated from borosilicate glass having a coefficient of linear thermal expansion greater than 2.5×10^{-6}/K at 25 °C; or

e. An x-ray optical element having inner mirror capabilities (e.g., tube-type mirrors).

f. Dynamic wavefront measuring equipment having all of the following:

f.1. 'Frame rates' equal to or more than 1 kHz; *and*

f.2. A wavefront accuracy equal to or less (better) than λ/20 at the designed wavelength.

Technical Note: For the purposes of 6A004.f, 'frame rate' is a frequency at which all ''active pixels'' in the ''focal plane array'' are integrated for recording images projected by the wavefront sensor optics.

6A005 "Lasers", "components" and optical equipment, as follows (see List of Items Controlled), excluding items that are subject to the export licensing authority of the Nuclear Regulatory Commission (see 10 CFR part 110).

LICENSE REQUIREMENTS

Reason for Control: NS, NP, AT

Control(s)	Country chart (see Supp. No. 1 to part 738)
NS applies to entire entry	NS Column 2
NP applies to lasers controlled by 6A005.a.2, a.3, a.4, b.2.b, b.3, b.4, b.6.c, c.1.b, c.2.b, d.2, d.3.c, or d.4.c that meet or exceed the technical parameters described in 6A205.	NP Column 1
AT applies to entire entry	AT Column 1

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

LVS: N/A for NP items

$3000 for all other items

GBS: Neodymium-doped (other than glass) ''lasers'' controlled by 6A005.b.6.d.2 (except

6A005.b.6.d.2.b) that have an output wavelength exceeding 1,000 nm, but not exceeding 1,100 nm, and an average or CW output power not exceeding 2 kW, and operate in a pulse-excited, non- ''Q-switched'' multiple-transverse mode, or in a continuously excited, multiple-transverse mode; Dye and Liquid Lasers controlled by 6A005.c.1, c.2 and c.3, except for a pulsed single longitudinal mode oscillator having an average output power exceeding 1 W and a repetition rate exceeding 1 kHz if the ''pulse duration'' is less than 100 ns; CO ''lasers'' controlled by 6A005.d.2 having a CW maximum rated single or multimode output power not exceeding 10 kW; CO_2 or CO/CO_2 ''lasers'' controlled by 6A005.d.3 having an output wavelength in the range from 9,000 to 11,000 nm and having a pulsed output not exceeding 2 J per pulse and a maximum rated average single or multimode output power not exceeding 5 kW; and CO_2 ''lasers'' controlled by 6A005.d.3 that operate in CW multiple-transverse mode, and having a CW output power not exceeding 15 kW.

LIST OF ITEMS CONTROLLED

Related Controls (1) See ECCN *6D001* for ''software'' for items controlled under this entry. (2) See ECCNs *6E001* (''development''), *6E002* (''production''), and *6E201* (''use'') for technology for items controlled under this entry. (3) Also see ECCNs *6A205* and *6A995*. (4) See ECCN 3B001 for excimer ''lasers'' ''specially designed'' for lithography equipment. (5) ''Lasers'' ''especially designed'' or prepared for use in isotope separation are subject to the export licensing authority of the Nuclear Regulatory Commission (see 10 CFR part 110). (6) See USML Category XII(b) and (e) for laser systems or lasers subject to the ITAR. (7) See USML Category XVIII for certain laser-based directed energy weapon systems, equipment, and components subject to the ITAR.

Related Definitions: For the purposes of 6A005: (1) 'Wall-plug efficiency' is defined as the ratio of ''laser'' output power (or ''average output power'') to total electrical input power required to operate the ''laser'', including the power supply/conditioning and thermal conditioning/heat exchanger, see 6A005.a.6.b.1 and 6A005.b.6; (2) 'Non-repetitive pulsed' refers to ''lasers'' that produce either a single output pulse or that have a time interval between pulses exceeding one minute, see Note 2 of 6A005 and 6A005.d.6.

Items:

Notes: 1. Pulsed ''lasers'' include those that run in a continuous wave (CW) mode with pulses superimposed.

2. Excimer, semiconductor, chemical, CO, CO^2, and 'non-repetitive pulsed' Nd:glass ''lasers'' are only specified by 6A005.d.

Technical Note: For the purposes of 6A005 Note 2, 'non-repetitive pulsed' refers to ''lasers'' that produce either a single output pulse or that have a time interval between pulses exceeding one minute.

3. 6A005 includes fiber ''lasers''.

4. The control status of ''lasers'' incorporating frequency conversion (i.e., wavelength change) by means other than one ''laser'' pumping another ''laser'' is determined by applying the control parameters for both the output of the source ''laser'' and the frequency-converted optical output.

5. 6A005 does not control ''lasers'' as follows:

a. Ruby with output energy below 20 J;

b. Nitrogen;

c. Krypton.

6. For the purposes of 6A005.a and 6A005.b, 'single transverse mode' refers to ''lasers'' with a beam profile having an M^2-factor of less than 1.3, while 'multiple transverse mode' refers to ''lasers'' with a beam profile having an M^2-factor of 1.3 or higher

a. Non-''tunable'' continuous wave ''(CW) lasers'' having any of the following:

a.1. Output wavelength less than 150 nm and output power exceeding 1W;

a.2. Output wavelength of 150 nm or more but not exceeding 510 nm and output power exceeding 30 W;

Note: 6A005.a.2 does not control Argon ''lasers'' having an output power equal to or less than 50 W.

a.3. Output wavelength exceeding 510 nm but not exceeding 540 nm and any of the following:

a.3.a. 'Single transverse mode' output and output power exceeding 50 W; *or*

a.3.b. 'Multiple transverse mode' output and output power exceeding 150 W;

a.4. Output wavelength exceeding 540 nm but not exceeding 800 nm and output power exceeding 30 W;

a.5. Output wavelength exceeding 800 nm but not exceeding 975 nm and any of the following:

a.5.a. 'Single transverse mode' output and output power exceeding 50 W; *or*

a.5.b. 'Multiple transverse mode' output and output power exceeding 80 W;

a.6. Output wavelength exceeding 975 nm but not exceeding 1,150 nm and any of the following;

a.6.a. 'Single transverse mode' output and any of the following:

a.6.a.1. Output power exceeding 1,000 W; *or*

a.6.a.2. Having all of the following:

a.6.a.2.a. Output power exceeding 500 W; *and*

a.6.a.2.b. Spectral bandwidth less than 40 GHz; *or*

a.6.b. 'Multiple transverse mode' output and any of the following:

a.6.b.1. 'Wall-plug efficiency' exceeding 18% and output power exceeding 1,000 W; or

a.6.b.2. Output power exceeding 2 kW;

Note 1: 6A005.a.6.b does not control 'multiple transverse mode', industrial ''lasers'' with output power exceeding 2 kW and not exceeding 6 kW with a total mass greater than 1,200 kg. For the purpose of this note, total mass includes all ''components'' required to operate the ''laser,'' e.g., ''laser,'' power supply, heat exchanger, but excludes external optics for beam conditioning or delivery.

Note 2: 6A005.a.6.b does not apply to 'multiple transverse mode', industrial ''lasers'' having any of the following:

a. [Reserved];

b. Output power exceeding 1 kW but not exceeding 1.6 kW and having a BPP exceeding 1.25 mm·mrad;

c. Output power exceeding 1.6 kW but not exceeding 2.5 kW and having a BPP exceeding 1.7 mm·mrad;

d. Output power exceeding 2.5 kW but not exceeding 3.3 kW and having a BPP exceeding 2.5 mm·mrad;

e. Output power exceeding 3.3 kW but not exceeding 6 kW and having a BPP exceeding 3.5 mm·mrad;

f. [Reserved]

g. [Reserved]

h. Output power exceeding 6 kW but not exceeding 8 kW and having a BPP exceeding 12 mm·mrad; or

i. Output power exceeding 8 kW but not exceeding 10 kW and having a BPP exceeding 24 mm·mrad;

a.7. Output wavelength exceeding 1,150 nm but not exceeding 1,555 nm and any of the following:

a.7.a. 'Single transverse mode' and output power exceeding 50 W; *or*

a.7.b. 'Multiple transverse mode' and output power exceeding 80 W;

a.8. Output wavelength exceeding 1,555 nm but not exceeding 1,850 nm and output power exceeding 1 W;

a.9. Output wavelength exceeding 1,850 nm but not exceeding 2,100 nm, and any of the following:

a.9.a. 'Single transverse mode' and output power exceeding 1 W; *or*

a.9.b. 'Multiple transverse mode' output and output power exceeding 120 W; *or*

a.10. Output wavelength exceeding 2,100 nm and output power exceeding 1 W;

b. Non-''tunable'' ''pulsed lasers'' having any of the following:

b.1. Output wavelength less than 150 nm and any of the following:

b.1.a. Output energy exceeding 50 mJ per pulse and ''peak power'' exceeding 1 W; *or*

b.1.b. ''Average output power'' exceeding 1 W;

b.2. Output wavelength of 150 nm or more but not exceeding 510 nm and any of the following:

b.2.a. Output energy exceeding 1.5 J per pulse and ''peak power'' exceeding 30 W; *or*

b.2.b. ''Average output power'' exceeding 30 W;

Note: 6A005.b.2.b does not control Argon ''lasers'' having an ''average output power'' equal to or less than 50 W.

b.3. Output wavelength exceeding 510 nm, but not exceeding 540 nm and any of the following:

b.3.a. 'Single transverse mode' output and any of the following:

b.3.a.1. Output energy exceeding 1.5 J per pulse and ''peak power'' exceeding 50 W; *or*

b.3.a.2. ''Average output power'' exceeding 80 W; *or*

b.3.b. 'Multiple transverse mode' output and any of the following:

b.3.b.1. Output energy exceeding 1.5 J per pulse and ''peak power'' exceeding 150 W; or

b.3.b.2. ''Average output power'' exceeding 150 W;

b.4. Output wavelength exceeding 540 nm but not exceeding 800 nm and any of the following:

b.4.a. ''Pulse duration'' less than 1 ps and any of the following:

b.4.a.1. Output energy exceeding 0.005 J per pulse and ''peak power'' exceeding 5 GW; *or*

b.4.a.2. ''Average output power'' exceeding 20 W; *or*

b.4.b. ''Pulse duration'' equal to or exceeding 1 ps and any of the following:

b.4.b.1. Output energy exceeding 1.5 J per pulse and ''peak power'' exceeding 30 W; *or*

b.4.b.2. ''Average output power'' exceeding 30 W;

b.5. Output wavelength exceeding 800 nm but not exceeding 975 nm and any of the following:

b.5.a. ''Pulse duration'' less than 1ps and any of the following:

b.5.a.1. Output energy exceeding 0.005 J per pulse and ''peak power'' exceeding 5 GW; *or*

b.5.a.2. 'Single transverse mode' output and ''average output power'' exceeding 20 W;

b.5.b. ''Pulse duration'' equal to or exceeding 1 ps and not exceeding 1 μs and any of the following:

b.5.b.1. Output energy exceeding 0.5 J per pulse and ''peak power'' exceeding 50 W;

b.5.b.2. 'Single transverse mode' output and ''average output power'' exceeding 20 W; *or*

b.5.b.3. 'Multiple transverse mode' output and ''average output power'' exceeding 50 W; *or*

b.5.c. ''Pulse duration'' exceeding 1 μs and any of the following:

b.5.c.1. Output energy exceeding 2 J per pulse and ''peak power'' exceeding 50 W;

b.5.c.2. 'Single transverse mode' output and ''average output power'' exceeding 50 W; *or*

b.5.c.3. 'Multiple transverse mode' output and ''average output power'' exceeding 80 W.

b.6. Output wavelength exceeding 975 nm but not exceeding 1,150 nm and any of the following:

b.6.a. ''Pulse duration'' of less than 1 ps, and any of the following:

b.6.a.1. Output ''peak power'' exceeding 2 GW per pulse;

b.6.a.2. ''Average output power'' exceeding 30 W; *or*

b.6.a.3. Output energy exceeding 0.002 J per pulse;

b.6.b. ''Pulse duration'' equal to or exceeding 1 ps and less than 1 ns, and any of the following:

b.6.b.1. Output ''peak power'' exceeding 5 GW per pulse;

b.6.b.2. ''Average output power'' exceeding 50 W; *or*

b.6.b.3. Output energy exceeding 0.1 J per pulse;

b.6.c. ''Pulse duration'' equal to or exceeding 1 ns but not exceeding 1 μs and any of the following:

b.6.c.1. 'Single transverse mode' output and any of the following:

b.6.c.1.a. ''Peak power'' exceeding 100 MW;

b.6.c.1.b. ''Average output power'' exceeding 20 W limited by design to a maximum pulse repetition frequency less than or equal to 1 kHz;

b.6.c.1.c. 'Wall-plug efficiency' exceeding 12%, ''average output power'' exceeding 100 W and capable of operating at a pulse repetition frequency greater than 1 kHz;

b.6.c.1.d. ''Average output power'' exceeding 150 W and capable of operating at a pulse repetition frequency greater than 1 kHz; *or*

b.6.c.1.e. Output energy exceeding 2 J per pulse; *or*

b.6.c.2. 'Multiple transverse mode' output and any of the following:

b.6.c.2.a. ''Peak power'' exceeding 400 MW;

b.6.c.2.b. 'Wall-plug efficiency' exceeding 18% and ''average output power'' exceeding 500 W;

b.6.c.2.c. ''Average output power'' exceeding 2 kW; or

b.6.c.2.d. Output energy exceeding 4 J per pulse; *or*

b.6.d. ''Pulse duration'' exceeding 1 μs and any of the following:

b.6.d.1. 'Single transverse mode' output and any of the following:

b.6.d.1.a. ''Peak power'' exceeding 500 kW;

b.6.d.1.b. 'Wall-plug efficiency' exceeding 12% and ''average output power'' exceeding 100 W; *or*

b.6.d.1.c. ''Average output power'' exceeding 150 W; *or*

b.6.d.2. 'Multiple transverse mode' output and any of the following:

b.6.d.2.a. ''Peak power'' exceeding 1 MW;

b.6.d.2.b. 'Wall-plug efficiency' exceeding 18% and ''average output power'' exceeding 500 W; *or*

b.6.d.2.c. ''Average output power'' exceeding 2 kW;

b.7. Output wavelength exceeding 1,150 nm but not exceeding 1,555 nm and any of the following:

b.7.a. ''Pulse duration'' not exceeding 1 μs and any of the following:

b.7.a.1. Output energy exceeding 0.5 J per pulse and ''peak power'' exceeding 50 W;

b.7.a.2. 'Single transverse mode' output and ''average output power'' exceeding 20 W; *or*

b.7.a.3. 'Multiple transverse mode' output and ''average output power'' exceeding 50 W; *or*

b.7.b. ''Pulse duration'' exceeding 1 μs and any of the following:

b.7.b.1. Output energy exceeding 2 J per pulse and ''peak power'' exceeding 50 W;

b.7.b.2. 'Single transverse mode' output and ''average output power'' exceeding 50 W; *or*

b.7.b.3. 'Multiple transverse mode' output and ''average output power'' exceeding 80 W;

b.8. Output wavelength exceeding 1,555 nm but not exceeding 1,850 nm, and any of the following:

b.8.a. Output energy exceeding 100 mJ per pulse and ''peak power'' exceeding 1 W; *or*

b.8.b. ''Average output power'' exceeding 1 W;

b.9. Output wavelength exceeding 1,850 nm but not exceeding 2,100 nm, and any of the following:

b.9.a. 'Single transverse mode' and any of the following:

b.9.a.1. Output energy exceeding 100 mJ per pulse and ''peak power'' exceeding 1 W; *or*

b.9.a.2. ''Average output power'' exceeding 1 W;

b.9.b. 'Multiple transverse mode' and any of the following:

b.9.b.1. Output energy exceeding 100 mJ per pulse and ''peak power'' exceeding 10 kW; *or*

b.9.b.2. ''Average output power'' exceeding 120 W; *or*

b.10. Output wavelength exceeding 2,100 nm and any of the following:

b.10.a. Output energy exceeding 100 mJ per pulse and ''peak power'' exceeding 1 W; *or*

b.10.b. ''Average output power'' exceeding 1 W;

c. ''Tunable'' lasers having any of the following:

c.1. Output wavelength less than 600 nm and any of the following:

c.1.a. Output energy exceeding 50 mJ per pulse and ''peak power'' exceeding 1 W; *or*

c.1.b. Average or CW output power exceeding 1W;

Note: 6A005.c.1 does not apply to dye ''lasers'' or other liquid ''lasers,'' having a multimode output and a wavelength of 150 nm or more but not exceeding 600 nm and all of the following:

1. Output energy less than 1.5 J per pulse or a ''peak power'' less than 20 W; and

2. Average or CW output power less than 20 W.

c.2. Output wavelength of 600 nm or more but not exceeding 1,400 nm, and any of the following:

c.2.a. Output energy exceeding 1 J per pulse and ''peak power'' exceeding 20 W; *or*

c.2.b. Average or CW output power exceeding 20 W; *or*

c.3. Output wavelength exceeding 1,400 nm and any of the following:

c.3.a. Output energy exceeding 50 mJ per pulse and ''peak power'' exceeding 1 W; *or*

c.3.b. Average or CW output power exceeding 1 W;

d. Other ''lasers'', not controlled by 6A005.a, 6A005.b, or 6A005.c as follows:

d.1. Semiconductor ''lasers'' as follows:

Notes: 1. 6A005.d.1 includes semiconductor ''lasers'' having optical output connectors (e.g., fiber optic pigtails).

2. The control status of semiconductor ''lasers'' ''specially designed'' for other equipment is determined by the control status of the other equipment.

d.1.a. Individual single-transverse mode semiconductor ''lasers'' having any of the following:

d.1.a.1. Wavelength equal to or less than 1,570 nm and average or CW output power, exceeding 2.0 W; *or*

d.1.a.2. Wavelength greater than 1,570 nm and average or CW output power, exceeding 500 mW;

d.1.b. Individual 'multiple-transverse mode' semiconductor ''lasers'' having any of the following:

d.1.b.1. Wavelength of less than 1,400 nm and average or CW output power, exceeding 25 W;

d.1.b.2. Wavelength equal to or greater than 1,400 nm and less than 1,900 nm and average or CW output power, exceeding 2.5 W; *or*

d.1.b.3. Wavelength equal to or greater than 1,900 nm and average or CW output power, exceeding 1 W;

d.1.c. Individual semiconductor ''laser'' 'bars' having any of the following:

d.1.c.1. Wavelength of less than 1,400 nm and average or CW output power, exceeding 100 W;

d.1.c.2. Wavelength equal to or greater than 1,400 nm and less than 1,900 nm and average or CW output power, exceeding 25 W; *or*

d.1.c.3. Wavelength equal to or greater than 1,900 nm and average or CW output power, exceeding 10 W;

d.1.d. Semiconductor ''laser'' 'stacked arrays' (two dimensional arrays) having any of the following:

d.1.d.1. Wavelength less than 1,400 nm and having any of the following:

d.1.d.1.a. Average or CW total output power less than 3 kW and having average or CW output 'power density' greater than 500 W/cm^2;

d.1.d.1.b. Average or CW total output power equal to or exceeding 3 kW but less than or equal to 5 kW, and having average or CW output 'power density' greater than 350W/cm^2;

d.1.d.1.c. Average or CW total output power exceeding 5 kW;

d.1.d.1.d. Peak pulsed 'power density' exceeding 2,500 W/cm^2; *or*

Note: 6A005.d.1.d.1.d does not apply to epitaxially-fabricated monolithic devices.

d.1.d.1.e. Spatially coherent average or CW total output power, greater than 150 W;

d.1.d.2. Wavelength greater than or equal to 1,400 nm but less than 1,900 nm, and having any of the following:

d.1.d.2.a. Average or CW total output power less than 250 W and average or CW output 'power density' greater than 150 W/cm2;

d.1.d.2.b. Average or CW total output power equal to or exceeding 250 W but less than or equal to 500 W, and having average or CW output 'power density' greater than 50W/cm^2;

d.1.d.2.c. Average or CW total output power exceeding 500 W;

d.1.d.2.d. Peak pulsed 'power density' exceeding 500 W/cm^2; *or*

Note: 6A005.d.1.d.2.d does not apply to epitaxially-fabricated monolithic devices.

d.1.d.2.e. Spatially coherent average or CW total output power, exceeding 15 W;

d.1.d.3. Wavelength greater than or equal to 1,900 nm and having any of the following:

d.1.d.3.a. Average or CW output 'power density' greater than 50 W/cm^2;

d.1.d.3.b. Average or CW output power greater than 10 W; *or*

d.1.d.3.c. Spatially coherent average or CW total output power, exceeding 1.5 W; *or*

d.1.d.4. At least one ''laser'' 'bar' specified by 6A005.d.1.c;

Technical Note: For the purposes of 6A005.d.1.d, 'power density' means the total ''laser'' output power divided by the emitter surface area of the 'stacked array'.

d.1.e. Semiconductor ''laser'' 'stacked arrays', other than those specified by 6A005.d.1.d, having all of the following:

d.1.e.1. ''Specially designed'' or modified to be combined with other 'stacked arrays' to form a larger 'stacked array'; *and*

d.1.e.2. Integrated connections, common for both electronics and cooling;

Note 1: 'Stacked arrays', formed by combining semiconductor ''laser'' 'stacked arrays' specified by 6A005.d.1.e, that are not designed to be further combined or modified are specified by 6A005.d.1.d.

Note 2: 'Stacked arrays', formed by combining semiconductor ''laser'' 'stacked arrays' specified by 6A005.d.1.e, that are designed to be further combined or modified are specified by 6A005.d.1.e.

Note 3: 6A005.d.1.e does not apply to modular assemblies of single 'bars' designed to be fabricated into end to end stacked linear arrays.

Technical Notes: For the purposes of 6A005.d.1.e:

1. Semiconductor ''lasers'' are commonly called ''laser'' diodes.

2. A 'bar' (also called a semiconductor ''laser'' 'bar', a ''laser'' diode 'bar' or diode 'bar') consists of multiple semiconductor ''lasers'' in a one-dimensional array.

3. A 'stacked array' consists of multiple 'bars' forming a two-dimensional array of semiconductor ''lasers''.

d.2. Carbon monoxide (CO) ''lasers'' having any of the following:

d.2.a. Output energy exceeding 2 J per pulse and ''peak power'' exceeding 5 kW; *or*

d.2.b. Average or CW output power, exceeding 5 kW;

d.3. Carbon dioxide (CO_2) ''lasers'' having any of the following:

d.3.a. CW output power exceeding 15 kW;

d.3.b. Pulsed output with ''pulse duration'' exceeding 10 μs and any of the following:

d.3.b.1. ''Average output power'' exceeding 10 kW; *or*

d.3.b.2. ''Peak power'' exceeding 100 kW; *or*

d.3.c. Pulsed output with a ''pulse duration'' equal to or less than 10 μs and any of the following:

d.3.c.1. Pulse energy exceeding 5 J per pulse; *or*

d.3.c.2. ''Average output power'' exceeding 2.5 kW;

d.4. Excimer ''lasers'' having any of the following:

d.4.a. Output wavelength not exceeding 150 nm and any of the following:

d.4.a.1. Output energy exceeding 50 mJ per pulse; *or*

d.4.a.2. ''Average output power'' exceeding 1 W;

d.4.b. Output wavelength exceeding 150 nm but not exceeding 190 nm and any of the following:

d.4.b.1. Output energy exceeding 1.5 J per pulse; *or*

d.4.b.2. ''Average output power'' exceeding 120 W;

d.4.c. Output wavelength exceeding 190 nm but not exceeding 360 nm and any of the following:

d.4.c.1. Output energy exceeding 10 J per pulse; *or*

d.4.c.2. ''Average output power'' exceeding 500 W; *or*

d.4.d. Output wavelength exceeding 360 nm and any of the following:

d.4.d.1. Output energy exceeding 1.5 J per pulse; *or*

d.4.d.2. ''Average output power'' exceeding 30 W;

Note: For excimer ''lasers'' ''specially designed'' for lithography equipment, see 3B001.

d.5. ''Chemical lasers'' as follows:

d.5.a. Hydrogen Fluoride (HF) ''lasers';

d.5.b. Deuterium Fluoride (DF) ''lasers'';

d.5.c. 'Transfer lasers' as follows:

d.5.c.1. Oxygen Iodine (O_2-I) ''lasers'';

d.5.c.2. Deuterium Fluoride-Carbon dioxide (DF–CO_2) ''lasers'';

Technical Note: For the purposes of 6A005.d.5.c, 'transfer lasers' are ''lasers'' in which the lasing species are excited through the transfer of energy by collision of a non-lasing atom or molecule with a lasing atom or molecule species.

d.6. 'Non-repetitive pulsed' Neodymium (Nd) glass ''lasers'' having any of the following:

d.6.a. A ''pulse duration'' not exceeding 1 μs and output energy exceeding 50 J per pulse; *or*

d.6.b. A ''pulse duration'' exceeding 1 μs and output energy exceeding 100 J per pulse;

e. ''Components'' as follows:

e.1. Mirrors cooled either by 'active cooling' or by heat pipe cooling;

Technical Note: For the purposes of 6A005.e.1, 'active cooling' is a cooling technique for optical ''components'' using flowing fluids within the subsurface (nominally less than 1 mm below the optical surface) of the optical component to remove heat from the optic.

e.2. Optical mirrors or transmissive or partially transmissive optical or electro-optical-''components,'' other than fused tapered fiber combiners and Multi-Layer Dielectric gratings (MLDs), ''specially designed'' for use with controlled ''lasers'';

Note to 6A005.e.2: Fiber combiners and MLDs are specified by 6A005.e.3.

e.3. Fiber ''laser'' ''components'' as follows:

e.3.a. Multimode to multimode fused tapered fiber combiners having all of the following:

e.3.a.1. An insertion loss better (less) than or equal to 0.3 dB maintained at a rated total average or CW output power (excluding output power transmitted through the single mode core if present) exceeding 1,000 W; *and*

e.3.a.2. Number of input fibers equal to or greater than 3;

e.3.b. Single mode to multimode fused tapered fiber combiners having all of the following:

e.3.b.1. An insertion loss better (less) than 0.5 dB maintained at a rated total average or CW output power exceeding 4,600 W;

e.3.b.2. Number of input fibers equal to or greater than 3; *and*

e.3.b.3. Having any of the following:

e.3.b.3.a. A Beam Parameter Product (BPP) measured at the output not exceeding 1.5 mm mrad for a number of input fibers less than or equal to 5; *or*

e.3.b.3.b. A BPP measured at the output not exceeding 2.5 mm mrad for a number of input fibers greater than 5;

e.3.c. MLDs having all of the following:

e.3.c.1. Designed for spectral or coherent beam combination of 5 or more fiber ''lasers;'' *and*

e.3.c.2. CW ''Laser'' Induced Damage Threshold (LIDT) greater than or equal to 10 kW/cm^2;

f. Optical equipment as follows:

N.B.: For shared aperture optical elements, capable of operating in ''Super-High Power Laser'' (''SHPL'') applications, see the U.S. Munitions List (22 CFR part 121).

f.1. [Reserved]

N.B.: For items previously specified by 6A005.f.1, see 6A004.f.

f.2. ''Laser'' diagnostic equipment ''specially designed'' for dynamic measurement of ''SHPL'' system angular beam steering errors and having an angular ''accuracy'' of 10 μrad (microradians) or less (better);

f.3. Optical equipment and ''components'', ''specially designed'' for coherent beam combination in a phased-array ''SHPL'' system and having any of the following:

f.3.a. An ''accuracy'' of 0.1 μm or less, for wavelengths greater than 1 μm; *or*

f.3.b. An ''accuracy'' of λ/10 or less (better) at the designed wavelength, for wavelengths equal to or less than 1 μm;

f.4. Projection telescopes ''specially designed'' for use with ''SHPL'' systems;

g. 'Laser acoustic detection equipment' having all of the following:

g.1. CW ''laser'' output power greater than or equal to 20 mW;

g.2. ''Laser'' frequency stability equal to or better (less) than 10 MHz;

g.3. ''Laser'' wavelengths equal to or exceeding 1,000 nm but not exceeding 2,000 nm;

g.4. Optical system resolution better (less) than 1 nm; *and*

g.5. Optical Signal to Noise ratio equal to or exceeding 10^3.

Technical Note: For the purposes of 6A005.g, 'laser acoustic detection equipment' is sometimes referred to as a ''Laser'' Microphone or Particle Flow Detection Microphone.

6A006 "Magnetometers", "magnetic gradiometers", "intrinsic magnetic gradiometers", underwater electric field sensors, "compensation systems", and "specially designed" "components" therefor, as follows (see List of Items Controlled).

LICENSE REQUIREMENTS

Reason for Control: NS, AT

Control(s)	Country chart (see supp. No. 1 to part 738)
NS applies to entire entry	NS Column 2
AT applies to entire entry	AT Column 1

REPORTING REQUIREMENTS

See §743.1 of the EAR for reporting requirements for exports under License Exceptions, and Validated End-User authorizations.

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

LVS: $1500, N/A for 6A006.a.1; ''Magnetometers'' and subsystems defined in 6A006.a.2 using optically pumped or nuclear precession (proton/Overhauser) having a 'sensitivity' lower (better) than 2 pT (rms) per square root Hz; and 6A006.d, and 6A006.e.

GBS: N/A

SPECIAL CONDITIONS FOR STA

STA: License Exception STA may not be used to ship any commodity in: 6A006.a.1; or 6A006.a.2; or 6A006.c.1 ''Magnetic gradiometers'' using multiple ''magnetometers'' specified by 6A006.a.1 or 6.A006.a.2; or 6A006.d or .e (only for underwater receivers incorporating magnetometers specified in 6A006.a.1 or 6A006.a.2) to any of the destinations listed in Country Group A:6 (See Supplement No.1 to part 740 of the EAR).

LIST OF ITEMS CONTROLLED

Related Controls: See also 6A996. This entry does not control instruments ''specially designed'' for fishery applications or biomagnetic measurements for medical diagnostics.

Related Definitions: N/A

Items:

a. ''Magnetometers'' and subsystems, as follows:

a.1. ''Magnetometers'' using ''superconductive'' (SQUID) ''technology'' and having any of the following:

a.1.a. SQUID systems designed for stationary operation, without ''specially designed'' subsystems designed to reduce in-motion noise, and having a 'sensitivity' equal to or lower (better) than 50 fT (rms) per square root Hz at a frequency of 1 Hz; *or*

a.1.b. SQUID systems having an in-motion-magnetometer 'sensitivity' lower (better) than 20 pT (rms) per square root Hz at a frequency of 1 Hz and ''specially designed'' to reduce in-motion noise;

a.2. ''Magnetometers'' using optically pumped or nuclear precession (proton/Overhauser) ''technology'' having a 'sensitivity' lower (better) than 20 pT (rms) per square root Hz at a frequency of 1 Hz;

a.3. ''Magnetometers'' using fluxgate ''technology'' having a 'sensitivity' equal to or lower (better) than 10 pT (rms) per square root Hz at a frequency of 1 Hz;

a.4. Induction coil ''magnetometers'' having a 'sensitivity' lower (better) than any of the following:

a.4.a. 0.05 nT (rms)/square root Hz at frequencies of less than 1 Hz;

a.4.b. 1×10^{-3} nT (rms)/square root Hz at frequencies of 1 Hz or more but not exceeding 10 Hz; *or*

a.4.c. 1×10^{-4} nT (rms)/square root Hz at frequencies exceeding 10 Hz;

a.5. Fiber optic ''magnetometers'' having a 'sensitivity' lower (better) than 1 nT (rms) per square root Hz;

b. Underwater electric field sensors having a 'sensitivity' lower (better) than 8 nanovolt per meter per square root Hz when measured at 1 Hz;

c. ''Magnetic gradiometers'' as follows:

c.1. ''Magnetic gradiometers'' using multiple ''magnetometers'' controlled by 6A006.a;

c.2. Fiber optic ''intrinsic magnetic gradiometers'' having a magnetic gradient field 'sensitivity' lower (better) than 0.3 nT/m (rms) per square root Hz;

c.3. ''Intrinsic magnetic gradiometers'', using ''technology'' other than fiber-optic ''technology'', having a magnetic gradient field 'sensitivity' lower (better) than 0.015 nT/m (rms) per square root Hz;

d. ''Compensation systems'' for magnetic and underwater electric field sensors resulting in a performance equal to or better than the control parameters of 6A006.a, 6A006.b, and 6A006.c; and

e. Underwater electromagnetic receivers incorporating magnetic field sensors specified by 6A006.a or underwater electric field sensors specified by 6A006.b.

Technical Note: For the purposes of 6A006, 'sensitivity' (noise level) is the root mean square of the device-limited noise floor which is the lowest signal that can be measured.

6A007 Gravity meters (gravimeters) and gravity gradiometers, as follows (see List of Items Controlled).

LICENSE REQUIREMENTS

Reason for Control: NS, MT, AT

Control(s)	Country chart (see supp. No. 1 to part 738)
NS applies to entire entry	NS Column 2
MT applies to 6A007.b and .c when the accuracies in 6A007.b.1 and b.2 are met or exceeded.	MT Column 1
AT applies to entire entry	AT Column 1

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

LVS: $3000; N/A for MT

GBS: N/A

LIST OF ITEMS CONTROLLED

Related Controls: (1) See USML Category XII(d) for certain gravity meters (gravimeters) and gravity gradiometers subject to the ITAR. (2) See also ECCNs 6A107, 6A997, and 7A611.

Related Definitions: N/A

Items:

a. Gravity meters designed or modified for ground use and having a static ''accuracy'' of less (better) than 10 μGal;

Note: 6A007.a does not control ground gravity meters of the quartz element (Worden) type.

b. Gravity meters designed for mobile platforms and having all of the following:

b.1. A static ''accuracy'' of less (better) than 0.7 mGal; *and*

b.2. An in-service (operational) ''accuracy'' of less (better) than 0.7 mGal having a 'time-to-steady-state registration' of less than 2 minutes under any combination of attendant corrective compensations and motional influences;

Technical Note: For the purposes of 6A007.b.2, 'time-to-steady-state registration' (also referred to as the gravimeter's response time) is the time over which the disturbing effects of platform induced accelerations (high frequency noise) are reduced.

c. Gravity gradiometers.

6A008 Radar systems, equipment and assemblies, having any of the following (see List of Items Controlled), and "specially designed" "components" therefor.

LICENSE REQUIREMENTS

Reason for Control: NS, MT, RS, AT

Control(s)	Country chart (see supp. No. 1 to part 738)
NS applies to entire entry	NS Column 2
MT applies to items that are designed for airborne applications and that are usable in systems controlled for MT reasons.	MT Column 1
RS applies to 6A008.j.1	RS Column 1
AT applies to entire entry	AT Column 1

REPORTING REQUIREMENTS

See §743.1 of the EAR for reporting requirements for exports under License Exceptions, and Validated End-User authorizations.

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

LVS: $5000; N/A for MT and for 6A008.j.1.

GBS: Yes, for 6A008.b, .c, and l.1 only

SPECIAL CONDITIONS FOR STA

STA: License Exception STA may not be used to ship any commodity in 6A008.d, 6A008.h or 6A008.k to any of the destinations listed in Country Group A:6 (See Supplement No. 1 to part 740 of the EAR).

LIST OF ITEMS CONTROLLED

Related Controls: (1) See also ECCNs 6A108 and 6A998. ECCN 6A998 controls, inter alia, the Light Detection and Ranging (LIDAR) equipment excluded by the note to paragraph j of this ECCN (6A008). (2) See USML Category XII(b) for certain LIDAR, Laser Detection and Ranging (LADAR), or range-gated systems subject to the ITAR.

Related Definitions: N/A

Items:

Note: 6A008 does not control:

—Secondary surveillance radar (SSR);

—Civil Automotive Radar;

—Displays or monitors used for air traffic control (ATC);

—Meteorological (weather) radar;

—Precision Approach Radar (PAR) equipment conforming to ICAO standards and employing electronically steerable linear (1-dimensional) arrays or mechanically positioned passive antennas.

a. Operating at frequencies from 40 GHz to 230 GHz and having any of the following:

a.1. An average output power exceeding 100 mW; *or*

a.2. Locating ''accuracy'' of 1 m or less (better) in range and 0.2 degree or less (better) in azimuth;

b. A tunable bandwidth exceeding ±6.25% of the 'center operating frequency';

Technical Note: For the purposes of 6A008.b, the 'center operating frequency' equals one half of the sum of the highest plus the lowest specified operating frequencies.

c. Capable of operating simultaneously on more than two carrier frequencies;

d. Capable of operating in synthetic aperture (SAR), inverse synthetic aperture (ISAR) radar mode, or sidelooking airborne (SLAR) radar mode;

e. Incorporating electronically scanned array antennae;

Technical Note: For the purposes of 6A008.e, electronically scanned array antennae are also known as electronically steerable array antennae.

f. Capable of heightfinding non-cooperative targets;

g. ''Specially designed'' for airborne (balloon or airframe mounted) operation and having Doppler ''signal processing'' for the detection of moving targets;

h. Employing processing of radar signals and using any of the following:

h.1. ''Radar spread spectrum'' techniques; *or*

h.2. ''Radar frequency agility'' techniques;

i. Providing ground-based operation with a maximum 'instrumented range' exceeding 185 km;

Note: 6A008.i does not control:

a. Fishing ground surveillance radar;

b. Ground radar equipment ''specially designed'' for en route air traffic control, and having all of the following:

1. A maximum 'instrumented range' of 500 km or less;

2. Configured so that radar target data can be transmitted only one way from the radar site to one or more civil ATC centers;

3. Contains no provisions for remote control of the radar scan rate from the en route ATC center; and

4. Permanently installed;

c. Weather balloon tracking radars.

Technical Note: For the purposes of 6A008.i, 'instrumented range' is the specified unambiguous display range of a radar.

j. Being ''laser'' radar or Light Detection and Ranging (LIDAR) equipment and having any of the following:

j.1. ''Space-qualified'';

j.2. Employing coherent heterodyne or homodyne detection techniques and having an angular resolution of less (better) than 20 μrad (microradians); *or*

j.3. Designed for carrying out airborne bathymetric littoral surveys to International Hydrographic Organization (IHO) Order 1a Standard (5th Edition February 2008) for Hydrographic Surveys or better, and using one or more ''lasers'' with a wavelength exceeding 400 nm but not exceeding 600 nm;

Note 1: LIDAR equipment ''specially designed'' for surveying is only specified by 6A008.j.3.

Note 2: 6A008.j does not apply to LIDAR equipment ''specially designed'' for meteorological observation.

Note 3: Parameters in the IHO Order 1a Standard 5th Edition February 2008 are summarized as follows:

Horizontal Accuracy (95% Confidence Level)= 5 m + 5% of depth.

Depth Accuracy for Reduced Depths (95% confidence level) = $\pm\sqrt{(a^2 + (b*d)^2)}$ where:

a = 0.5 m = constant depth error, i.e., the sum of all constant depth errors

b = 0.013 = factor of depth dependent error

*b*d = depth dependent error, i.e., the sum of all depth dependent errors*

d = depth

Feature Detection = Cubic features > 2 m in depths up to 40 m; 10% of depth beyond 40 m.

k. Having ''signal processing'' sub-systems using ''pulse compression'' and having any of the following:

k.1. A ''pulse compression'' ratio exceeding 150; *or*

k.2. A compressed pulse width of less than 200 ns; *or*

Note: 6A008.k.2 does not apply to two dimensional 'marine radar' or 'vessel traffic service' radar, having all of the following:

a. ''Pulse compression'' ratio not exceeding 150;

b. Compressed pulse width of greater than 30 ns;

c. Single and rotating mechanically scanned antenna;

d. Peak output power not exceeding 250 W; and

e. Not capable of ''frequency hopping''.

l. Having data processing sub-systems and having any of the following:

l.1. 'Automatic target tracking' providing, at any antenna rotation, the predicted target position beyond the time of the next antenna beam passage; or

Note: 6A008.l.1 does not control conflict alert capability in ATC systems, or 'marine radar'.

Technical Note: For the purposes of 6A008.l.1, 'automatic target tracking' is a processing technique that automatically determines and provides as output an extrapolated value of the most probable position of the target in real time.

l.2. [Reserved]

l.3. [Reserved]

l.4. Configured to provide superposition and correlation, or fusion, of target data within six seconds from two or more 'geographically dispersed' radar sensors to improve the aggregate performance beyond that of any single sensor specified by 6A008.f, or 6A008.i.

Technical Note: For the purposes of 6A008.l.4, sensors are considered 'geographically dispersed' when each location is distant from any other more than 1,500 m in any direction. Mobile

sensors are always considered 'geographically dispersed'.

N.B.: See also the U.S. Munitions List (22 CFR part 121).

Note: 6A008.l does not apply to systems, equipment and assemblies designed for 'vessel traffic services'.

Technical Notes: 1. For the purposes of 6A008, 'marine radar' is a radar that is designed to navigate safely at sea, inland waterways or near-shore environments.

2. For the purposes of 6A008, 'vessel traffic service' is a vessel traffic monitoring and control service similar to air traffic control for ''aircraft.''

6A102 Radiation hardened detectors, other than those controlled by 6A002, "specially designed" or modified for protecting against nuclear effects (e.g., Electromagnetic Pulse (EMP), X-rays, combined blast and thermal effects) and usable for "missiles," designed or rated to withstand radiation levels which meet or exceed a total irradiation dose of 5×10^5 rads (silicon).

LICENSE REQUIREMENTS

Reason for Control: MT, AT

Control(s)	Country Chart (See Supp. No. 1 to part 738)
MT applies to entire entry	MT Column 1
AT applies to entire entry	AT Column 1

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

LVS: N/A

GBS: N/A

LIST OF ITEMS CONTROLLED

Related Controls: N/A

Related Definitions: In this entry, a detector is defined as a mechanical, electrical, optical or chemical device that automatically identifies and records, or registers a stimulus such as an environmental change in pressure or temperature, an electrical or electromagnetic signal or radiation from a radioactive material.

Items: The list of items controlled is contained in the ECCN heading.

6A103 Radomes designed to withstand a combined thermal shock greater than 100 cal/sq cm accompanied by a peak over pressure of greater than 50 kPa, usable in protecting "missiles" against nuclear effects (e.g., Electromagnetic Pulse (EMP), X-rays, combined blast and thermal effects), and usable for "missiles". (These items are "subject to the ITAR." See 22 CFR parts 120 through 130.)

6A107 Gravity meters (gravimeters) or gravity gradiometers, other than those controlled by 6A007, designed or modified for airborne or marine use, as follows, (see List of Items Controlled) and "specially designed" "parts" and "components" therefor.

LICENSE REQUIREMENTS

Reason for Control: MT, AT

Control(s)	Country chart (see Supp. No. 1 to part 738)
MT applies to entire entry	MT Column 1.
AT applies to entire entry	AT Column 1.

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

LVS: N/A

GBS: N/A

LIST OF ITEMS CONTROLLED

Related Controls: See USML Category XII(d) for certain gravity meters (gravimeters) or gravity gradiometers subject to the ITAR. See also ECCN 7A611.

Related Definitions: 'Time to steady-state registration' (also referred to as the gravity meter's response time) is the time over which the disturbing effects of platform-induced acceleration (high frequency noise) are reduced.

Items:

a. Gravity meters having all of the following characteristics:

a.1. A static or operational accuracy equal to or less (better) than 0.7 milligal (mgal); *and*

a.2. A 'time to steady-state registration' of two minutes or less.

b. Gravity gradiometers

6A108 Radar systems and tracking systems, other than those controlled by 6A008, as follows (see List of Items Controlled).

LICENSE REQUIREMENTS

Reason for Control: MT, AT

Control(s)	Country Chart (See Supp. No. 1 to part 738)
MT applies to entire entry	MT Column 1
AT applies to entire entry	AT Column 1

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

LVS: N/A

GBS: N/A

LIST OF ITEMS CONTROLLED

Related Controls: (1) This entry does not control airborne civil weather radar conforming to international standards for civil weather radars provided that they do not incorporate any of the following: (a) Phased array antennas; (b) Frequency agility; (c) Spread spectrum; or (d) Signal processing ''specially designed'' for the tracking of vehicles. (2) Items in *6A108.a* that are ''specially designed'' or modified

for ''missiles'' or for items on the U.S. Munitions List are ''subject to the ITAR'' (see 22 CFR parts 120 through 130).

Related Definitions: Laser radar systems are defined as those that embody specialized transmission, scanning, receiving and signal processing techniques for utilization of lasers for echo ranging, direction finding and discrimination of targets by location, radial speed and body reflection characteristics.

Items: a. Radar and laser radar systems designed or modified for use in ''missiles'';

Note: 6A108.a includes the following:

a. Terrain contour mapping equipment;

b. Imaging sensor equipment;

c. Scene mapping and correlation (both digital and analog) equipment;

d. Doppler navigation radar equipment.

b. Precision tracking systems, usable for rockets, missiles, or unmanned aerial vehicles capable of achieving a ''range'' equal to or greater than 300 km, as follows:

b.1. Tracking systems which use a code translator installed on the rocket or unmanned aerial vehicle in conjunction with either surface or airborne references or navigation satellite systems to provide real-time measurements of in-flight position and velocity;

b.2. Range instrumentation radars including associated optical/infrared trackers with all of the following capabilities:

b.2.a. Angular resolution better than 1.5 milliradians;

b.2.b. Range of 30 km or greater with a range resolution better than 10 m rms;

b.2.c. Velocity resolution better than 3 m/s.

6A202 Photomultiplier tubes having both of the following characteristics (see List of Items Controlled).

LICENSE REQUIREMENTS

Reason for Control: NP, AT

Control(s)	Country Chart (See Supp. No. 1 to part 738)
NP applies to entire entry	NP Column 1
AT applies to entire entry	AT Column 1

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

LVS: N/A

GBS: N/A

LIST OF ITEMS CONTROLLED

Related Controls: See ECCNs 6E001 (''development''), 6E002 (''production''), and 6E201 (''use'') for technology for items controlled under this entry.

Related Definitions: N/A

Items: a. Photocathode area of greater than 20 cm^2; *and*

b. Anode pulse rise time of less than 1 ns.

6A203 High-speed cameras, imaging devices and "components" therefor, other than those controlled by 6A003 (see List of Items Controlled).

LICENSE REQUIREMENTS

Reason for Control: NP, AT

Control(s)	Country chart (see Supp. No. 1 to part 738)
NP applies to entire entry	NP Column 1.
AT applies to entire entry	AT Column 1.

LVS: N/A

GBS: N/A

LIST OF ITEMS CONTROLLED

Related Controls: (1) See ECCNs 6E001 (''development''), 6E002 (''production''), and 6E201 (''use'') for technology for items controlled under this entry. (2) Also see ECCN 6A003.a.3 and a.4. (3) The act of incorporating a radiation hardened integrated circuit into a TV camera designated as EAR99 does not, in and of itself, cause the TV camera to meet the parameters of ECCN paragraph 6A203.d.

Related Definitions: N/A

Items:

a. Streak cameras and ''specially designed'' components therefor, as follows:

a.1. Streak cameras with writing speeds greater than 0.5 mm/μs;

a.2. Electronic streak cameras capable of 50 ns or less time resolution;

a.3. Streak tubes for cameras described in 6A203.a.2;

a.4. Plug-ins, ''specially designed'' for use with streak cameras having modular structures, that enable the performance characteristics described in 6A203.a.1 or .a.2;

a.5. Synchronizing electronics units, and rotor assemblies consisting of turbines, mirrors and bearings, that are ''specially designed'' for cameras described in 6A203.a.1.

b. Framing cameras and ''specially designed'' components therefor, as follows:

b.1. Framing cameras with recording rates greater than 225,000 frames per second;

b.2. Framing cameras capable of 50 ns or less frame exposure time;

b.3. Framing tubes, and solid-state imaging devices, that have a fast image gating (shutter) time of 50 ns or less and are ''specially designed'' for cameras described in 6A203.b.1 or .b.2;

b.4. Plug-ins, ''specially designed'' for use with framing cameras having modular structures, that enable the performance characteristics described in 6A203.b.1 or .b.2;

b.5. Synchronizing electronic units, and rotor assemblies consisting of turbines, mirrors and bearings, that are ''specially designed'' for cameras described in 6A203.b.1 or .b.2.

c. Solid-state or electron tube cameras and ''specially designed'' components therefor, as follows:

c.1. Solid-state cameras, or electron tube cameras, with a fast image gating (shutter) time of 50 ns or less;

c.2. Solid-state imaging devices, and image intensifiers tubes, that have a fast image gating (shutter) time of 50 ns or less and are ''specially designed'' for cameras described in 6A203.c.1;

c.3. Electro-optical shuttering devices (Kerr or Pockels cells) with a fast image gating (shutter) time of 50 ns or less;

c.4. Plug-ins, ''specially designed'' for use with cameras having modular structures, that enable the performance characteristics described in 6A203.c.1.

Technical Note: High speed single frame cameras can be used alone to produce a single image of a dynamic event, or several such cameras can be combined in a sequentially-triggered system to produce multiple images of an event.

d. Radiation-hardened TV cameras, or lenses therefor, ''specially designed'' or rated as radiation hardened to withstand a total radiation dose greater than 5×10^4 Gy (silicon) without operational degradation.

Technical Note: The term Gy (silicon) refers to the energy in Joules per kilogram absorbed by an unshielded silicon sample when exposed to ionizing radiation.

6A205 "Lasers," "laser" amplifiers and oscillators, other than those controlled by 6A005 (see List of Items Controlled), excluding items that are subject to the export licensing authority of the Nuclear Regulatory Commission (see 10 CFR part 110).

LICENSE REQUIREMENTS

Reason for Control: NP, AT

Control(s)	Country Chart (See Supp. No. 1 to part 738)
NP applies to entire entry	NP Column 1
AT applies to entire entry	AT Column 1

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

LVS: N/A

GBS: N/A

LIST OF ITEMS CONTROLLED

Related Controls: (1) See ECCNs 6E001 (''development''), 6E002 (''production''), and 6E201 (''use'') for technology for items controlled under this entry. (2) Also see ECCNs 6A005 and 6A995. (3) See ECCN 6A005.a.2 for additional controls on argon ion lasers; See ECCN 6A005.b.6.c for additional controls on neodymium-doped lasers. (4) ''Lasers'' ''specially designed'' or prepared for use in isotope separation are subject to the export licensing authority of the Nuclear Regulatory Commission (see 10 CFR part 110).

Related Definitions: N/A

Items: a. Copper vapor lasers having both of the following characteristics:

a.1. Operating at wavelengths between 500 nm and 600 nm; and

a.2. An average output power equal to or greater than 30 W;

b. Argon ion ''lasers'' having both of the following characteristics:

b.1. Operating at wavelengths between 400 nm and 515 nm; and

b.2. An average output power greater than 40 W;

c. Neodymium-doped (other than glass) lasers with an output wavelength between 1000 nm and 1100 nm having either of the following:

c.1. Pulse-excited and Q-switched with a pulse duration equal to or greater than 1 ns, and having either of the following:

c.1.a. A single-transverse mode output with an average output power greater than 40 W; *or*

c.1.b. A multiple-transverse mode output with an average output power greater than 50 W; *or*

c.2. Incorporating frequency doubling to give an output wavelength between 500 nm and 550 nm with an average output power of greater than 40 W.

d. Tunable pulsed single-mode dye laser oscillators having all of the following characteristics:

d.1. Operating at wavelengths between 300 nm and 800 nm;

d.2. An average output greater than 1 W;

d.3. A repetition rate greater than 1 kHz; and

d.4. Pulse width less than 100 ns;

e. Tunable pulsed dye laser amplifiers and oscillators having all of the following characteristics:

e.1. Operating at wavelengths between 300 nm and 800 nm;

e.2. An average output greater than 30 W;

e.3. A repetition rate greater than 1 kHz; and

e.4. Pulse width less than 100 ns;

Note to 6A205.e: 6A205.e does not control single mode oscillators.

f. Alexandrite lasers having all of the following characteristics:

f.1. Operating at wavelengths between 720 nm and 800 nm;

f.2. A bandwidth of 0.005 nm or less;

f.3. A repetition rate greater than 125 Hz; and

f.4. An average output power greater than 30 W;

g. Pulsed carbon dioxide ''lasers'' having all of the following characteristics:

g.1. Operating at wavelengths between 9,000 nm and 11,000 nm;

g.2. A repetition rate greater than 250 Hz;

g.3. An average output power greater than 500 W; and

g.4. Pulse width of less than 200 ns;

Note to 6A205.g: 6A205.g does not control the higher power (typically 1 kW to 5 kW) industrial CO_2 lasers used in applications such as cutting and welding, as these latter lasers are either continuous wave or are pulsed with a pulse width greater than 200 ns.

h. Pulsed excimer lasers (XeF, XeCl, KrF) having all of the following characteristics:

h.1. Operating at wavelengths between 240 nm and 360 nm;

h.2. A repetition rate greater than 250 Hz; and

h.3. An average output power greater than 500 W;

i. Para-hydrogen Raman shifters designed to operate at 16 micrometer output wavelength and at a repetition rate greater than 250 Hz.;

j. Pulsed carbon monoxide lasers having all of the following characteristics:

j.1. Operating at wavelengths between 5,000 and 6,000 nm;

j.2. A repetition rate greater than 250 Hz;

j.3. An average output power greater than 200 W; *and*

j.4. Pulse width of less than 200 ns.

Note to ECCN 6A205.j: 6A205.j does not control the higher power (typically 1 kW to 5 kW) industrial CO lasers used in applications such as cutting and welding, because such lasers are either continuous wave or are pulsed with a pulse width greater than 200 ns.

6A225 Velocity interferometers for measuring velocities exceeding 1 km/s during time intervals of less than 10 microseconds.

LICENSE REQUIREMENTS

Reason for Control: NP, AT

Control(s)	Country Chart (See Supp. No. 1 to part 738)
NP applies to entire entry	NP Column 1
AT applies to entire entry	AT Column 1

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

LVS: N/A

GBS: N/A

LIST OF ITEMS CONTROLLED

Related Controls: See ECCNs 6E001 (''development''), 6E002 (''production''), and 6E201 (''use'') for technology for items controlled under this entry.

Related Definitions: N/A

ECCN Controls: 6A225 includes velocity interferometers, such as VISARs (Velocity Interferometer Systems for Any Reflector), DLIs (Doppler Laser Interferometers) and PDV (Photonic Doppler Velocimeters) also known as Het-V (Heterodyne Velocimeters).

Items: The list of items controlled is contained in the ECCN heading.

6A226 Pressure sensors, as follows (see List of Items Controlled).

LICENSE REQUIREMENTS

Reason for Control: NP, AT

Control(s)	Country Chart (See Supp. No. 1 to part 738)
NP applies to entire entry	NP Column 1
AT applies to entire entry	AT Column 1

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

LVS: N/A

GBS: N/A

LIST OF ITEMS CONTROLLED

Related Controls: See ECCNs 6E001 (''development''), 6E002 (''production''), and 6E201 (''use'') for technology for items controlled under this entry.

Related Definitions: N/A

Items: a. Shock pressure gauges capable of measuring pressures greater than 10 GPa (100 kilobars), including gauges made with manganin, ytterbium, and polyvinylidene bifluoride (PVBF, PVF_2);

b. Quartz pressure transducers for pressures greater than 10 GPa (100 kilobars).

6A293 Cameras not classified ECCNs 6A003 or 6A203 with all the following characteristics: (see List of Items Controlled).

LICENSE REQUIREMENTS

Reason for Control: NP, AT

Control(s)	Country chart (see Supp. No. 1 to part 738)
NP applies to entire entry	NP Column 1
AT applies to entire entry	AT Column 1

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

LVS: N/A

GBS: N/A

SPECIAL CONDITIONS FOR STA

STA: License Exception STA (§740.20 of the EAR) may not be used for ECCN 6A293.

LIST OF ITEMS CONTROLLED

Related Controls: See ECCNs 6A003 and 6A203.

Related Definitions: N/A

Items:

a. Minimum exposure time of 1 microsecond or faster, and

b. a throughput of 13.43 Giga Pixels/s or greater when taken at 205,000 frames/s.

Technical Note: Throughput = Width (pixels) x Height (pixels) x Frames per Second. The width and Height in pixels are those that are achieved at 205,000 frames per second.

Note: This entry includes cameras which may be referred to as high-speed digital imaging cameras, high-speed video cameras or slow-motion cameras or any other camera that meets these parameters.

6A611 Acoustic systems and equipment, radar, and "parts," "components," "accessories," and "attachments" "specially designed" therefor, "specially designed" for a military application that are not enumerated in any USML category or other ECCN are controlled by ECCN 3A611. Military fire control, laser, imaging, and guidance equipment that are not enumerated in any USML category or ECCN are controlled by ECCN 7A611.

6A991 Marine or terrestrial acoustic equipment, n.e.s., capable of detecting or locating underwater objects or features or positioning surface vessels or underwater vehicles; and "specially designed" "parts" and "components," n.e.s.

LICENSE REQUIREMENTS

Reason for Control: AT, foreign policy

Control(s)	Country chart (see Supp. No. 1 to part 738)
AT applies to entire entry ..... Russian industry sector sanctions apply to entire entry.	AT Column 2. See §746.8 for specific license requirements and license review policy.

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

LVS: N/A

GBS: N/A

LIST OF ITEMS CONTROLLED

Related Controls: N/A

Related Definitions: N/A

Items: The list of items controlled is contained in the ECCN heading.

6A992 Optical Sensors, not controlled by 6A002, as follows (see List of Items Controlled).

LICENSE REQUIREMENTS

Reason for Control: AT, RS

Control(s)	Country Chart (See Supp. No. 1 to part 738)
AT applies to entire entry	AT Column 1.

RS applies to entire entry. A license is required for items controlled by this entry for export or reexport to Iraq or transfer within Iraq for regional stability reasons. The Commerce Country Chart is not designed to determine RS license requirements for this entry. See §§742.6 and 746.3 of the EAR for additional information.

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

LVS: N/A

GBS: N/A

LIST OF ITEMS CONTROLLED

Related Controls: N/A

Related Definitions: N/A

Items: a. Image intensifier tubes and ''specially designed'' ''components'' therefor, as follows:

a.1. Image intensifier tubes having all the following:

a.1.a. A peak response in wavelength range exceeding 400 nm, but not exceeding 1,050 nm;

a.1.b. A microchannel plate for electron image amplification with a hole pitch (center-to-center spacing) of less than 25 micrometers; *and*

a.1.c. Having any of the following:

a.1.c.1. An S–20, S–25 or multialkali photocathode; *or*

a.1.c.2. A GaAs or GaInAs photocathode;

a.2. ''Specially designed'' microchannel plates having both of the following characteristics:

a.2.a. 15,000 or more hollow tubes per plate; *and*

a.2.b. Hole pitch (center-to-center spacing) of less than 25 micrometers.

b. Direct view imaging equipment operating in the visible or infrared spectrum, incorporating image intensifier tubes having the characteristics listed in 6A992.a.1.

6A993 Cameras, not controlled by 6A003 or 6A203, as follows (see List of Items Controlled).

LICENSE REQUIREMENTS

Reason for Control: AT

Control(s)	Country Chart (See Supp. No. 1 to part 738)
AT applies to entire entry	AT Column 1.

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

LVS: N/A

GBS: N/A

LIST OF ITEMS CONTROLLED

Related Controls: (1) See ECCN 0A919 for foreign made military commodities that incorporate cameras described in 6A993.a that meet the criteria specified in Note 3.a to 6A003.b.4.b (*i.e.*, having a maximum frame rate equal to or less than 9 Hz). (2) Section 744.9 imposes license requirements on cameras described in 6A993.a as a result of meeting the criteria specified in Note 3.a to 6A003.b.4.b (*i.e.*, having a maximum frame rate equal to or less than 9 Hz) if being exported, reexported, or transferred (in-country) for use by a military end-user or for incorporation into a commodity controlled by ECCN 0A919.

Related Definitions: N/A

Items: a. Cameras that meet the criteria of Note 3 to 6A003.b.4.

b. [Reserved]

6A994 Optics, not controlled by 6A004, as follows (see List of Items Controlled).

LICENSE REQUIREMENTS

Reason for Control: AT

Control(s)	Country Chart (See Supp. No. 1 to part 738)
AT applies to entire entry	AT Column 1

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)
LVS: N/A
GBS: N/A
LIST OF ITEMS CONTROLLED
Related Controls: N/A
Related Definitions: N/A
Items: a. Optical filters:

a.1. For wavelengths longer than 250 nm, comprised of multi-layer optical coatings and having either of the following:

a.1.a. Bandwidths equal to or less than 1 nm Full Width Half Intensity (FWHI) and peak transmission of 90% or more; or

a.1.b. Bandwidths equal to or less than 0.1 nm FWHI and peak transmission of 50% or more;

NOTE: 6A994 does not control optical filters with fixed air gaps or Lyot-type filters.

a.2. For wavelengths longer than 250 nm, and having all of the following:

a.2.a. Tunable over a spectral range of 500 nm or more;

a.2.b. Instantaneous optical bandpass of 1.25 nm or less;

a.2.c. Wavelength resettable within 0.1 ms to an accuracy of 1 nm or better within the tunable spectral range; and

a.2.d. A single peak transmission of 91% or more;

a.3. Optical opacity switches (filters) with a field of view of 30° or wider and a response time equal to or less than 1 ns;

b. ''Fluoride fiber'' cable, or optical fibers therefor, having an attenuation of less than 4 dB/km in the wavelength range exceeding 1,000 nm but not exceeding 3,000 nm.

6A995 "Lasers" as follows (see List of Items Controlled).

LICENSE REQUIREMENTS
Reason for Control: AT

Control(s)	Country Chart (See Supp. No. 1 to part 738)
AT applies to entire entry	AT Column 1

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)
LVS: N/A
GBS: N/A
LIST OF ITEMS CONTROLLED
Related Controls: N/A
Related Definitions: N/A
Items: a. Carbon dioxide (CO_2) ''lasers'' having any of the following:

a.1. A CW output power exceeding 10 kW;

a.2. A pulsed output with a ''pulse duration'' exceeding 10 microseconds; and

a.2.a. An average output power exceeding 10 kW; or

a.2.b. A pulsed ''peak power'' exceeding 100 kW; or

a.3. A pulsed output with a ''pulse duration'' equal to or less than 10 microseconds; and

a.3.a. A pulse energy exceeding 5 J per pulse and ''peak power'' exceeding 2.5 kW; or

a.3.b. An average output power exceeding 2.5 kW;

b. Semiconductor lasers, as follows:

b.1. Individual, single-transverse mode semiconductor ''lasers'' having:

b.1.a. An average output power exceeding 100 mW; or

b.1.b. A wavelength exceeding 1,050 nm;

b.2. Individual, multiple-transverse mode semiconductor ''lasers'', or arrays of individual semiconductor ''lasers'', having a wavelength exceeding 1,050 nm;

c. Ruby ''lasers'' having an output energy exceeding 20 J per pulse;

d. Non-''tunable'' ''pulsed lasers'' having an output wavelength exceeding 975 nm but not exceeding 1,150 nm and having any of the following:

d.1. A ''pulse duration'' equal to or exceeding 1 ns but not exceeding 1 μs, and having any of the following:

d.1.a. A single transverse mode output and having any of the following:

d.1.a.1. A 'wall-plug efficiency' exceeding 12% and an ''average output power'' exceeding 10 W and capable of operating at a pulse repetition frequency greater than 1kHz; *or*

d.1.a.2. An ''average output power'' exceeding 20 W; or

d.1.b. A multiple transverse mode output and having any of the following:

d.1.b.1. A 'wall-plug efficiency' exceeding 18% and an ''average output power'' exceeding 30 W;

d.1.b.2. A ''peak power'' exceeding 200 MW; or

d.1.b.3. An ''average output power'' exceeding 50 W; or

d.2. A ''pulse duration'' exceeding 1 μs and having any of the following:

d.2.a. A single transverse mode output and having any of the following:

d.2.a.1. A 'wall-plug efficiency' exceeding 12% and an ''average output power'' exceeding 10 W and capable of operating at a pulse repetition frequency greater than 1 kHz; or

d.2.a.2. An ''average output power'' exceeding 20 W; or

d.2.b. A multiple transverse mode output and having any of the following:

d.2.b.1. A 'wall-plug efficiency' exceeding 18% and an ''average output power'' exceeding 30 W; or

d.2.b.2. An ''average output power'' exceeding 500 W;

e. Non-''tunable'' continuous wave ''(CW) lasers'', having an output wavelength exceeding 975 nm but not exceeding 1,150 nm and having any of the following:

e.1. A single transverse mode output and having any of the following:

e.1.a. A 'wall-plug efficiency' exceeding 12% and an ''average output power'' exceeding 10 W and capable of operating at a pulse repetition frequency greater than 1 kHz; or

e.1.b. An ''average output power'' exceeding 50 W; or

e.2. A multiple transverse mode output and having any of the following:

e.2.a. A 'wall-plug efficiency' exceeding 18% and an ''average output power'' exceeding 30 W; or

e.2.b. An ''average output power'' exceeding 500 W;

Note: 6A995.e.2.b does not control multiple transverse mode, industrial ''lasers'' with output power less than or equal to 2kW with a total mass greater than 1,200kg. For the purpose of this note, total mass includes all ''components'' required to operate the ''laser,'' e.g., ''laser,'' power supply, heat exchanger, but excludes external optics for beam conditioning and/or delivery.

f. Non-''tunable'' ''lasers'', having a wavelength exceeding 1,400 nm, but not exceeding 1555 nm and having any of the following:

f.1. An output energy exceeding 100 mJ per pulse and a pulsed ''peak power'' exceeding 1 W; or

f.2. An average or CW output power exceeding 1 W.

g. Free electron ''lasers''.

6A996 "Magnetometers" not controlled by ECCN 6A006, "Superconductive" electromagnetic sensors, and "specially designed" "components" therefor, as follows (see List of Items Controlled).

LICENSE REQUIREMENTS

Reason for Control: RS, AT

Control(s)	Country chart (see supp. no. 1 to part 738)
RS applies to entire entry.	A license is required for items controlled by this entry for export or reexport to Pakistan or transfer within Pakistan for regional stability reasons. The Commerce Country Chart is not designed to determine RS license requirements for this entry. See §742.6(a)(12) of the EAR for additional information.
AT applies to entire entry	AT Column 1.

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

LVS: N/A

GBS: N/A

LIST OF ITEMS CONTROLLED

Related Controls: N/A

Related Definitions: N/A

Items:

a. ''Magnetometers'', n.e.s., having a 'sensitivity' lower (better) than 1.0 nT (rms) per square root Hz.

Technical Note:

For the purposes of 6A996, 'sensitivity' (noise level) is the root mean square of the device-limited noise floor which is the lowest signal that can be measured.

b. ''Superconductive'' electromagnetic sensors, ''components'' manufactured from ''superconductive'' materials and having all the following:

b.1. Designed for operation at temperatures below the ''critical temperature'' of at least one of their ''superconductive'' constituents (including Josephson effect devices or ''superconductive'' quantum interference devices (SQUIDS));

b.2. Designed for sensing electromagnetic field variations at frequencies of 1 KHz or less; *and*

b.3. Having any of the following characteristics:

b.3.a. Incorporating thin-film SQUIDS with a minimum feature size of less than 2 μm and with associated input and output coupling circuits;

b.3.b. Designed to operate with a magnetic field slew rate exceeding 1×10^6 magnetic flux quanta per second;

b.3.c. Designed to function without magnetic shielding in the earth's ambient magnetic field; *or*

b.3.d. Having a temperature coefficient less (smaller) than 0.1 magnetic flux quantum/K.

6A997 Gravity meters (gravimeters) for ground use, n.e.s., as follows (see List of Items Controlled).

LICENSE REQUIREMENTS

Reason for Control: AT

Control(s)	Country Chart (See Supp. No. 1 to part 738)
AT applies to entire entry	AT Column 1

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

LVS: N/A

GBS: N/A

LIST OF ITEMS CONTROLLED

Related Controls: N/A

Related Definitions: N/A

Items: a. Having a static accuracy of less (better) than 100 microgal; or

b. Being of the quartz element (Worden) type.

6A998 Radar systems, equipment and major "components," n.e.s., and "specially designed" "components" therefor, as follows (see List of Items Controlled).

LICENSE REQUIREMENTS

Reason for Control: RS, AT

Control(s)	Country Chart (See Supp. No. 1 to part 738)
RS applies to 6A998.b	RS Column 1
RS applies to 6A998.c	RS Column 2
AT applies to entire entry	AT Column 1

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)
LVS: N/A
GBS: N/A
LIST OF ITEMS CONTROLLED
Unit: $ value.
Related Controls: N/A
Related Definitions: N/A
Items: a. Airborne radar equipment, n.e.s., and ''specially designed'' ''components'' therefor.

b. ''Space-qualified'' ''laser'' radar or Light Detection and Ranging (LIDAR) equipment ''specially designed'' for surveying or for meteorological observation.

c. Millimeter wave enhanced vision radar imaging systems ''specially designed'' for rotary wing aircraft and having all of the following:

c.1. Operates at a frequency of 94 GHz;

c.2. An average output power of less than 20 mW;

c.3. Radar beam width of 1 degree; and

c.4. Operating range equal to or greater than 1500 m.

6A999 Specific processing equipment, as follows (see List of Items Controlled).
LICENSE REQUIREMENTS
Reason for Control: RS AT

Control(s)	Country chart (see Supp. No. 1 to part 738)
RS applies to 6A999.c	RS Column 2.
AT applies to entire entry	A license is required for items controlled by this entry to North Korea for anti-terrorism reasons. The Commerce Country Chart is not designed to determine AT licensing requirements for this entry. See §742.19 of the EAR for additional information.

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)
LVS: N/A
GBS: N/A
LIST OF ITEMS CONTROLLED
Related Controls: (1) The act of incorporating a radiation hardened integrated circuit into a TV camera designated as EAR99 does not, in and of itself, cause the TV camera to meet the specifications of ECCN paragraph 6A999.b. (2) See also 6A203.
Related Definitions: N/A
Items:

a. Seismic detection equipment not controlled in paragraph c.

b. Radiation hardened TV cameras, n.e.s.

c. Seismic intrusion detection systems that detect, classify and determine the bearing on the source of a detected signal.

B. ''TEST'', ''INSPECTION'' AND ''PRODUCTION EQUIPMENT''

6B002 Masks and Reticles, "Specially Designed" for Optical Sensors Specified by 6A002.a.1.b or 6A002.a.1.d.
LICENSE REQUIREMENTS
Reason for Control: NS, AT

Control(s)	Country chart (see Supp. No. 1 to part 738)
NS applies to entire entry	NS Column 2
AT applies to entire entry	AT Column 1

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)
LVS: $5,000
GBS: Yes
LIST OF ITEMS CONTROLLED
Related Controls: N/A
Related Definitions: N/A
Items:

The list of items controlled is contained in the ECCN heading.

6B004 Optical equipment, as follows (see List of Items Controlled).
LICENSE REQUIREMENTS
Reason for Control: NS, AT

Control(s)	Country Chart (See Supp. No. 1 to part 738)
NS applies to entire entry	NS Column 2
AT applies to entire entry	AT Column 1

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)
LVS: $5000
GBS: Yes for 6B004.b
LIST OF ITEMS CONTROLLED
Related Controls: This entry does not control microscopes.
Related Definitions: N/A
Items: a. Equipment for measuring absolute reflectance to an ''accuracy'' of equal to or better than 0.1% of the reflectance value;

b. Equipment other than optical surface scattering measurement equipment, having an unobscured aperture of more than 10 cm, ''specially designed'' for the non-contact optical measurement of a non-planar optical surface figure (profile) to an ''accuracy'' of 2 nm or less (better) against the required profile.

6B007 Equipment to produce, align and calibrate land-based gravity meters with a

static "accuracy" of less (better) than 0.1 mGal.

LICENSE REQUIREMENTS
Reason for Control: NS, AT

Control(s)	Country chart (see supp. No. 1 to part 738)
NS applies to entire entry	NS Column 2
AT applies to entire entry	AT Column 1

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)
LVS: $5000
GBS: N/A
LIST OF ITEMS CONTROLLED
Related Controls: N/A
Related Definitions: N/A
Items:

The list of items controlled is contained in the ECCN heading.

6B008 Pulse radar cross-section measurement systems having transmit pulse widths of 100 ns or less, and "specially designed" "components" therefor.

LICENSE REQUIREMENTS
Reason for Control: NS, MT, AT

Control(s)	Country Chart (See Supp. No. 1 to part 738)
NS applies to entire entry	NS Column 2
MT applies to entire entry	MT Column 1
AT applies to entire entry	AT Column 1

REPORTING REQUIREMENTS See §743.1 of the EAR for reporting requirements for exports under License Exceptions, and Validated End-User authorizations
LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)
LVS: N/A
GBS: N/A
SPECIAL CONDITIONS FOR STA
STA: License Exception STA may not be used to ship any commodity in this entry to any of the destinations listed in Country Group A:6 (See Supplement No. 1 to part 740 of the EAR).

License Requirement Notes: See §743.1 of the EAR for reporting requirements for exports under License Exceptions.

LIST OF ITEMS CONTROLLED
Related Controls: See also 6B108
Related Definitions: N/A
Items: The list of items controlled is contained in the ECCN heading.

6B108 Systems, other than those controlled by 6B008, "specially designed" for radar cross section measurement usable for rockets, missiles, or unmanned aerial vehicles capable of achieving a "range" equal to or greater than 300 km and their subsystems.

LICENSE REQUIREMENTS
Reason for Control: MT, AT

Control(s)	Country Chart (See Supp. No. 1 to part 738)
MT applies to entire entry	MT Column 1
AT applies to entire entry	AT Column 1

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)
LVS: N/A
GBS: N/A
LIST OF ITEMS CONTROLLED
Related Controls: N/A
Related Definitions: N/A
Items: The list of items controlled is contained in the ECCN heading.

6B619 Test, inspection, and production "equipment" and related commodities "specially designed" for the "development," "production," repair, overhaul, or refurbishing of commodities enumerated or otherwise described in USML Category XVIII (see List of Items Controlled)

LICENSE REQUIREMENTS
Reason for Control: NS, RS, AT, UN

Control(s)	Country chart (see supp. no. 1 to part 738)
NS applies to entire entry	NS Column 1.
RS applies to entire entry	RS Column 1.
AT applies to entire entry	AT Column 1.
UN applies to entire entry	See §746.1(b) for UN controls.

LICENSE EXCEPTIONS
LVS: $1500
GBS: N/A
SPECIAL CONDITIONS FOR STA
STA: Paragraph (c)(2) of License Exception STA (§740.20(c)(2) of the EAR) may not be used for any item in 6B619.
LIST OF ITEMS CONTROLLED
Related Controls: ''Parts,'' ''components,'' ''accessories,'' ''attachments,'' and associated systems or ''equipment'' ''specially designed'' for defense articles enumerated or otherwise described in paragraphs (a) or (b) of USML Category XVIII are subject to the ITAR (see 22 CFR 121.1, Category XVIII(e)).
Related Definitions: N/A
Items: a. Tooling, templates, jigs, mandrels, molds, dies, fixtures, alignment mechanisms, and test ''equipment'' not enumerated or otherwise described in USML Category XVIII and not elsewhere specified on the USML that are ''specially designed'' for the ''development,'' ''production,'' repair, overhaul, or refurbishing of commodities controlled by USML Category XVIII.

b. through w. [Reserved]

x. ''Parts,'' ''components,'' ''accessories,'' and ''attachments'' ''specially designed'' for

a commodity subject to control under paragraph .a of this ECCN and not enumerated or otherwise described in USML Category XVIII and not elsewhere specified on the USML.

6B995 Equipment, including tools, dies, fixtures or gauges, and other "specially designed" "parts," "components" and "accessories" therefor, "specially designed" or modified for any of the following (see List of Items Controlled).

LICENSE REQUIREMENTS
Reason for Control: AT

Control(s)	Country Chart (See Supp. No. 1 to part 738)
AT applies to entire entry	AT Column 1

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)
LVS: N/A
GBS: N/A
LIST OF ITEMS CONTROLLED
Related Controls: N/A
Related Definitions: N/A
Items: a. For the manufacture or inspection of:

a.1. Free electron ''laser'' magnet wigglers;

a.2. Free electron ''laser'' photo injectors;

b. For the adjustment, to required tolerances, of the longitudinal magnetic field of free electron ''lasers''.

C. ''MATERIALS''

6C002 Optical sensor materials as follows (see List of Items Controlled).

LICENSE REQUIREMENTS
Reason for Control: NS, AT

Control(s)	Country chart (see supp. No. 1 to part 738)
NS applies to entire entry	NS Column 2
AT applies to entire entry	AT Column 1

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)
LVS: $3000
GBS: N/A
LIST OF ITEMS CONTROLLED
Related Controls: See also 6C992.
Related Definitions: N/A
Items:

a. Elemental tellurium (Te) of purity levels of 99.9995% or more;

b. Single crystals (including epitaxial wafers) of any of the following:

b.1. Cadmium zinc telluride (CdZnTe), with zinc content less than 6% by 'mole fraction';

b.2. Cadmium telluride (CdTe) of any purity level; *or*

b.3. Mercury cadmium telluride (HgCdTe) of any purity level.

Technical Note: For the purposes of 6C002.b.1, 'mole fraction' is defined as the ratio of moles of ZnTe to the sum of the moles of CdTe and ZnTe present in the crystal.

6C004 Optical materials as follows (see List of Items Controlled).

LICENSE REQUIREMENTS
Reason for Control: NS, AT

Control(s)	Country Chart (See Supp. No. 1 to part 738)
NS applies to entire entry	NS Column 2
AT applies to entire entry	AT Column 1

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)
LVS: $1500
GBS: Yes for 6C004.a and .e
LIST OF ITEMS CONTROLLED
Related Controls: See also 6C994
Related Definitions: N/A
Items: a. Zinc selenide (ZnSe) and zinc sulfide (ZnS) ''substrate blanks'', produced by the chemical vapor deposition process and having any of the following:

a.1. A volume greater than 100 cm^3; or

a.2. A diameter greater than 80 mm and a thickness of 20 mm or more;

b. Electro-optic materials and non-linear materials, as follows:

b.1. Potassium titanyl arsenate (KTA) (CAS 59400–80–5);

b.2. Silver gallium selenide ($AgGaSe_2$, also known as AGSE) (CAS 12002–67–4);

b.3. Thallium arsenic selenide (Tl_3AsSe_3, also known as TAS) (CAS 16142–89–5);

b.4. Zinc germanium phosphide ($ZnGeP_2$, also known as ZGP, zinc germanium biphosphide or zinc germanium diphosphide); *or*

b.5. Gallium selenide (GaSe) (CAS 12024–11–2);

c. Non-linear optical materials, other than those specified by 6C004.b, having any of the following:

c.1. Having all of the following:

c.1.a. Dynamic (also known as nonstationary) third order nonlinear susceptibility ($\chi^{(3)}$, chi 3) of 10^{-6} m^2/V^2 or more; *and*

c.1.b. Response time of less than 1 ms; *or*

c.2. Second order nonlinear susceptibility ($\chi^{(2)}$, chi 2) of 3.3×10^{-11} m/V or more;

d. ''Substrate blanks'' of silicon carbide or beryllium beryllium (Be/Be) deposited materials, exceeding 300 mm in diameter or major axis length;

e. Glass, including fused silica, phosphate glass, fluorophosphate glass, zirconium fluoride (ZrF_4) (CAS 7783–64–4) and hafnium fluoride (HfF_4) (CAS 13709–52–9) and having all of the following:

e.1. A hydroxyl ion (OH-) concentration of less than 5 ppm;

e.2. Integrated metallic purity levels of less than 1 ppm; and

e.3. High homogeneity (index of refraction variance) less than 5×10^{-6};

f. Synthetically produced diamond material with an absorption of less than 10^{-5} cm^{-1} for wavelengths exceeding 200 nm but not exceeding 14,000 nm.

6C005 "Laser" materials as follows (see List of Items Controlled).

LICENSE REQUIREMENTS

Reason for Control: NS, AT

Control(s)	Country chart (see supp. No. 1 to part 738)
NS applies to entire entry	NS Column 2
AT applies to entire entry	AT Column 1

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

LVS: $1500

GBS: N/A

LIST OF ITEMS CONTROLLED

Related Controls: N/A

Related Definitions: N/A

Items:

a. Synthetic crystalline ''laser'' host material in unfinished form as follows:

a.1. Titanium doped sapphire;

a.2. [Reserved]

b. Rare-earth-metal doped double-clad fibers having any of the following:

b.1. Nominal ''laser'' wavelength of 975 nm to 1,150 nm and having all of the following:

b.1.a. Average core diameter equal to or greater than 25 μm; *and*

b.1.b. Core 'Numerical Aperture' ('NA') less than 0.065; *or*

Note to 6C005.b.1: 6C005.b.1 does not apply to double-clad fibers having an inner glass cladding diameter exceeding 150 μm and not exceeding 300 μm.

b.2. Nominal ''laser'' wavelength exceeding 1,530 nm and having all of the following:

b.2.a. Average core diameter equal to or greater than 20 μm; *and*

b.2.b. Core 'NA' less than 0.1.

Technical Notes: 1. For the purposes of 6C005.b.1.b, the core 'Numerical Aperture' ('NA') is measured at the emission wavelengths of the fiber.

2. 6C005.b includes fibers assembled with end caps.

6C992 Optical sensing fibers not controlled by 6A002.d.3 that are modified structurally to have a ' beat length' of less than 500 mm (high birefringence) or optical sensor materials not described in 6C002.b and having a zinc content of equal to or more than 6% by ' mole fraction.'

LICENSE REQUIREMENTS

Reason for Control: AT

Control(s)	Country Chart (See Supp. No. 1 to part 738)
AT applies to entire entry	AT Column 1

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

LVS: N/A

GBS: N/A

LIST OF ITEMS CONTROLLED

Related Controls: N/A

Related Definitions: (1) 'Mole fraction' is defined as the ratio of moles of ZnTe to the sum of the moles of CdTe and ZnTe present in the crystal. (2) 'Beat length' is the distance over which two orthogonally polarized signals, initially in phase, must pass in order to achieve a 2 Pi radian(s) phase difference.

Items: The list of items controlled is contained in the ECCN heading.

6C994 Optical materials, as follows (see List of Items Controlled).

LICENSE REQUIREMENTS

Reason for Control: AT

Control(s)	Country Chart (See Supp. No. 1 to part 738)
AT applies to entire entry	AT Column 1

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

LVS: N/A

GBS: N/A

LIST OF ITEMS CONTROLLED

Related Controls: N/A

Related Definitions: (1) 'Fluoride fibers' are fibers manufactured from bulk fluoride compounds. (2) 'Optical fiber preforms' are bars, ingots, or rods of glass, plastic or other materials that have been specially processed for use in fabricating optical fibers. The characteristics of the preform determine the basic parameters of the resultant drawn optical fibers.

Items: a. Low optical absorption materials, as follows:

a.1. Bulk fluoride compounds containing ingredients with a purity of 99.999% or better; *or*

Note: 6C994.a.1 controls fluorides of zirconium or aluminum and variants.

a.2. Bulk fluoride glass made from compounds controlled by 6C004.e.1;

b. 'Optical fiber preforms' made from bulk fluoride compounds containing ingredients with a purity of 99.999% or better, ''specially designed'' for the manufacture of 'fluoride fibers' controlled by 6A994.b.

D. ''SOFTWARE''

6D001 "Software" "specially designed" for the "development" or "production" of equipment controlled by 6A004, 6A005, 6A008, or 6B008.

LICENSE REQUIREMENTS

Reason for Control: NS, MT, RS, AT

Control(s)	Country Chart (See Supp. No. 1 to part 738)
NS applies to "software" for equipment controlled by 6A004, 6A005, 6A008 or 6B008.	NS Column 1.
MT applies to "software" for equipment controlled by 6A008 or 6B008 for MT reasons.	MT Column 1.
RS applies to "software" for equipment controlled by 6A008.j.1.	RS Column 1.
AT applies to entire entry	AT Column 1.

REPORTING REQUIREMENTS See §743.1 of the EAR for reporting requirements for exports under License Exceptions, and Validated End-User authorizations

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

TSR: Yes, except for the following:

(1) Items controlled for MT reasons;

(2) ''Software'' ''specially designed'' for the ''development'' or ''production'' of ''space qualified'' ''laser'' radar or Light Detection and Ranging (LIDAR) equipment defined in 6A008.j.1; or

(3) Exports or reexports to destinations outside of those countries listed in Country Group A:5 (See Supplement No. 1 to part 740 of the EAR) of ''software'' ''specially designed'' for the ''development'' or ''production'' of equipment controlled by 6A004.c or d, 6A008.d, h, k or 6B008.

SPECIAL CONDITIONS FOR STA

STA: License Exception STA may not be used to ship or transmit ''software'' ''specially designed'' for the ''development'' or ''production'' of equipment specified by ECCNs 6A004.c, 6A004.d, 6A008.d, 6A008.h, 6A008.k, or 6B008 to any of the destinations listed in Country Group A:6 (See Supplement No. 1 to part 740 of the EAR)

LIST OF ITEMS CONTROLLED

Related Controls: See also 6D991, and ECCN 6E001 (''development'') for ''technology'' for items controlled under this entry.

Related Definitions: N/A

Items: The list of items controlled is contained in the ECCN heading.

6D002 "Software" "specially designed" for the "use" of equipment controlled by 6A002.b, 6A008, or 6B008.

LICENSE REQUIREMENTS

Reason for Control: NS, MT, RS, AT

Control(s)	Country Chart (See Supp. No. 1 to part 738)
NS applies to entire entry	NS Column 1.
MT applies to "software" for equipment controlled by 6A008 or 6B008 for MT reasons.	MT Column 1.
RS applies to "software" for equipment controlled by 6A008.j.1.	RS Column 1.
AT applies to entire entry	AT Column 1.

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

TSR: Yes, except N/A for the following: (1) Items controlled for MT reasons; (2) ''Software'' ''specially designed'' for the ''use'' of ''space qualified'' ''laser'' radar or Light Detection and Ranging (LIDAR) equipment defined in 6A008.j.1; or (3) ''Software'' ''specially designed'' for the ''use'' of commodities controlled by 6A002.b.

LIST OF ITEMS CONTROLLED

Related Controls: (1) ''Software'' ''specially designed'' for the ''use'' of ''space-qualified'' LIDAR ''equipment'' ''specially designed'' for surveying or for meteorological observation, released from control under the note in 6A008.j, is controlled in 6D991. (2) See also ECCNs 6D102, 6D991, and 6D992.

Related Definitions: N/A

Items: The list of items controlled is contained in the ECCN heading.

6D003 Other "software" as follows (see List of Items Controlled).

LICENSE REQUIREMENTS

Reason for Control: NS, RS, AT

Control(s)	Country chart (see supp. No. 1 to part 738)
NS applies to entire entry	NS Column 1
RS applies to paragraph c	RS Column 1
AT applies to entire entry	AT Column 1

REPORTING REQUIREMENTS

See §743.1 of the EAR for reporting requirements for exports under License Exceptions, and Validated End-User authorizations.

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

TSR: Yes, except for 6D003.c and exports or reexports to destinations outside of those countries listed in Country Group A:5 (See Supplement No. 1 to part 740 of the EAR) of ''software'' for items controlled by 6D003.a.

SPECIAL CONDITIONS FOR STA

STA: License Exception STA may not be used to ship or transmit software in 6D003.a to any of the destinations listed in Country Group A:6 (See Supplement No.1 to part 740 of the EAR).

LIST OF ITEMS CONTROLLED

Related Controls: See also ECCNs 6D103, 6D991, and 6D993.

Related Definitions: N/A

Items:

Acoustics

a. ''Software'' as follows:

a.1. ''Software'' ''specially designed'' for acoustic beam forming for the ''real-time processing'' of acoustic data for passive reception using towed hydrophone arrays;

a.2. ''Source code'' for the ''real-time processing'' of acoustic data for passive reception using towed hydrophone arrays;

a.3. ''Software'' ''specially designed'' for acoustic beam forming for the ''real-time processing'' of acoustic data for passive reception using bottom or bay cable systems;

a.4. ''Source code'' for the ''real-time processing'' of acoustic data for passive reception using bottom or bay cable systems;

a.5. ''Software'' or ''source code'', ''specially designed'' for all of the following:

a.5.a. ''Real-time processing'' of acoustic data from sonar systems controlled by 6A001.a.1.e; *and*

a.5.b. Automatically detecting, classifying and determining the location of divers or swimmers;

N.B.: For diver detection ''software'' or ''source code'', ''specially designed'' or modified for military use, see the U.S. Munitions List of the International Traffic in Arms Regulations (ITAR) (22 CFR part 121).

b. Optical sensors. None.

Cameras

c. ''Software'' designed or modified for cameras incorporating ''focal plane arrays'' specified by 6A002.a.3.f and designed or modified to remove a frame rate restriction and allow the camera to exceed the frame rate specified in 6A003.b.4 Note 3.a;

Optics

d. ''Software'' ''specially designed'' to maintain the alignment and phasing of segmented mirror systems consisting of mirror segments having a diameter or major axis length equal to or larger than 1 m;

e. Lasers. None.

Magnetic and Electric Field Sensors

f. ''Software'' as follows:

f.1. ''Software'' ''specially designed'' for magnetic and electric field ''compensation systems'' for magnetic sensors designed to operate on mobile platforms;

f.2. ''Software'' ''specially designed'' for magnetic and electric field anomaly detection on mobile platforms;

f.3. ''Software'' ''specially designed'' for ''real-time processing'' of electromagnetic data using underwater electromagnetic receivers specified by 6A006.e;

f.4. ''Source code'' for ''real-time processing'' of electromagnetic data using underwater electromagnetic receivers specified by 6A006.e;

Gravimeters

g. ''Software'' ''specially designed'' to correct motional influences of gravity meters or gravity gradiometers;

Radar

h. ''Software'' as follows:

h.1. Air Traffic Control (ATC) ''software'' designed to be hosted on general purpose computers located at Air Traffic Control centers and capable of accepting radar target data from more than four primary radars;

h.2. ''Software'' for the design or ''production'' of radomes having all of the following:

h.2.a. ''Specially designed'' to protect the ''electronically scanned array antennae'' specified by 6A008.e; *and*

h.2.b. Resulting in an antenna pattern having an 'average side lobe level' more than 40 dB below the peak of the main beam level.

Technical Note: For the purposes of 6D003.h.2.b 'average side lobe level' is measured over the entire array excluding the angular extent of the main beam and the first two side lobes on either side of the main beam.

6D102 "Software" "specially designed" or modified for the "use" of equipment controlled by 6A108.

LICENSE REQUIREMENTS

Reason for Control: MT, AT

Control(s)	Country Chart (See Supp. No. 1 to part 738)
MT applies to entire entry	MT Column 1
AT applies to entire entry	AT Column 1

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

TSR: N/A

LIST OF ITEMS CONTROLLED

Related Controls: N/A

Related Definitions: N/A

Items: The list of items controlled is contained in the ECCN heading.

6D103 "Software" that processes post-flight, recorded data, enabling determination of vehicle position throughout its flight path, "specially designed" or modified for "missiles".

LICENSE REQUIREMENTS

Reason for Control: MT, AT

Control(s)	Country Chart (See Supp. No. 1 to part 738)
MT applies to entire entry	MT Column 1
AT applies to entire entry	AT Column 1

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

TSR: N/A

LIST OF ITEMS CONTROLLED

Items: The list of items controlled is contained in the ECCN heading.

6D201 "Software" "specially designed" to enhance or release the performance characteristics of high-speed cameras and imaging devices, and components therefor, to meet or exceed the level of the performance characteristics described in ECCN 6A203.

LICENSE REQUIREMENTS

Reason for Control: NP, AT

Control(s)	Country chart (see Supp. No. 1 to part 738)
NP applies to entire entry	NP Column 1
AT applies to entire entry	AT Column 1

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

TSR: N/A

LIST OF ITEMS CONTROLLED

Related Controls: See ECCNs 6E001 (''development'') and 6E202 (''production'' and ''use'') for ''technology'' for items controlled under this entry.

Related Definitions: N/A

Items: a. ''Software'' or encryption keys/codes ''specially designed'' to enhance or release the performance characteristics of equipment not controlled by ECCN 6A203, or not controlled for NP reasons by ECCN 6A003, so that such equipment meets or exceeds the performance characteristics of equipment described in ECCN 6A203.

b. ''Software'' or encryption keys/codes ''specially designed'' to enhance or release the performance characteristics of equipment controlled by ECCN 6A203 or equipment controlled by ECCN 6A003 that meets or exceeds the performance characteristics described in ECCN 6A203.

6D619 "Software" "specially designed" for the "development," "production," operation or maintenance of commodities controlled by 6B619.

LICENSE REQUIREMENTS

Reason for Control: NS, RS, AT, UN

Control(s)	Country chart (see supp. no. 1 to part 738)
NS applies to entire entry	NS Column 1.
RS applies to entire entry	RS Column 1.
AT applies to entire entry	AT Column 1.
UN applies to entire entry	See §746.1(b) for UN controls.

LICENSE EXCEPTIONS

TSR: N/A

SPECIAL CONDITIONS FOR STA

STA: Paragraph (c)(2) of License Exception STA (§740.20(c)(2) of the EAR) may not be used for any item in 6D619.

LIST OF ITEMS CONTROLLED

Related Controls: ''Software'' directly related to articles enumerated or otherwise described in USML Category XVIII is subject to the ITAR (See 22 CFR 121.1, Category XVIII(f)).

Related Definitions: N/A

Items: The list of items controlled is contained in the ECCN heading.

6D991 "Software," n.e.s., "specially designed" for the "development", "production", or "use" of commodities controlled by 6A002, 6A003, 6A991, 6A996, 6A997, or 6A998.

LICENSE REQUIREMENTS

Reason for Control: RS, AT

Control(s)	Country chart (see Supp. No. 1 to part 738)
RS applies to ''software'' for commodities controlled by 6A002, 6A003, or 6A998.b.	RS Column 1
RS applies to ''software'' for commodities controlled by 6A998.c.	RS Column 2
AT applies to entire entry, except ''software'' for commodities controlled by 6A991.	AT Column 1
AT applies to ''software'' for commodities controlled by 6A991.	AT Column 2

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

TSR: N/A

LIST OF ITEMS CONTROLLED

Related Controls: (1) See ECCN 6D002 for ''software'' ''specially designed'' for the ''use'' of commodities controlled under ECCN 6A002.b. (2) See ECCN 6D003.c for ''software'' ''specially designed'' for cameras incorporating ''focal plane arrays'' specified by 6A002.a.3.f and ''specially designed'' to remove a frame rate restriction and allow the camera to exceed the frame rate specified in 6A003.b.4 Note 3.a.

Related Definitions: N/A

Items: The list of items controlled is contained in the ECCN heading.

6D992 "Software" "specially designed" for the "development" or "production" of equipment controlled by 6A992, 6A994, or 6A995.

LICENSE REQUIREMENTS

Reason for Control: AT

Control(s)	Country Chart (See Supp. No. 1 to part 738)
AT applies to entire entry	AT Column 1

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

TSR: N/A

LIST OF ITEMS CONTROLLED

Related Controls: N/A

Related Definitions: N/A

Items: The list of items controlled is contained in the ECCN heading.

6D993 Other "software," not controlled by 6D003, as follows (see List of Items Controlled).

LICENSE REQUIREMENTS

Reason for Control: RS, AT

Control(s)	Country Chart (See Supp. No. 1 to part 738)
RS applies to 6D993.c	RS Column 1
RS applies to 6D993.b	RS Column 2
AT applies to entire entry	AT Column 1

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

TSR: N/A

LIST OF ITEMS CONTROLLED

Related Controls: N/A

Related Definitions: N/A

Items: a. Air Traffic Control (ATC) ''software'' application ''programs'' hosted on general purpose computers located at Air Traffic Control centers, and capable of automatically handing over primary radar target data (if not correlated with secondary surveillance radar (SSR) data) from the host ATC center to another ATC center;

b. ''Software'' ''specially designed'' for seismic intrusion detection systems in 6A999.c.

c. ''Source Code'' ''specially designed'' for seismic intrusion detection systems in 6A999.c.

E. ''TECHNOLOGY''

6E001 "Technology" According to the General Technology Note for the "Development" of Equipment, Materials or "Software" Controlled by 6A (Except 6A991, 6A992, 6A994, 6A995, 6A996, 6A997, 6A998, or 6A999.c), 6B (Except 6B995), 6C (Except 6C992 or 6C994), or 6D (Except 6D991, 6D992, or 6D993).

LICENSE REQUIREMENTS

Reason for Control: NS, MT, NP, RS, CC, AT, UN

Control(s)	Country chart (see Supp. No. 1 to part 738)
NS applies to ''technology'' for items controlled by 6A001 to 6A008, 6B002 to 6B008, 6C002 to 6C005, or 6D001 to 6D003.	NS Column 1
MT applies to ''technology'' for items controlled by 6A002, 6A007, 6A008, 6A102, 6A107, 6A108, 6B008, 6B108, 6D001, 6D002, 6D102 or 6D103 for MT reasons.	MT Column 1
NP applies to ''technology'' for items controlled by 6A003, 6A005, 6A202, 6A203, 6A205, 6A225, 6A226, 6D001, or 6D201 for NP reasons.	NP Column 1
RS applies to ''technology'' for items controlled by 6A002.a.1, .a.2, .a.3, .c, or .f, 6A003.b.3 or .b.4, or 6A008.j.1.	RS Column 1
CC applies to ''technology'' for equipment controlled by 6A002 for CC reasons.	CC Column 1
AT applies to entire entry	AT Column 1
UN applies to ''technology'' for equipment controlled by 6A002 or 6A003 for UN reasons.	See §746.1(b) for UN controls

REPORTING REQUIREMENTS

See §743.1 of the EAR for reporting requirements for exports under License Exceptions, and Validated End-User authorizations.

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

TSR: Yes, except for the following: (1) Items controlled for MT reasons; (2) ''Technology'' for commodities controlled by 6A002, 6A004.e or 6A008.j.1; (3) ''Technology'' for 6A003 cameras, unless for ''technology'' for the integration of 6A003 cameras into camera systems ''specially designed'' for civil automotive applications; (4) ''Technology'' for ''software'' ''specially designed'' for ''space qualified'' ''laser'' radar or Light Detection and Ranging (LIDAR) equipment defined in 6A008.j.1 and controlled by 6D001 or 6D002; or (5) Exports or reexports to destinations outside of those countries listed in Country Group A:5 (See Supplement No. 1 to part 740 of the EAR) of ''technology'' for the ''development'' of the following: (a) Items controlled by 6A001.a.1.b, 6A001.a.1.e, 6A001.a.2.a.1, 6A001.a.2.a.2, 6A001.a.2.a.3, 6A001.a.2.a.5, 6A001.a.2.a.6, 6A001.a.2.b, 6A001.a.2.d, 6A001.a.2.e., 6A004.c, 6A004.d, 6A006.a.2, 6A006.c.1, 6A006.d, 6A006.e, 6A008.d, 6A008.h, 6A008.k, 6B008, or 6D003.a; (b) Equipment controlled by 6A001.a.2.c or 6A001.a.2.f when ''specially designed'' for real time applications; or (c) ''Software'' controlled by 6D001 and ''specially designed'' for the ''development'' or ''production'' of equipment controlled by 6B008, or 6D003.a.

SPECIAL CONDITIONS FOR STA

STA: License Exception STA may not be used to ship or transmit any technology in this entry to any of the destinations listed in Country Group A:6 (See Supplement No.1 to part 740 of the EAR).

LIST OF ITEMS CONTROLLED

Related Controls: (1) Technical data directly related to satellites and all other items described in USML Category XV are subject to the ITAR under USML Category XV(f). (2) Technical data directly related to laser systems, infrared imaging systems, and all other items described in USML Category XII are subject to the ITAR under USML Category XII(f). (3) Technical data directly related to read-out integrated circuits described in USML Categories XII(e) or XV(e)(3) is subject to the ITAR under USML Categories XII(f) or XV(f), respectively. (4) See also 6E101, 6E201, and 6E991.
Related Definitions: N/A
Items:

The list of items controlled is contained in the ECCN heading.

6E002 "Technology" According to the General Technology Note for the "Production" of Equipment or Materials Controlled by 6A (Except 6A991, 6A992, 6A994, 6A995, 6A996, 6A997, 6A998 or 6A999.c), 6B (Except 6B995) or 6C (except 6C992 or 6C994).

LICENSE REQUIREMENTS
Reason for Control: NS, MT, NP, RS, CC, AT, UN

Control(s)	Country chart (see Supp. No. 1 to part 738)
NS applies to "technology" for equipment controlled by 6A001 to 6A008, 6B002 to 6B008, or 6C002 to 6C005.	NS Column 1
MT applies to "technology" for equipment controlled by 6A002, 6A007, 6A008, 6A102, 6A107, 6A108, 6B008, or 6B108 for MT reasons.	MT Column 1
NP applies to "technology" for items controlled by 6A003, 6A005, 6A202, 6A203, 6A205, 6A225 or 6A226 for NP reasons.	NP Column 1
RS applies to "technology" for items controlled by 6A002.a.1, .a.2, .a.3, .c, or .f, 6A003.b.3 or .b.4, or 6A008.j.1.	RS Column 1
CC applies to "technology" for equipment controlled by 6A002 for CC reasons.	CC Column 1
AT applies to entire entry	AT Column 1
UN applies to "technology" for equipment controlled by 6A002 or 6A003 for UN reasons.	See §746.1(b) for UN controls

REPORTING REQUIREMENTS

See §743.1 of the EAR for reporting requirements for exports under License Exceptions, and Validated End-User authorizations.

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

TSR: Yes, except for the following:

(1) Items controlled for MT reasons;

(2) ''Technology'' for commodities controlled by 6A002, 6A004.e, or 6A008.j.1;

(3) ''Technology'' for 6A003 cameras, unless for ''technology'' for the integration of 6A003 cameras into camera systems ''specially designed'' for civil automotive applications ; or

(4) Exports or reexports to destinations outside of those countries listed in Country Group A:5 (See Supplement No. 1 to part 740 of the EAR) of ''technology'' for the ''production'' of the following: (a) Items controlled by 6A001.a.1.b, 6A001.a.1.e, 6A001.a.2.a.1, 6A001.a.2.a.2, 6A001.a.2.a.3, 6A001.a.2.a.5, 6A001.a.2.a.6, 6A001.a.2.b, 6A004.c, 6A004.d, 6A006.a.2, 6A006.c.1, 6A006.d, 6A006.e, 6A008.d, 6A008.h, 6A008.k, or 6B008; and (b) Items controlled by 6A001.a.2.c or 6A001.a.2.f when ''specially designed'' for real time applications.

SPECIAL CONDITIONS FOR STA

STA: License Exception STA may not be used to ship or transmit ''technology'' according to the General Technology Note for the ''production'' of equipment specified in the STA exclusion paragraphs found in the License Exception sections of by ECCNs 6A001, 6A002, 6A003, 6A004, 6A006, 6A008, or 6B008 to any of the destinations listed in Country Group A:6 (See Supplement No.1 to part 740 of the EAR).

LIST OF ITEMS CONTROLLED

Related Controls: (1) Technical data directly related to satellites and all other items described in USML Category XV are subject to the ITAR under USML Category XV(f). (2) Technical data directly related to laser systems, infrared imaging systems, and all other items described in USML Category XII are subject to the ITAR under USML Category XII(f). (3) Technical data directly related to read-out integrated circuits described in USML Categories XII(e) or XV(e)(3) is subject to the ITAR under USML Categories XII(f) or XV(f), respectively. (4) See also 6E992.
Related Definitions: N/A
Items:

The list of items controlled is contained in the ECCN heading.

6E003 Other "technology" as follows (see List of Items Controlled).

LICENSE REQUIREMENTS
Reason for Control: NS, AT

Control(s)	Country chart (see supp. No. 1 to part 738)
NS applies to entire entry	NS Column 1
AT applies to entire entry	AT Column 1

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

TSR: Yes

LIST OF ITEMS CONTROLLED
Related Controls: See also 6E993.

Related Definitions: N/A
Items:

Acoustics

a. [Reserved]

Optical Sensors

b. [Reserved]

Cameras

c. [Reserved]

Optics

d. ''Technology'' as follows:

d.1. ''Technology'' ''required'' for the coating and treatment of optical surfaces to achieve an 'optical thickness' uniformity of 99.5% or better for optical coatings 500 mm or more in diameter or major axis length and with a total loss (absorption and scatter) of less than 5×10^{-3};

N.B.: See also 2E003.f.

Technical Note: For the purposes of 6E003.d.1, 'optical thickness' is the mathematical product of the index of refraction and the physical thickness of the coating.

d.2. ''Technology'' for the fabrication of optics using single point diamond turning techniques to produce surface finish ''accuracies'' of better than 10 nm rms on non-planar surfaces exceeding 0.5 m^2;

Lasers

e. ''Technology'' ''required'' for the ''development,'' ''production'' or ''use'' of ''specially designed'' diagnostic instruments or targets in test facilities for ''SHPL'' testing or testing or evaluation of materials irradiated by ''SHPL'' beams;

Magnetic and Electric Field Sensors

f. [Reserved]

Gravimeters

g. [Reserved]

Radar

h. [Reserved]

6E101 "Technology" according to the General Technology Note for the "use" of equipment or "software" controlled by 6A002, 6A007.b and .c, 6A008, 6A102, 6A107, 6A108, 6B108, 6D102 or 6D103.

LICENSE REQUIREMENTS
Reason for Control: MT, AT

Control(s)	Country Chart (See Supp. No. 1 to part 738)
MT applies to entire entry	MT Column 1
AT applies to entire entry	AT Column 1

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)
TSR: N/A
LIST OF ITEMS CONTROLLED
Related Controls: N/A
Related Definitions: (1) This entry only controls ''technology'' for equipment controlled by 6A008 when it is designed for airborne applications and is usable in ''missiles''. (2) This entry only controls ''technology'' for items in 6A002.a.1 and a.3 that are ''specially designed'' or modified to protect ''missiles'' against nuclear effects (e.g., Electromagnetic Pulse (EMP), X-rays, combined blast and thermal effects), and usable for ''missiles.'' (3) This entry only controls ''technology'' for items in 6A007.b and .c when the accuracies in 6A007.b.1 and b.2 are met or exceeded.
Items: The list of items controlled is contained in the ECCN heading.

6E201 "Technology" according to the General Technology Note for the "use" of equipment controlled by 6A003.a.3, 6A003.a.4; 6A005.a.2, 6A005.b.2.b, 6A005.b.3, 6A005.b.4.b.2, 6A005.b.6.c, 6A005.c.1.b, 6A005.c.2.b, 6A005.d.2, 6A005.d.3.c, or 6A005.d.4.c (that meet or exceed the parameters of 6A205); 6A202, 6A203, 6A205, 6A225 or 6A226.

LICENSE REQUIREMENTS
Reason for Control: NP, AT

Control(s)	Country chart (see Supp. No. 1 to part 738)
NP applies to entire entry	NP Column 1
AT applies to entire entry	AT Column 1

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)
TSR: N/A
LIST OF ITEMS CONTROLLED
Related Controls: N/A
Related Definitions: N/A
ECCN Controls: This entry only controls ''technology'' for ''lasers'' in 6A005 that are controlled for NP reasons.
Items: The list of items controlled is contained in the ECCN heading.

6E202 "Technology" according to the General Technology Note for the "production" or "use" of "software" controlled by 6D201.

LICENSE REQUIREMENTS
Reason for Control: NP, AT

Control(s)	Country chart (see Supp. No. 1 to part 738)
NP applies to entire entry	NP Column 1
AT applies to entire entry	AT Column 1

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)
TSR: N/A

LIST OF ITEMS CONTROLLED
Related Controls: N/A
Related Definitions: N/A
Items: The list of items controlled is contained in the ECCN heading.

6E619 "Technology" "required" for the "development," "production," operation, installation, maintenance, repair, overhaul or refurbishing of commodities controlled by 6B619 or "software" controlled by 6D619.

LICENSE REQUIREMENTS
Reason for Control: NS, RS, AT, UN

Control(s)	Country chart (see supp. no. 1 to part 738)
NS applies to entire entry	NS Column 1.
RS applies to entire entry	RS Column 1.
AT applies to entire entry	AT Column 1.
UN applies to entire entry	See §746.1(b) for UN controls.

LICENSE EXCEPTIONS
TSR: N/A
SPECIAL CONDITIONS FOR STA
STA: Paragraph (c)(2) of License Exception STA (§740.20(c)(2) of the EAR) may not be used for any item in 6E619.
LIST OF ITEMS CONTROLLED
Related Controls: Technical data directly related to articles enumerated or otherwise described in USML Category XVIII are subject to the ITAR (See 22 CFR 121.1, Category XVIII(f)).
Related Definitions: N/A
Items: The list of items controlled is contained in the ECCN heading.

6E991 "Technology" for the "development", "production" or "use" of equipment controlled by 6A991, 6A996, 6A997, 6A998 or 6A999.c.

LICENSE REQUIREMENTS
Reason for Control: RS, AT

Control(s)	Country chart (See Supp. No. 1 to part 738)
RS applies to "technology" for equipment controlled by 6A998.b, 6A998.c and 6A999.c.	RS Column 1
AT applies to entire entry, except "technology" for equipment controlled by 6A991.	AT Column 1
AT applies to "technology" for equipment controlled by 6A991.	AT Column 2

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)
TSR: N/A
LIST OF ITEMS CONTROLLED
Related Controls: N/A
Related Definitions: N/A
Items: The list of items controlled is contained in the ECCN heading.

6E992 "Technology" for the "development" or "production" of equipment, materials or "software" controlled by 6A992, 6A994, or 6A995, 6B995, 6C992, 6C994, or 6D993.

LICENSE REQUIREMENTS
Reason for Control: AT

Control(s)	Country Chart (See Supp. No. 1 to part 738)
AT applies to entire entry	AT Column 1

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)
TSR: N/A
LIST OF ITEMS CONTROLLED
Related Controls: N/A
Related Definitions: N/A
Items: The list of items controlled is contained in the ECCN heading.

6E993 Other "technology", not controlled by 6E003, as follows (see List of Items Controlled).

LICENSE REQUIREMENTS
Reason for Control: RS, AT

Control(s)	Country Chart (See Supp. No. 1 to part 738)
RS applies to 6E993.e	RS Column 1
AT applies to entire entry	AT Column 1

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)
TSR: N/A
LIST OF ITEMS CONTROLLED
Related Controls: N/A
Related Definitions: N/A
Items: a. Optical fabrication technologies for serially producing optical ''parts'' and ''components'' at a rate exceeding 10 m^2 of surface area per year on any single spindle and having all of the following:

a.1. Area exceeding 1 m^2; *and*

a.2. Surface figure exceeding $\lambda/10$ (rms) at the designed wavelength;

b. ''Technology'' for optical filters with a bandwidth equal to or less than 10 nm, a field of view (FOV) exceeding 40° and a resolution exceeding 0.75 line pairs per milliradian;

c. ''Technology'' for the ''development'' or ''production'' of cameras controlled by 6A993;

d. ''Technology'' ''required'' for the ''development'' or ''production'' of non-triaxial fluxgate ''magnetometers'' or non-triaxial fluxgate ''magnetometer'' systems, having any of the following:

d.1. 'Sensitivity' lower (better) than 0.05 nT (rms) per square root Hz at frequencies of less than 1 Hz; or

d.2. 'Sensitivity' lower (better) than 1×10^{-3} nT (rms) per square root Hz at frequencies of 1 Hz or more.

e. ''Technology'' ''required'' for the ''development'' or ''production'' of infrared up-

conversion devices having all of the following:

e.1. A response in the wavelength range exceeding 700 nm but not exceeding 1500 nm; and

e.2. A combination of an infrared photodetector, light emitting diode (OLED), and nanocrystal to convert infrared light into visible light.

Technical Note: For the purposes of 6E993, 'sensitivity' (or noise level) is the root mean square of the device-limited noise floor which is the lowest signal that can be measured.

EAR99 Items subject to the EAR that are not elsewhere specified in this CCL Category or in any other category in the CCL are designated by the number EAR99.

CATEGORY 7—NAVIGATION AND AVIONICS

A. ''END ITEMS'', ''EQUIPMENT'', ''ACCESSORIES'', ''ATTACHMENTS'', ''PARTS'', ''COMPONENTS'' AND ''SYSTEMS''

N.B. 1: For automatic pilots for underwater vehicles, see Category 8. For radar, see Category 6.

7A001 Accelerometers as follows (see List of Items Controlled) and "specially designed" "components" therefor.

LICENSE REQUIREMENTS

Reason for Control: NS, MT, AT

Control(s)	Country Chart (See Supp. No. 1 to part 738)
NS applies to entire entry	NS Column 1.
MT applies to commodities that meet or exceed the parameters of 7A101.	MT Column 1.
AT applies to entire entry	AT Column 1.

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

LVS: N/A

GBS: N/A

LIST OF ITEMS CONTROLLED

Related Controls: (1) See USML Category XII(e) for accelerometers subject to the ITAR. (2) See also ECCNs 7A101, 7A611, and 7A994. (3) For angular or rotational accelerometers, see ECCN7A001.b. (4) MT controls do not apply to accelerometers that are ''specially designed'' and developed as Measurement While Drilling (MWD) sensors for use in downhole well service applications.

Related Definitions: N/A

Items: a. Linear accelerometers having any of the following:

a.1. Specified to function at linear acceleration levels less than or equal to 15 g and having any of the following:

a.1.a. A ''bias'' ''stability'' of less (better) than 130 micro g with respect to a fixed calibration value over a period of one year; or

a.1.b. A ''scale factor'' ''stability'' of less (better) than 130 ppm with respect to a fixed calibration value over a period of one year;

a.2. Specified to function at linear acceleration levels exceeding 15 g but less than or equal to 100 g and having all of the following:

a.2.a. A ''bias'' ''repeatability'' of less (better) than 1,250 micro g over a period of one year; *and*

a.2.b. A ''scale factor'' ''repeatability'' of less (better) than 1,250 ppm over a period of one year; *or*

a.3. Designed for use in inertial navigation or guidance systems and specified to function at linear acceleration levels exceeding 100 g;

Note: 7A001.a.1 and 7A001.a.2 do not apply to accelerometers limited to measurement of only vibration or shock.

b. Angular or rotational accelerometers, specified to function at linear acceleration levels exceeding 100 g.

7A002 Gyros or Angular Rate Sensors, Having any of the Following, and "Specially Designed" "Components" Therefor.

LICENSE REQUIREMENTS

Reason for Control: NS, MT, AT

Control(s)	Country chart (see Supp. No. 1 to part 738)
NS applies to entire entry	NS Column 1
MT applies to commodities that meet or exceed the parameters of 7A102.	MT Column 1
AT applies to entire entry	AT Column 1

License Requirement Note: For the purpose of MT controls only, the term 'stability' is defined as a measure of the ability of a specific mechanism or performance coefficient to remain invariant when continuously exposed to a fixed operating condition. (This definition does not refer to dynamic or servo stability.) (IEEE STD 528–2001 paragraph 2.247)

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

LVS: N/A

GBS: N/A

LIST OF ITEMS CONTROLLED

Related Controls: (1) See USML Category XII(e) for gyros or angular rate sensors subject to the ITAR. (2) See also ECCNs *7A102,* 7A611, and 7A994. (3) For angular or rotational accelerometers, see ECCN 7A001.b.

Related Definitions: N/A

Items:

a. Specified to function at linear acceleration levels less than or equal to 100 g and having any of the following:

a.1. An angular rate range of less than 500 degrees per second and having any of the following:

a.1.a. A ''bias'' ''stability'' of less (better) than 0.5 degree per hour, when measured in a 1 g environment over a period of one month, and with respect to a fixed calibration value; *or*

a.1.b. An ''angle random walk'' of less (better) than or equal to 0.0035 degree per square root hour; *or*

Note: 7A002.a.1.b does not control ''spinning mass gyros''.

a.2. An angular rate range greater than or equal to 500 degrees per second and having any of the following:

a.2.a. A ''bias'' ''stability'' of less (better) than 4 degrees per hour, when measured in a 1 g environment over a period of three minutes, and with respect to a fixed calibration value; *or*

a.2.b. An ''angle random walk'' of less (better) than or equal to 0.1 degree per square root hour; *or*

Note: 7A002.a.2.b does not apply to ''spinning mass gyros''.

b. Specified to function at linear acceleration levels exceeding 100 g.

7A003 'Inertial measurement equipment or systems', having any of the following.

LICENSE REQUIREMENTS

Reason for Control: NS, MT, AT

Control(s)	Country chart (see supp. No. 1 to part 738)
NS applies to entire entry	NS Column 1
MT applies to commodities in 7A003.d that meet or exceed the parameters of 7A103.	MT Column 1
AT applies to entire entry	AT Column 1

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

LVS: N/A

GBS: N/A

LIST OF ITEMS CONTROLLED

Related Controls: (1) See also ECCNs 7A103, 7A611, and 7A994. (2) See USML Category XII(d) for guidance or navigation systems subject to the ITAR.

Related Definitions: N/A

Items:

7A003 does not apply to 'inertial measurement equipment or systems' which are certified for use on ''civil aircraft'' by civil aviation authorities of one or more Wassenaar Arrangement Participating States, see Supplement No. 1 to part 743 of the EAR.

Technical Notes: 1. For the purposes of 7A003, 'inertial measurement equipment or systems' incorporate accelerometers or gyroscopes to measure changes in velocity and orientation in order to determine or maintain heading or position without requiring an external reference once aligned. 'Inertial measurement equipment or systems' include:

Attitude and Heading Reference Systems (AHRSs);

Gyrocompasses;

Inertial Measurement Units (IMUs);

Inertial Navigation Systems (INSs);

Inertial Reference Systems (IRSs);

Inertial Reference Units (IRUs).

2. For the purposes of 7A003, 'positional aiding references' independently provide position, and include:

a. ''Satellite navigation system'';

b.''Data-Based Referenced Navigation'' (''DBRN'').

a. Designed for ''aircraft'', land vehicles or vessels, providing position without the use of 'positional aiding references', and having any of the following ''accuracies'' subsequent to normal alignment:

a.1. 0.8 nautical miles per hour (nm/hr) ''Circular Error Probable'' (''CEP'') rate or less (better);

a.2. 0.5% distanced travelled ''CEP'' or less (better); *or*

a.3. Total drift of 1 nautical mile ''CEP'' or less (better) in a 24 hr period;

Technical Note: For the purposes of 7A003.a.1, 7A003.a.2 and 7A003.a.3, the performance parameters typically apply to 'inertia measurement equipment or systems' designed for ''aircraft'', vehicles and vessels, respectively. These parameters result from the utilization of specialized non-'positional aiding references' (e.g., altimeter, odometer, velocity log). As a consequence, the specified performance values cannot be readily converted between these parameters. Equipment designed for multiple platforms are evaluated against each applicable entry 7A003.a.1, 7A003.a.2, or 7A003.a.3.

b. Designed for ''aircraft'', land vehicles or vessels, with an embedded 'positional aiding reference' and providing position after loss of all 'positional aiding references' for a period of up to 4 minutes, having an ''accuracy'' of less (better) than 10 meters ''CEP'';

Technical Note: For the purposes of 7A003.b, this entry refers to systems in which 'inertial measurement equipment or systems' and other independent 'positional aiding references' are built into a single unit (i.e., embedded) in order to achieve improved performance.

c. Designed for ''aircraft'', land vehicles or vessels, providing heading or True North determination and having any of the following:

c.1. A maximum operating angular rate less (lower) than 500 deg/s and a heading ''accuracy'' without the use of 'positional aiding references' equal to or less (better) than 0.07 deg sec (Lat) (equivalent to 6 arc minutes rms at 45 degrees latitude); *or*

c.2. A maximum operating angular rate equal to or greater (higher) than 500 deg/s and a heading ''accuracy'' without the use of 'positional aiding references' equal to or less (better) than 0.2 deg sec (Lat) (equivalent to 17 arc minutes rms at 45 degrees latitude);

d. Providing acceleration measurements or angular rate measurements, in more than

one dimension, and having any of the following:

d.1. Performance specified by 7A001 or 7A002 along any axis, without the use of any aiding references; *or*

d.2. Being ''space-qualified'' and providing angular rate measurements having an ''angle random walk'' along any axis of less (better) than or equal to 0.1 degree per square root hour.

Note: 7A003.d.2 does not apply to 'inertial measurement equipment or systems' that contain ''spinning mass gyros'' as the only type of gyro.

7A004 'Star trackers' and "components" therefor, as follows (see List of Items Controlled).

LICENSE REQUIREMENTS

Reason for Control: NS, MT, AT

Control(s)	Country chart (see supp. No. 1 to part 738)
NS applies to entire entry	NS Column 1
MT applies to entire entry	MT Column 1
AT applies to entire entry	AT Column 1

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

LVS: N/A

GBS: N/A

LIST OF ITEMS CONTROLLED

Related Controls: (1) See USML Category XV for certain 'star trackers' that are ''subject to the ITAR'' (see 22 CFR parts 120 through 130). (2) See also 7A104 and 7A994.

Related Definitions: N/A

Items:

a. 'Star trackers' with a specified azimuth ''accuracy'' of equal to or less (better) than 20 seconds of arc throughout the specified lifetime of the equipment;

b. ''Components'' ''specially designed'' for equipment specified in 7A004.a as follows:

b.1. Optical heads or baffles;

b.2. Data processing units.

Technical Note: For the purposes of 7A004.a, 'star trackers' are also referred to as stellar attitude sensors or gyro-astro compasses.

7A005 "Satellite navigation system" receiving equipment having any of the following and "specially designed" "components" therefor.

LICENSE REQUIREMENTS

Reason for Control: NS, MT and AT

Control(s)	Country chart (see supp. No. 1 to part 738)
NS applies to 7A005.b	NS Column 1
MT applies to commodities in 7A005.b that meet or exceed the parameters of 7A105.	MT Column 1
AT applies to 7A005.b	AT Column 1

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

LVS: N/A

GBS: N/A

LIST OF ITEMS CONTROLLED

Related Controls: (1) See also ECCNs 7A105, 7A611 and 7A994. Commercially available ''satellite navigation system'' receivers do not typically employ decryption or adaptive antennae and are classified as 7A994. (2) See USML Category XII(d) for ''satellite navigation system'' receiving equipment subject to the ITAR and USML Category XI(c)(10) for antennae that are subject to the ITAR. (3) Items that otherwise would be covered by ECCN 7A005.a are ''subject to the ITAR'' (see 22 CFR parts 120 through 130).

Related Definitions: N/A

Items:

a. Employing a decryption algorithm ''specially designed'' or modified for government use to access the ranging code for position and time; *or*

b. Employing 'adaptive antenna systems'.

Note: 7A005.b does not apply to ''satellite navigation system'' receiving equipment that only uses ''components'' designed to filter, switch, or combine signals from multiple omnidirectional antennas that do not implement adaptive antenna techniques.

Technical Note: For the purposes of 7A005.b, 'adaptive antenna systems' dynamically generate one or more spatial nulls in an antenna array pattern by signal processing in the time domain or frequency domain.

7A006 Airborne altimeters operating at frequencies other than 4.2 to 4.4 GHz inclusive and having any of the following (see List of Items Controlled).

LICENSE REQUIREMENTS

Reason for Control: NS, MT, AT

Control(s)	Country chart (see supp. No. 1 to part 738)
NS applies to entire entry	NS Column 1
MT applies to commodities in this entry that meet or exceed the parameters of 7A106.	MT Column 1
AT applies to entire entry	AT Column 1

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

LVS: N/A

GBS: N/A

LIST OF ITEMS CONTROLLED

Related Controls: See also 7A106, 7A994 and Category 6 for controls on radar.

Related Definitions: N/A

Items:

a. 'Power management'; *or*

Technical Note: For the purposes of 7A006.a, 'power management' is changing the transmitted power of the altimeter signal so that received power at the ''aircraft'' altitude is always at the minimum necessary to determine the altitude.

b. Using phase shift key modulation.

7A008 Underwater sonar navigation systems using Doppler velocity or correlation velocity logs integrated with a heading source and having a positioning "accuracy" of equal to or less (better) than 3% of distance traveled "Circular Error Probable" ("CEP") and "specially designed" "components" therefor.

LICENSE REQUIREMENTS

Reason for Control: NS, AT

Control(s)	Country Chart (See Supp. No. 1 to part 738)
NS applies to entire entry	NS Column 2.
AT applies to entire entry	AT Column 1.

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

LVS: N/A

GBS: N/A

LIST OF ITEMS CONTROLLED

Related Controls: 7A008 does not control systems ''specially designed'' for installation on surface vessels or systems requiring acoustic beacons or buoys to provide positioning data. See 6A001.a for acoustic systems, and 6A001.b for correlation-velocity and Doppler-velocity sonar log equipment. See 8A002 for other marine systems.

Related Definitions: N/A

Items: The list of items controlled is contained in the ECCN heading.

7A101 Accelerometers, other than those controlled by 7A001 (see List of Items Controlled), and "specially designed" "parts" and "components" therefor.

LICENSE REQUIREMENTS

Reason for Control: MT, AT

Control(s)	Country Chart (See Supp. No. 1 to part 738)
MT applies to entire entry	MT Column 1
AT applies to entire entry	AT Column 1

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

LVS: N/A

GBS: N/A

LIST OF ITEMS CONTROLLED

Related Controls: (1) See USML Category XII(e) for accelerometers subject to the ITAR. (2) See also ECCNs 7A001 and 7A611. (3) This entry does not control accelerometers that are ''specially designed'' and developed as MWD (Measurement While Drilling) sensors for use in downhole well service operations.

Related Definitions: N/A

Items: a. Linear accelerometers designed for use in inertial navigation systems or in guidance systems of all types, usable in ''missiles'' having all of the following characteristics, and ''specially designed'' ''parts'' and ''components'' therefor:

1. 'Scale factor' ''repeatability'' less (better) than 1250 ppm; and

2. 'Bias' ''repeatability'' less (better) than 1250 micro g.

Note: The measurement of 'bias' and 'scale factor' refers to one sigma standard deviation with respect to a fixed calibration over a period of one year.

b. Accelerometers of any type, designed for use in inertial navigation systems or in guidance systems of all types, specified to function at acceleration levels greater than 100 g.

Note to paragraph b: This paragraph (b) does not include accelerometers that are designed to measure vibration or shock.

7A102 Gyros, other than those controlled by 7A002 (see List of Items Controlled), and "specially designed" "parts" and "components" therefor.

LICENSE REQUIREMENTS

Reason for Control: MT, AT

Control(s)	Country Chart (See Supp. No. 1 to part 738)
MT applies to entire entry	MT Column 1
AT applies to entire entry	AT Column 1

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

LVS: N/A

GBS: N/A

LIST OF ITEMS CONTROLLED

Related Controls: (1) See USML Category XII(e) for gyros or angular rate sensors subject to the ITAR. (2) See also ECCNs 7A002, 7A611, and 7A994.

Related Definitions: (1) Drift rate is defined as the time rate of output deviation from the desired output. It consists of random and systematic components and is expressed as an equivalent angular displacement per unit time with respect to inertial space. (2) Stability is defined as standard deviation (1 sigma) of the variation of a particular parameter from its calibrated value measured under stable temperature conditions. This can be expressed as a function of time.

Items: a. All types of gyros, usable in rockets, missiles, or unmanned aerial vehicles capable of achieving a ''range'' equal to or greater than 300 km, with a rated ''drift rate'' 'stability' of less than 0.5 degrees (1 sigma or rms) per hour in a 1 g environment.

b. Gyros of any type, designed for use in inertial navigation systems or in guidance systems of all types, specified to function at acceleration levels greater than 100 g.

Technical Note: In this entry, the term 'stability' is defined as a measure of the ability of a specific mechanism or performance coefficient to remain invariant when continuously exposed to a fixed operating condition. (This definition does not refer to dynamic or servo stability.) (IEEE STD 528–2001 paragraph 2.247).

7A103 Instrumentation, navigation equipment and systems, other than those controlled by 7A003, and "specially designed" "parts" and "components" therefor, as follows (see List of Items Controlled).

LICENSE REQUIREMENTS

Reason for Control: MT, AT

Control(s)	Country Chart (See Supp. No. 1 to part 738)
MT applies to entire entry	MT Column 1
AT applies to entire entry	AT Column 1

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

LVS: N/A

GBS: N/A

LIST OF ITEMS CONTROLLED

Related Controls: (1) See ECCN 7A003 and 7A994. (2) Inertial navigation systems and inertial equipment, and ''specially designed'' ''parts'' and ''components'' therefor specifically designed, modified or configured for military use are ''subject to the ITAR'' (see 22 CFR parts 120 through 130).

Related Definitions: 'Inertial measurement equipment or systems' specified in 7A103.a. incorporate accelerometers or gyros to measure changes in velocity and orientation in order to determine or maintain heading or position without requiring an external reference once aligned.

Items: a. 'Inertial measurement equipment or systems' using accelerometers or gyros controlled by 7A001, 7A002, 7A101 or 7A102, and ''specially designed'' ''parts'' and ''components'' therefor;

Note 1: 7A103.a does not control equipment containing accelerometers ''specially designed'' and developed as MWD (Measurement While Drilling) sensors for use in down-hole well services operations.

Note 2: 7A103.a does not control inertial or other equipment using accelerometers or gyros controlled by 7A001 or 7A002 that are only NS controlled.

Note 3: 7A103.a. includes Attitude and Heading Reference Systems (AHRSs), gyrocompasses, Inertial Measurement Units (IMUs), Inertial Navigations Systems (INSs), Inertial Reference Systems (IRSs), and Inertial Reference Units (IRUs).

b. Integrated flight instrument systems, which include gyrostabilizers or automatic pilots, designed or modified for use in rockets, missiles, or unmanned aerial vehicles capable of achieving a ''range'' equal to or greater than 300 km, and ''specially designed'' ''parts'' and ''components'' therefor.

c. Integrated Navigation Systems, designed or modified for use in rockets, missiles, or unmanned aerial vehicles capable of achieving a ''range'' equal to or greater than 300 km and capable of providing a navigational accuracy of 200m Circular Error Probable (CEP) or less.

Technical Note: An ' integrated navigation system' typically incorporates the following ''parts'' and ''components'':

1. An inertial measurement device (e.g., an attitude and heading reference system, inertial reference unit, or inertial navigation system);

2. One or more external sensors used to update the position and/or velocity, either periodically or continuously throughout the flight (e.g., satellite navigation receiver, radar altimeter, and/or Doppler radar); and

3. Integration hardware and software.

7A104 Gyro-astro compasses and other devices, other than those controlled by 7A004, which derive position or orientation by means of automatically tracking celestial bodies or satellites and "specially designed" "parts" and "components" therefor.

LICENSE REQUIREMENTS

Reason for Control: MT, AT

Control(s)	Country Chart (See Supp. No. 1 to part 738)
MT applies to entire entry	MT Column 1
AT applies to entire entry	AT Column 1

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

LVS: N/A

GBS: N/A

LIST OF ITEMS CONTROLLED

Related Controls: (1) See USML Categories IV and XV for certain 'star trackers' that are ''subject to the ITAR'' (see 22 CFR parts 120 through 130). (2) This entry controls ''specially designed'' ''parts'' and ''components'' for gyro-astro compasses and other devices controlled by 7A004.

Related Definitions: N/A

Items: The list of items controlled is contained in the ECCN heading.

7A105 Receiving equipment for 'navigation satellite systems', having any of the following characteristics (see List of Items Controlled), and "specially designed" "parts" and "components" therefor.

LICENSE REQUIREMENTS

Reason for Control: MT, AT

Control(s)	Country chart (See Supp. No. 1 to part 738)
MT applies to entire entry	MT Column 1
AT applies to entire entry	AT Column 1

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

LVS: N/A

GBS: N/A

LIST OF ITEMS CONTROLLED

Related Controls: (1) See also 7A005, 7A611 and 7A994. (2) See USML Category XII(d) for GNSS receiving equipment subject to the ITAR and USML Category XI(c)(10) for antennae that are subject to the ITAR. (3) Items that otherwise would be covered by ECCN 7A105.b.2 are ''subject to the ITAR'' (see 22 CFR parts 120 through 130). (4) See USML Category XII(d) for GPS receiving equipment in 7A105.a, b.1 and b.3 that are subject to the ITAR.

Related Definitions: 'Navigation satellite systems' include Global Navigation Satellite Systems (GNSS; e.g. GPS, GLONASS, Galileo or BeiDou) and Regional Navigation Satellite Systems (RNSS; e.g. NavIC, QZSS).

Items: a. Designed or modified for use in ''missiles''; or

b. Designed or modified for airborne applications and having any of the following:

b.1. Capable of providing navigation information at speeds in excess of 600 m/s;

b.2. Employing decryption, designed or modified for military or governmental services, to gain access to a 'navigation satellite system' secure signal/data; or

b.3. Being ''specially designed'' to employ anti-jam features (e.g., null steering antenna or electronically steerable antenna) to function in an environment of active or passive countermeasures.

Note: 7A105.b.2 and 7A105.b.3 do not control equipment designed for commercial, civil or Safety of Life (e.g., data integrity, flight safety) 'navigation satellite system' services.

7A106 Altimeters, other than those controlled by 7A006, of radar or laser radar type, designed or modified for use in "missiles". (These items are "subject to the ITAR." See 22 CFR parts 120 through 130.)

7A107 Three axis magnetic heading sensors having all of the following characteristics (see List of Items Controlled), and "specially designed" "parts" and "components" therefor.

LICENSE REQUIREMENTS

Reason for Control: MT, AT

Control(s)	Country chart (see Supp. No. 1 to part 738)
MT applies to entire entry	MT Column 1
AT applies to entire entry	AT Column 1

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

LVS: N/A

GBS: N/A

LIST OF ITEMS CONTROLLED

Related Controls: N/A

Related Definitions: N/A

Items: a. Internal tilt compensation in pitch (±90 degrees) and roll (±180 degrees) axes;

b. Azimuthal accuracy better (less) than 0.5 degrees rms at latitudes of ±80 degrees, referenced to local magnetic field; *and*

c. Designed or modified to be integrated with flight control and navigation systems.

Note: Flight control and navigation systems in 7A107 include gyrostabilizers, automatic pilots and inertial navigation systems.

7A115 Passive sensors for determining bearing to specific electromagnetic sources (direction finding equipment) or terrain characteristics, designed or modified for use in "missiles". (These items are "subject to the ITAR." See 22 CFR parts 120 through 130.)

7A116 Flight control systems and "parts" and "components", as follows (see List of Items Controlled).

LICENSE REQUIREMENTS

Reason for Control: MT, AT

Control(s)	Country chart (see Supp. No. 1 to part 738)
MT applies to entire entry	MT Column 1
AT applies to entire entry	AT Column 1

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

LVS: N/A

GBS: N/A

LIST OF ITEMS CONTROLLED

Related Controls: (1) See 9A610.r. and 9A610.s. for items designed or modified for military UAVs. (2) See USML Category IV for items ''specially designed'' for use in rockets or missiles that are ''subject to the ITAR.''

Related Definitions: N/A

Items: a. Pneumatic, hydraulic, mechanical, electro-optical, or electromechanical flight control systems (including fly-by-wire and fly-by-light systems) designed or modified for UAVs capable of delivering at least 500 kilograms of payload to a range of at least 300 km, other than those controlled by either USML paragraph VIII(a) or ECCN 9A610.a;

b. Attitude control equipment designed or modified for UAVs capable of delivering at least 500 kilograms of payload to a range of at least 300 km, other than those controlled

by either USML paragraph VIII(a) or ECCN 9A610.a;

c. Flight control servo valves designed of modified for the systems in 7A116.a. or 7A116.b, and designed or modified to operate in a vibration environment greater than 10 g rms over the entire range between 20Hz and 2 kHz.

Note: This entry includes the systems, equipment and valves designed or modified to enable operation of manned aircraft as unmanned aerial vehicles.

7A117 "Guidance sets" capable of achieving system accuracy of 3.33% or less of the range (e.g., a "CEP" of 10 km or less at a "range" of 300 km). (These items are "subject to the ITAR." See 22 CFR parts 120 through 130.)

7A611 Military fire control, laser, imaging, and guidance equipment, as follows (see List of Items Controlled).

LICENSE REQUIREMENTS

Reason for Control: NS, MT, RS, AT, UN

Control(s)	Country chart (see Supp. No. 1 to part 738)
NS applies to entire entry except 7A611.y.	NS Column 1.
MT applies to commodities in 7A611.a that meet or exceed the parameters in 7A103.b or .c.	MT Column 1.
RS applies to entire entry except 7A611.y.	RS Column 1.
RS applies to 7A611.y	China, Russia, or Venezuela (see §742.6(a)(7)).
AT applies to entire entry	AT Column 1.
UN applies to entire entry except 7A611.y.	See §746.1(b) for UN controls.

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

LVS: $1500

GBS: N/A

SPECIAL CONDITIONS FOR STA

STA: Paragraph (c)(2) of License Exception STA (§740.20(c)(2) of the EAR) may not be used for any item in 7A611.

LIST OF ITEMS CONTROLLED

Related Controls: (1) Military fire control, laser, imaging, and guidance equipment that are enumerated in USML Category XII, and technical data (including software) directly related thereto, are subject to the ITAR. (2) See Related Controls in ECCNs 0A504, 2A984, 6A002, 6A003, 6A004, 6A005, 6A007, 6A008, 6A107, 7A001, 7A002, 7A003, 7A005, 7A101, 7A102, and 7A103. (3) See ECCN 3A611 and USML Category XI for controls on countermeasure equipment. (4) See ECCN 0A919 for foreign-made "military commodities" that incorporate more than a *de minimis* amount of U.S. origin "600 series" controlled content.

Related Definitions: N/A

Items:

a. Guidance or navigation systems, not elsewhere specified on the USML, that are "specially designed" for a defense article on the USML or for a 600 series item.

b. to w. [Reserved]

x. "Parts," "components," "accessories," and "attachments," including accelerometers, gyros, angular rate sensors, gravity meters (gravimeters), and inertial measurement units (IMUs), that are "specially designed" for defense articles controlled by USML Category XII or items controlled by 7A611, and that are NOT:

x.1. Enumerated or controlled in the USML or elsewhere within ECCN 7A611;

x.2. Described in ECCNs 6A007, 6A107, 7A001, 7A002, 7A003, 7A101, 7A102 or 7A103; or

x.3. Elsewhere specified in ECCN 7A611.y or 3A611.y.

y. Specific "parts," "components," "accessories," and "attachments" "specially designed" for a commodity subject to control in this ECCN or a defense article in Category XII and not elsewhere specified on the USML or in the CCL, as follows, and "parts," "components," "accessories," and "attachments" "specially designed" therefor:

y.1 [Reserved]

7A994 Other navigation direction finding equipment, airborne communication equipment, all aircraft inertial navigation systems not controlled under 7A003 or 7A103, and other avionic equipment, including "parts" and "components," n.e.s.

LICENSE REQUIREMENTS

Reason for Control: AT

Control(s)	Country chart (see supp. No. 1 to part 738)
AT applies to entire entry	AT Column 1.

License Requirement Notes: Typically commercially available GPS do not employ decryption or adaptive antenna and are classified as 7A994.

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

LVS: N/A

GBS: N/A

LIST OF ITEMS CONTROLLED

Related Controls: See 7A005 and 7A105.

Related Definitions: N/A

Items: The list of items controlled is contained in the ECCN heading.

B. "TEST", "INSPECTION" AND "PRODUCTION EQUIPMENT"

7B001 Test, calibration or alignment equipment, "specially designed" for equipment controlled by 7A (except 7A994).

LICENSE REQUIREMENTS

Reason for Control: NS, MT, AT

Control(s)	Country chart (see supp. No. 1 to part 738)
NS applies to entire entry	NS Column 1
MT applies to entire entry	MT Column 1
AT applies to entire entry	AT Column 1

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

LVS: N/A

GBS: N/A

LIST OF ITEMS CONTROLLED

Related Controls: (1) See also 7B101, 7B102 and 7B994. (2) This entry does not control test, calibration or alignment equipment for 'Maintenance level I' or 'Maintenance Level II'.

Related Definition: For the purposes of 7B001: (1) 'Maintenance Level I': The failure of an inertial navigation unit is detected on the ''aircraft'' by indications from the Control and Display Unit (CDU) or by the status message from the corresponding sub-system. By following the manufacturer's manual, the cause of the failure may be localized at the level of the malfunctioning Line Replaceable Unit (LRU). The operator then removes the LRU and replaces it with a spare. (2) 'Maintenance Level II': The defective LRU is sent to the maintenance workshop (the manufacturer's or that of the operator responsible for level II maintenance). At the maintenance workshop, the malfunctioning LRU is tested by various appropriate means to verify and localize the defective Shop Replaceable Assembly (SRA) module responsible for the failure. This SRA is removed and replaced by an operative spare. The defective SRA (or possibly the complete LRU) is then shipped to the manufacturer. 'Maintenance Level II' does not include the disassembly or repair of controlled accelerometers or gyro sensors.

Items:

The list of items controlled is contained in the ECCN heading.

7B002 Equipment "specially designed" to characterize mirrors for ring "laser" gyros, as follows (see List of Items Controlled).

LICENSE REQUIREMENTS

Reason for Control: NS, MT, AT

Control(s)	Country Chart (See Supp. No. 1 to part 738)
NS applies to entire entry	NS Column 1
MT applies to entire entry	MT Column 1
AT applies to entire entry	AT Column 1

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

LVS: N/A

GBS: N/A

LIST OF ITEMS CONTROLLED

Related Controls: See also 7B102 and 7B994

Related Definitions: N/A

Items: a. Scatterometers having a measurement ''accuracy'' of 10 ppm or less (better);

b. Profilometers having a measurement ''accuracy'' of 0.5 nm (5 angstrom) or less (better).

7B003 Equipment "specially designed" for the "production" of equipment controlled by 7A (except 7A994).

LICENSE REQUIREMENTS

Reason for Control: NS, MT, AT

Control(s)	Country Chart (See Supp. No. 1 to part 738)
NS applies to entire entry	NS Column 1
MT applies to entire entry	MT Column 1
AT applies to entire entry	AT Column 1

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

LVS: N/A

GBS: N/A

LIST OF ITEMS CONTROLLED

Related Controls: (1) See also 7B103, (this entry is ''subject to the ITAR'' (see 22 CFR parts 120 through 130)) and 7B994. (2) This entry includes: Inertial Measurement Unit (IMU module) tester; IMU platform tester; IMU stable element handling fixture; IMU platform balance fixture; gyro tuning test station; gyro dynamic balance station; gyro run-in/motor test station; gyro evacuation and fill station; centrifuge fixtures for gyro bearings; accelerometer axis align stations; accelerometer test station; and fiber optic gyro coil winding machines.

Related Definitions: N/A

Items: The list of items controlled is contained in the ECCN heading.

7B101 "Production equipment", and other test, calibration, and alignment equipment, other than that described in 2B119 to 2B122, 7B003, and 7B102, designed or modified to be used with equipment controlled by 7A001 to 7A004 or 7A101 to 7A104.

LICENSE REQUIREMENTS

Reason for Control: MT, AT

Control(s)	Country Chart (See Supp. No. 1 to part 738)
MT applies to entire entry	MT Column 1.
AT applies to entire entry	AT Column 1.

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

LVS: N/A

GBS: N/A

LIST OF ITEMS CONTROLLED

Related Controls: (1) *See also* 2B119 to 2B122, 7B003, 7B102, and 7B994.

(2) This entry includes: inertial measurement unit (IMU module) tester; IMU platform tester; IMU stable element handling fixture; IMU platform balance fixture; gyro tuning test station; gyro dynamic balance stations; gyro run-in/motor test stations; gyro evacuation and filling stations; centrifuge fixtures for gyro bearings; accelerometer axis align stations; and accelerometer test stations.
Related Definitions: N/A
Items: The list of items controlled is contained in the ECCN heading.

7B102 Equipment, other than those controlled by 7B002, designed or modified to characterize mirrors, for laser gyro equipment, as follows (see List of Items Controlled).

LICENSE REQUIREMENTS
Reason for Control: MT, AT

Control(s)	Country Chart (See Supp. No. 1 to part 738)
MT applies to entire entry	MT Column 1
AT applies to entire entry	AT Column 1

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)
LVS: N/A
GBS: N/A
LIST OF ITEMS CONTROLLED
Related Controls: N/A
Related Definitions: N/A
Items: a. Scatterometers having a threshold accuracy of 10 ppm or less (better).
b. Reflectometers having a threshold accuracy of 50 ppm or less (better).
c. Prolifometers having a threshold accuracy of 0.5nm (5 angstrom) or less (better).

7B103 "Specially designed" "production facilities" for equipment controlled by 7A117. (These items are "subject to the ITAR." See 22 CFR parts 120 through 130.)

7B611 Test, inspection, and production commodities "specially designed" for military fire control, laser, imaging, and guidance equipment, as follows (see List of Items Controlled).

LICENSE REQUIREMENTS
Reason for Control: NS, MT, RS, AT, UN

Control(s)	Country chart (see supp. no. 1 to part 738)
NS applies to entire entry	NS Column 1.
MT applies to 7B611.a commodities "specially designed" for 7A611.a commodities controlled for MT reasons.	MT Column 1.
RS applies to entire entry	RS Column 1.
AT applies to entire entry	AT Column 1.
UN applies to entire entry	See §746.1(b) for UN controls.

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)
LVS: $1500
GBS: N/A
SPECIAL CONDITIONS FOR STA
STA: Paragraph (c)(2) of License Exception STA (§740.20(c)(2) of the EAR) may not be used for any item in 7B611.
LIST OF ITEMS CONTROLLED
Related Controls: N/A
Related Definitions: N/A
Items: a. Test, inspection, and production end items and equipment ''specially designed'' for the ''development,'' ''production,'' repair, overhaul, or refurbishing of commodities controlled in ECCN 7A611 (except 7A611.y) or commodities in USML Category XII that are not enumerated in USML Category XII or controlled by another ''600 series'' ECCN.
b. Environmental test facilities ''specially designed'' for the certification, qualification, or testing of commodities controlled in ECCN 7A611 (except 7A611.y) or guidance equipment in USML Category XII that are not enumerated in USML Category XII or controlled by another ''600 series'' ECCN.
c. Field test equipment ''specially designed'' to evaluate or calibrate the operation of systems described in USML Category XII(a), (b), or (c).
d. to w. [Reserved]
x. ''Parts,'' ''components,'' ''accessories,'' and ''attachments'' that are ''specially designed'' for a commodity listed in this entry and that are not enumerated on the USML or controlled by another ''600 series'' ECCN.

7B994 Other equipment for the test, inspection, or "production" of navigation and avionics equipment.

LICENSE REQUIREMENTS
Reason for Control: AT

Control(s)	Country Chart (See Supp. No. 1 to part 738)
AT applies to entire entry	AT Column 1

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)
LVS: N/A
GBS: N/A
LIST OF ITEMS CONTROLLED
Related Controls: N/A
Related Definitions: N/A
Items: The list of items controlled is contained in the ECCN heading.

C. ''MATERIALS'' [RESERVED]

D. ''SOFTWARE''

7D001 "Software" "specially designed" or modified for the "development" or "production" of equipment controlled by 7A (except 7A994) or 7B (except 7B994).

LICENSE REQUIREMENTS

Reason for Control: NS, MT, RS, AT

Control(s)	Country Chart (See Supp. No. 1 to part 738)
NS applies to "software" for equipment controlled by 7A001 to 7A004, 7A006, 7A008, 7B001, 7B002 or 7B003.	NS Column 1.
MT applies to "software" for equipment controlled for MT reasons. MT does not apply to "software" for equipment controlled by 7A008.	MT Column 1.
RS applies to "software" for inertial navigation systems and inertial equipment, and "components" therefor, for "9A991.b aircraft".	RS Column 1.
AT applies to entire entry	AT Column 1.

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

TSR: N/A

LIST OF ITEMS CONTROLLED

Related Controls: (1) See also 7D101 and 7D994. (2) The ''software'' related to 7A003.b, 7A005, 7A103.b, 7A105, 7A106, 7A115, 7A116, 7A117, or 7B103 is ''subject to the ITAR'' (see 22 CFR parts 120 through 130). (3) ''Software'' for inertial navigation systems and inertial equipment and ''parts'' or ''components'' ''specially designed'' therefor that are directly related to defense articles and not ''specially designed'' for use on civil aircraft is ''subject to the ITAR'' (see 22 CFR parts 120 through 130).

Related Definitions: N/A

Items: The list of items controlled is contained in the ECCN heading.

7D002 "Source code" for the operation or maintenance of any inertial navigation equipment, including inertial equipment not controlled by 7A003 or 7A004, or Attitude and Heading Reference Systems ('AHRS').

LICENSE REQUIREMENTS

Reason for Control: NS, MT, AT

Control(s)	Country chart (see supp. No. 1 to part 738)
NS applies to entire entry	NS Column 1
MT applies to entire entry	MT Column 1
AT applies to entire entry	AT Column 1

REPORTING REQUIREMENTS

See §743.1 of the EAR for reporting requirements for exports under License Exceptions, and Validated End-User authorizations.

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

TSR: N/A

LIST OF ITEMS CONTROLLED

Related Controls: (1.) See also 7D102 and 7D994. (2.) This entry does not control ''source code'' for the operation or maintenance of gimballed 'AHRS'.

Related Definition: For the purposes of 7D002, 'AHRS' generally differ from Inertial Navigation Systems (INS) in that an 'AHRS' provides attitude and heading information and normally does not provide the acceleration, velocity and position information associated with an INS.

Items:

The list of items controlled is contained in the ECCN heading.

7D003 Other "software" as follows (see List of Items Controlled).

LICENSE REQUIREMENTS

Reason for Control: NS, MT, AT

Control(s)	Country chart (see Supp. No. 1 to part 738)
NS applies to entire entry	NS Column 1.
MT applies to "software" for equipment controlled for MT reasons. MT does not apply to "software" for equipment controlled by 7A008.	MT Column 1.
AT applies to entire entry	AT Column 1.

REPORTING REQUIREMENTS

See §743.1 of the EAR for reporting requirements for exports under License Exceptions, and Validated End-User authorizations.

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

TSR: N/A

SPECIAL CONDITIONS FOR STA

STA: License Exception STA may not be used to ship or transmit software in 7D003.a or .b to any of the destinations listed in Country Group A:6 (See Supplement No. 1 to part 740 of the EAR).

LIST OF ITEMS CONTROLLED

Related Controls: See also 7D103 and 7D994.

Related Definitions: 'Data-Based Referenced Navigation' ('DBRN') systems are systems which use various sources of previously measured geo-mapping data integrated to provide accurate navigation information under dynamic conditions. Data sources include bathymetric maps, stellar maps, gravity maps, magnetic maps or 3–D digital terrain maps.

Items:

a. ''Software'' ''specially designed'' or modified to improve the operational performance or reduce the navigational error of systems to the levels controlled by 7A003, 7A004 or 7A008;

b. ''Source code'' for hybrid integrated systems which improves the operational performance or reduces the navigational error of systems to the level controlled by 7A003 or 7A008 by continuously combining heading data with any of the following:

b.1. Doppler radar or sonar velocity data;

b.2. ''Satellite navigation system'' reference data; *or*

b.3. Data from 'Data-Based Referenced Navigation' ('DBRN'') systems;

c. [Reserved]

d. [Reserved]

N.B. For flight control ''source code,'' see 7D004.

e. Computer-Aided-Design (CAD) ''software'' ''specially designed'' for the ''development'' of ''active flight control systems'', helicopter multi-axis fly-by-wire or fly-by-light controllers or helicopter ''circulation-controlled anti-torque or circulation-controlled direction control systems'', whose ''technology'' is controlled by 7E004.b.1, 7E004.b.3 to b.5, 7E004.b.7 to b.8, 7E004.c.1 or 7E004.c.2.

7D004 "Source code" incorporating "development" "technology" specified by 7E004.a.2, a.3, a.5, a.6 or 7E004.b, for any of the following: (see List of Items Controlled).

LICENSE REQUIREMENTS

Reason for Control: NS, AT

Control(s)	Country chart (See Supp. No.1 to part 738)
NS applies to entire entry	NS Column 1
AT applies to entire entry	AT Column 1

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

TSR: N/A

SPECIAL CONDITIONS FOR STA

STA: License Exception STA may not be used to ship or transmit ''software'' in 7D004.a to .d and .g to any of the destinations listed in Country Group A:6 (See Supplement No. 1 to part 740 of the EAR).

LIST OF ITEMS CONTROLLED

Related Controls: See 7D103 and 7D994

Related Definitions: N/A

Items: a. Digital flight management systems for ''total control of flight'';

b. Integrated propulsion and flight control systems;

c. ''Fly-by-wire systems'' or ''fly-by-light systems'';

d. Fault-tolerant or self-reconfiguring ''active flight control systems'';

e. [Reserved];

f. Air data systems based on surface static data; *or*

g. Three dimensional displays.

Note: 7D004 does not apply to ''source code'' associated with common computer elements and utilities (e.g., input signal acquisition, output signal transmission, computer ''program'' and data loading, built-in test, task scheduling mechanisms) not providing a specific flight control system function.

7D005 "Software" "Specially Designed" To Decrypt "Satellite Navigation System" Ranging Signals Designed for Government Use.

LICENSE REQUIREMENTS

Reason for Control: NS, AT

Control(s)	Country chart (see Supp. No. 1 to part 738)
NS applies to entire entry	NS Column 1
AT applies to entire entry	AT Column 1

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

TSR: N/A

LIST OF ITEMS CONTROLLED

Related Controls: N/A

Related Definitions: N/A

Items:

The list of items controlled is contained in the ECCN heading.

7D101 "Software" "specially designed" or modified for the "use" of equipment controlled for missile technology (MT) reasons by 7A001 to 7A006, 7A101 to 7A107, 7A115, 7A116, 7A117, 7B001, 7B002, 7B003, 7B101, 7B102, or 7B103.

LICENSE REQUIREMENTS

Reason for Control: MT, AT

Control(s)	Country Chart (See Supp. No. 1 to part 738)
MT applies to entire entry	MT Column 1
AT applies to entire entry	AT Column 1

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

TSR: N/A

LIST OF ITEMS CONTROLLED

Related Controls: (1) The ''software'' related to 7A003.b, 7A005, 7A103.b, 7A105, 7A106, 7A115, 7A116, 7A117, or 7B103 is ''subject to the ITAR'' (see 22 CFR parts 120 through 130). (2) ''Software'' for inertial navigation systems and inertial equipment and ''parts'' and ''components'' ''specially designed'' therefor that are directly related to a defense article is ''subject to the ITAR'' (see 22 CFR parts 120 through 130).

Related Definitions: N/A

Items: The list of items controlled is contained in the ECCN heading.

7D102 Integration "software", as follows (See List of Items Controlled).

LICENSE REQUIREMENTS

Reason for Control: MT, AT

Control(s)	Country Chart (See Supp. No. 1 to part 738)
MT applies to entire entry	MT Column 1
AT applies to entire entry	AT Column 1

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)
TSR: N/A
LIST OF ITEMS CONTROLLED
Related Controls: The ''software'' related to 7A003.b or 7A103.b is ''subject to the ITAR'' (see 22 CFR parts 120 through 130).
Related Definitions: N/A
Items: a. Integration ''software'' for the equipment controlled by 7A103.b.

b. Integration ''software'' ''specially designed'' for the equipment controlled by 7A003 or 7A103.a.

7D103 "Software" "specially designed" for modelling or simulation of the "guidance sets" controlled by 7A117 or for their design integration with "missiles". (This entry is "subject to the ITAR." See 22 CFR parts 120 through 130.)

7D611 "Software" "specially designed" for commodities controlled by 7A611 or equipment controlled by 7B611, as follows (see List of Items Controlled).
LICENSE REQUIREMENTS
Reason for Control: NS, MT, RS, AT, UN

Control(s)	Country chart (see Supp. No. 1 to part 738)
NS applies to entire entry except 7D611.y.	NS Column 1.
MT applies to 7D611.a ''software'' ''specially designed'' for 7A611.a commodities controlled for MT reasons.	MT Column 1.
RS applies to entire entry except 7D611.y.	RS Column 1.
RS applies to 7D611.y	China, Russia, or Venezuela (see §742.6(a)(7)).
AT applies to entire entry	AT Column 1.
UN applies to entire entry except 7D611.y.	See §746.1(b) for UN controls.

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)
TSR: N/A
SPECIAL CONDITIONS FOR STA
STA: Paragraph (c)(2) of License Exception STA (§740.20(c)(2) of the EAR) may not be used for any software in 7D611.
LIST OF ITEMS CONTROLLED
Related Controls: ''Software'' directly related to articles enumerated in USML Category XII is subject of USML paragraph XII(f).
Related Definitions: N/A
Items:

a. ''Software'' ''specially designed'' for the ''development,'' ''production,'' operation, or maintenance of commodities controlled by ECCNs 7A611 (except 7A611.y) or 7B611.

b. to .x [Reserved]

y. Specific ''software'' ''specially designed'' for the ''development,'' ''production,'' operation, or maintenance of commodities described in 7A611.y.

7D994 "Software", n.e.s., for the "development", "production", or "use" of navigation, airborne communication and other avionics.
LICENSE REQUIREMENTS
Reason for Control: AT

Control(s)	Country Chart (See Supp. No. 1 to part 738)
AT applies to entire entry	AT Column 1

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)
TSR: N/A
LIST OF ITEMS CONTROLLED
Related Controls: N/A
Related Definitions: N/A
Items: The list of items controlled is contained in the ECCN heading.

E. ''TECHNOLOGY''

7E001 "Technology" according to the General Technology Note for the "development" of equipment or "software," specified by 7A. (except 7A994), 7B. (except 7B994), 7D001, 7D002, 7D003 or 7D005.
LICENSE REQUIREMENTS
Reason for Control: NS, MT, RS, AT

Control(s)	Country chart (See Supp. No.1 to part 738)
NS applies to ''technology'' for items controlled by 7A001 to 7A004, 7A006, 7A008, 7B001 to 7B003, 7D001 to 7D005.	NS Column 1
MT applies to technology for equipment controlled for MT reasons. MT *does not* apply to ''technology'' for equipment controlled by 7A008. MT *does* apply to ''technology'' for equipment specified in 7A001, 7A002 or 7A003.d that meets or exceeds parameters of 7A101, 7A102 or 7A103.	MT Column 1
RS applies to ''technology'' for inertial navigation systems or inertial equipment, and ''components'' therefor, for 9A991.b aircraft.	RS Column 1
AT applies to entire entry	AT Column 1

REPORTING REQUIREMENTS
See §743.1 of the EAR for reporting requirements for exports under License Exceptions, and Validated End-User authorizations.
LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)
TSR: N/A
SPECIAL CONDITIONS FOR STA
STA: License Exception STA may not be used to ship or transmit any technology in this entry to any of the destinations listed

in Country Group A:6 (See Supplement No. 1 to part 740 of the EAR).

LIST OF ITEMS CONTROLLED

Related Controls: (1) See also 7E101 and 7E994. (2) The ''technology'' related to 7A003.b, 7A005, 7A103.b, 7A105, 7A106, 7A115, 7A116, 7A117, 7B103, software in 7D101 specified in the Related Controls paragraph of ECCN 7D101, 7D102.a, or 7D103 is ''subject to the ITAR'' (see 22 CFR parts 120 through 130).

Related Definitions: N/A

Items: The list of items controlled is contained in the ECCN heading.

Note: 7E001 includes key management ''technology'' exclusively for equipment specified in 7A005.a.

7E002 "Technology" according to the General Technology Note for the "production" of equipment controlled by 7A (except 7A994) or 7B (except 7B994).

LICENSE REQUIREMENTS

Reason for Control: NS, MT, RS, AT

Control(s)	Country Chart (See Supp. No. 1 to part 738)
NS applies to "technology" for equipment controlled by 7A001 to 7A004, 7A006, 7A008 or 7B001 to 7B003.	NS Column 1.
MT applies to technology for equipment controlled for MT reasons. MT *does not* apply to "technology" for equipment controlled by 7A008. MT *does* apply to "technology" for equipment specified in 7A001, 7A002 or 7A003.d that meets or exceeds parameters of 7A101, 7A102 or 7A103.	MT Column 1.
RS applies to "technology" for inertial navigation systems or inertial equipment, and "components" therefor, for 9A991.b aircraft.	RS Column 1.
AT applies to entire entry	AT Column 1.

REPORTING REQUIREMENTS See §743.1 of the EAR for reporting requirements for exports under License Exceptions, and Validated End-User authorizations.

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

TSR: N/A

SPECIAL CONDITIONS FOR STA

STA: License Exception STA may not be used to ship or transmit any technology in this entry to any of the destinations listed in Country Group A:6 (See Supplement No. 1 to part 740 of the EAR).

LIST OF ITEMS CONTROLLED

Related Controls: (1) See also 7E102 and 7E994. (2) The ''technology'' related to 7A003.b, 7A005, 7A103.b, 7A105, 7A106, 7A115, 7A116, 7A117, or 7B103 is ''subject to the ITAR'' (see 22 CFR parts 120 through 130).

Related Definitions: N/A

Items: The list of items controlled is contained in the ECCN heading.

7E003 "Technology" according to the General Technology Note for the repair, refurbishing or overhaul of equipment controlled by 7A001 to 7A004.

LICENSE REQUIREMENTS

Reason for Control: NS, MT, AT

Control(s)	Country chart (See Supp. No.1 to part 738)
NS applies to entire entry	NS Column 1
MT applies to entire entry	MT Column 1
AT applies to entire entry	AT Column 1

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

TSR: N/A

LIST OF ITEMS CONTROLLED

Related Controls: See also 7E994. This entry does not control ''technology'' for maintenance directly associated with calibration, removal or replacement of damaged or unserviceable LRUs and SRAs of a ''civil aircraft'' as described in 'Maintenance Level I' or 'Maintenance Level II'.

Related Definition: Refer to the Related Definitions for 7B001 for 'Maintenance Level I' or 'Maintenance Level II'.

Items: The list of items controlled is contained in the ECCN heading.

7E004 Other "technology" as follows (see List of Items Controlled).

LICENSE REQUIREMENTS

Reason for Control: NS, MT, AT

Control(s)	Country chart (see supp. No. 1 to part 738)
NS applies to entire entry	NS Column 1
MT applies to "technology" for equipment or systems controlled for MT reasons.	MT Column 1
AT applies to entire entry	AT Column 1

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

TSR: N/A

SPECIAL CONDITIONS FOR STA

STA: (1) Paragraph (c)(1) of License Exception STA (§740.20(c)(1) of the EAR) may not be used for 7E004, except for 7E004.a.7. (2) Paragraph (c)(2) of License Exception STA (§740.20(c)(2) of the EAR) may not be used for 7E004, except for 7E004.a.7.

LIST OF ITEMS CONTROLLED

Related Controls: (1) See also 7E001, 7E002, 7E101, and 7E994. (2) In addition to the Related Controls in 7E001, 7E002, and 7E101 that include MT controls, also see the MT controls in 7E104 for design ''technology'' for the integration of the flight control, guidance, and propulsion data into a flight management system, designed or modified

for rockets or missiles capable of achieving a ''range'' equal to or greater than 300 km, for optimization of rocket system trajectory; and also see 9E101 for design ''technology'' for integration of air vehicle fuselage, propulsion system and lifting control surfaces, designed or modified for unmanned aerial vehicles capable of achieving a ''range'' equal to or greater than 300 km, to optimize aerodynamic performance throughout the flight regime of an unmanned aerial vehicle.

Related Definitions: N/A.

Items:

a. ''Technology'' for the ''development'' or ''production'' of any of the following:

a.1. [Reserved]

a.2. Air data systems based on surface static data only, *i.e.,* which dispense with conventional air data probes;

a.3. Three dimensional displays for ''aircraft'';

a.4. [Reserved]

a.5. Electric actuators (*i.e.,* electromechanical, electrohydrostatic and integrated actuator package) ''specially designed'' for 'primary flight control';

Technical Note: For the purposes of 7E004.a.5, 'primary flight control' is ''aircraft'' stability or maneuvering control using force/moment generators, i.e., aerodynamic control surfaces or propulsive thrust vectoring.

a.6. 'Flight control optical sensor array' ''specially designed'' for implementing ''active flight control systems''; *or*

Technical Note: For the purposes of 7E004.a.6, a 'flight control optical sensor array' is a network of distributed optical sensors, using ''laser'' beams, to provide real-time flight control data for on-board processing.

a.7. ''DBRN'' systems designed to navigate underwater, using sonar or gravity databases, that provide a positioning ''accuracy'' equal to or less (better) than 0.4 nautical miles;

b. ''Development'' ''technology'', as follows, for ''active flight control systems'' (including ''fly-by-wire systems'' or ''fly-by-light systems''):

b.1. Photonic-based ''technology'' for sensing ''aircraft'' or flight control component state, transferring flight control data, or commanding actuator movement, ''required'' for ''fly-by-light systems'' ''active flight control systems'';

b.2. [Reserved]

b.3. Real-time algorithms to analyze component sensor information to predict and preemptively mitigate impending degradation and failures of components within an ''active flight control system'';

Note: 7E004.b.3 does not include algorithms for purpose of off-line maintenance.

b.4. Real-time algorithms to identify component failures and reconfigure force and moment controls to mitigate ''active flight control system'' degradations and failures;

Note: 7E004.b.4 does not include algorithms for the elimination of fault effects through comparison of redundant data sources, or off-line preplanned responses to anticipated failures.

b.5. Integration of digital flight control, navigation and propulsion control data, into a digital flight management system for ''total control of flight'';

Note: 7E004.b.5 does not apply to:

1. ''Technology'' for integration of digital flight control, navigation and propulsion control data, into a digital flight management system for 'flight path optimization';

2. ''Technology'' for ''aircraft'' flight instrument systems integrated solely for VOR, DME, ILS or MLS navigation or approaches.

Technical Note: 'Flight path optimization' is a procedure that minimizes deviations from a four-dimensional (space and time) desired trajectory based on maximizing performance or effectiveness for mission tasks.

b.6. [Reserved]

b.7. ''Technology'' ''required'' for deriving the functional requirements for ''fly-by-wire systems'' having all of the following:

b.7.a. 'Inner-loop' airframe stability controls requiring loop closure rates of 40 Hz or greater; *and*

Technical Note: For the purposes of 7E004.b.7.a, 'inner-loop' refers to functions of ''active flight control systems'' that automate airframe stability controls.

b.7.b. Having any of the following:

b.7.b.1. Corrects an aerodynamically unstable airframe, measured at any point in the design flight envelope, that would lose recoverable control if not corrected within 0.5 seconds;

b.7.b.2. Couples controls in two or more axes while compensating for 'abnormal changes in aircraft state';

Technical Note: For the purposes of 7E004.b.7.b.2, 'abnormal changes in aircraft state' include in-flight structural damage, loss of engine thrust, disabled control surface, or destabilizing shifts in cargo load.

b.7.b.3. Performs the functions specified in 7E004.b.5; *or*

Note: 7E004.b.7.b.3 does not apply to autopilots.

b.7.b.4. Enables ''aircraft'' to have stable controlled flight, other than during take-off or landing, at greater than 18 degrees angle of attack, 15 degrees side slip, 15 degrees/second pitch or yaw rate, or 90 degrees/second roll rate;

b.8. ''Technology'' ''required'' for deriving the functional requirements of ''fly-by-wire systems'' to achieve all of the following:

b.8.a. No loss of control of the ''aircraft'' in the event of a consecutive sequence of any two individual faults within the ''fly-by-wire system''; *and*

b.8.b. Probability of loss of control of the ''aircraft'' being less (better) than 1×10^{-9} failures per flight hour;

Note: 7E004.b does not apply to ''technology'' associated with common computer elements and utilities (e.g., input signal acquisition, output signal transmission, computer ''program'' and data loading, built-in test, task scheduling mechanisms) not providing a specific flight control system function.

c. ''Technology'' for the ''development'' of helicopter systems, as follows:

c.1. Multi-axis fly-by-wire or fly-by-light controllers, which combine the functions of at least two of the following into one controlling element:

c.1.a. Collective controls;

c.1.b. Cyclic controls;

c.1.c. Yaw controls;

c.2. ''Circulation-controlled anti-torque or circulation-controlled direction control systems'';

c.3. Rotor blades incorporating 'variable geometry airfoils', for use in systems using individual blade control.

Technical Note: For the purposes of 7E004.c.3, 'variable geometry airfoils' use trailing edge flaps or tabs, or leading edge slats or pivoted nose droop, the position of which can be controlled in flight.

7E101 "Technology," according to the General Technology Note for the "use" of equipment controlled by 7A001 to 7A006, 7A101 to 7A107, 7A115 to 7A117, 7B001, 7B002, 7B003, 7B101, 7B102, 7B103, or 7D101 to 7D103 for MT reasons.

LICENSE REQUIREMENTS

Reason for Control: MT, RS, AT

Control(s)	Country Chart (See Supp. No. 1 to part 738)
MT applies to entire entry	MT Column 1
RS applies to ''technology'' required for the use of inertial navigation systems, or inertial equipment, or ''specially designed'' ''parts'' and ''components'' therefor, ''specially designed'' for 9A991.b aircraft.	RS Column 1
AT applies to entire entry	AT Column 1

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

TSR: N/A

LIST OF ITEMS CONTROLLED

Related Controls: The ''technology'' related to 7A003.b, 7A005, 7A103.b, 7A105, 7A106, 7A115, 7A116, 7A117, 7B103, software specified in the Related Controls paragraph of ECCN 7D101, 7D102.a, or 7D103 is ''subject to the ITAR'' (see 22 CFR parts 120 through 130).

Related Definitions: N/A

Items: The list of items controlled is contained in the ECCN heading.

7E102 "Technology" for protection of avionics and electrical subsystems against electromagnetic pulse (EMP) and electromagnetic interference (EMI) hazards, from external sources, as follows (see List of Items Controlled).

LICENSE REQUIREMENTS

Reason for Control: MT, AT

Control(s)	Country Chart (See Supp. No. 1 to part 738)
MT applies to entire entry	MT Column 1
AT applies to entire entry	AT Column 1

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

TSR: N/A

LIST OF ITEMS CONTROLLED

Related Controls: N/A

Related Definitions: N/A

Items: a. Design ''technology'' for shielding systems;

b. Design ''technology'' for the configuration of hardened electrical circuits and subsystems;

c. Design ''technology'' for the determination of hardening criteria of .a and .b of this entry.

7E104 Design "Technology" for the integration of the flight control, guidance, and propulsion data into a flight management system, designed or modified for rockets or missiles capable of achieving a "range" equal to or greater than 300 km, for optimization of rocket system trajectory. (This entry is "subject to the ITAR." See 22 CFR parts 120 through 130.)

7E611 "Technology" "required" for the "development," "production," operation, installation, maintenance, repair, overhaul or refurbishing of commodities controlled by 7A611, commodities controlled by 7B611, or software controlled by 7D611, as follows (see List of Items Controlled).

LICENSE REQUIREMENTS

Reason for Control: NS, MT, RS, AT, UN

Control(s)	Country chart (see Supp. No. 1 to part 738)
NS applies to entire entry except 7E611.y.	NS Column 1.
MT applies to ''technology'' in 7E611.a if ''required'' for items controlled for MT reasons in 7A611.a, 7B611.a, or 7D611.a.	MT Column 1.
RS applies to entire entry except 7E611.y.	RS Column 1.
RS applies to 7E611.y	China, Russia, or Venezuela (see §742.6(a)(7)).
AT applies to entire entry	AT Column 1.
UN applies to entire entry except 7E611.y.	See §746.1(b) for UN controls.

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

TSR: N/A

SPECIAL CONDITIONS FOR STA

STA: Paragraph (c)(2) of License Exception STA (§740.20(c)(2) of the EAR) may not be used for any technology in 7E611.

LIST OF ITEMS CONTROLLED

Related Controls: Technical data directly related to articles enumerated in USML Category XII are subject to the control of USML Category XII(f).

Related Definitions: N/A

Items:

a. ''Technology'' ''required'' for the ''development,'' ''production,'' operation, installation, maintenance, repair, overhaul, or refurbishing of commodities or ''software'' controlled by ECCN 7A611 (except 7A611.y), 7B611, or 7D611 (except 7D611.y).

b. through .x [Reserved]

y. Specific ''technology'' ''required'' for the ''production,'' ''development,'' operation, installation, maintenance, repair, or overhaul of commodities or software controlled by ECCNs 7A611.y or 7D611.y.

7E994 "Technology", n.e.s., for the "development", "production", or "use" of navigation, airborne communication, and other avionics equipment.

LICENSE REQUIREMENTS

Reason for Control: AT

Control(s)	Country Chart (See Supp. No. 1 to part 738)
AT applies to entire entry	AT Column 1

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

TSR: N/A

LIST OF ITEMS CONTROLLED

Related Controls: N/A

Related Definitions: N/A

Items: The list of items controlled is contained in the ECCN heading.

EAR99 Items subject to the EAR that are not elsewhere specified in this CCL Category or in any other category in the CCL are designated by the number EAR99.

CATEGORY 8—MARINE

A. ''END ITEMS'', ''EQUIPMENT'', ''ACCESSORIES'', ''ATTACHMENTS'', ''PARTS'', ''COMPONENTS'' AND ''SYSTEMS''

8A001 Submersible vehicles and surface vessels, as follows (see List of Items Controlled).

LICENSE REQUIREMENTS

Reason for Control: NS, AT

Control(s)	Country chart (see supp. No. 1 to part 738)
NS applies to entire entry	NS Column 2
AT applies to entire entry	AT Column 1

REPORTING REQUIREMENTS

See §743.1 of the EAR for reporting requirements for exports under License Exceptions, and Validated End-User authorizations.

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

LVS: $5000; N/A for 8A001.b and .c.1

GBS: N/A

SPECIAL CONDITIONS FOR STA

STA: License Exception STA may not be used to ship any commodity in 8A001.b, 8A001.c or 8A001.d to any of the destinations listed in Country Group A:6 (See Supplement No.1 to part 740 of the EAR).

LIST OF ITEMS CONTROLLED

Related Controls: For the control status of equipment for submersible vehicles, see: Category 6 for sensors; Categories 7 and 8 for navigation equipment; Category 8A for underwater equipment.

Related Definitions: N/A

Items:

a. Manned, tethered submersible vehicles designed to operate at depths exceeding 1,000 m;

b. Manned, untethered submersible vehicles having any of the following:

b.1. Designed to 'operate autonomously' and having a lifting capacity of all the following:

b.1.a. 10% or more of their weight in air; *and*

b.1.b. 15 kN or more;

b.2. Designed to operate at depths exceeding 1,000 m; *or*

b.3. Having all of the following:

b.3.a. Designed to continuously 'operate autonomously' for 10 hours or more; *and*

b.3.b. 'Range' of 25 nautical miles or more;

Technical Notes: 1. For the purposes of 8A001.b, 'operate autonomously' means fully submerged, without snorkel, all systems working and cruising at minimum speed at which the submersible can safely control its depth dynamically by using its depth planes only, with no need for a support vessel or support base on the surface, sea-bed or shore, and containing a propulsion system for submerged or surface use.

2. For the purposes of 8A001.b, 'range' means half the maximum distance a submersible vehicle can 'operate autonomously'.

c. Unmanned submersible vehicles as follows:

c.1. Unmanned submersible vehicles having any of the following:

c.1.a. Designed for deciding a course relative to any geographical reference without real-time human assistance;

c.1.b. Acoustic data or command link; or

c.1.c. Wireless optical data or command link exceeding 1,000 m;

c.2. Unmanned, submersible vehicles, not specified in 8A001.c.1, having all of the following:

c.2.a. Designed to operate with a tether;

c.2.b. Designed to operate at depths exceeding 1,000 m; and

c.2.c. Having any of the following:

c.2.c.1. Designed for self-propelled maneuver using propulsion motors or thrusters specified by 8A002.a.2; or

c.2.c.2. Fiber optic data link;

d. [Reserved]

e. Ocean salvage systems with a lifting capacity exceeding 5 MN for salvaging objects from depths exceeding 250 m and having any of the following:

e.1. Dynamic positioning systems capable of position keeping within 20 m of a given point provided by the navigation system; *or*

e.2. Seafloor navigation and navigation integration systems, for depths exceeding 1,000 m and with positioning ''accuracies'' to within 10 m of a predetermined point.

8A002 Marine systems, equipment, "parts" and "components," as follows (see List of Items Controlled).

LICENSE REQUIREMENTS

Reason for Control: NS, AT

Control(s)	Country chart (see Supp. No. 1 to part 738)
NS applies to entire entry	NS Column 2
AT applies to entire entry	AT Column 1

REPORTING REQUIREMENTS

See §743.1 of the EAR for reporting requirements for exports under License Exceptions, and Validated End-User authorizations.

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

LVS: $5000; N/A for 8A002.o.3.b

GBS: Yes for manipulators for civil end uses (*e.g.*, underwater oil, gas or mining operations) controlled by 8A002.i.2 and having 5 degrees of freedom of movement; and 8A002.r.

SPECIAL CONDITIONS FOR STA

STA: License Exception STA may not be used to ship any commodity in 8A002.b, h, j, o.3, or p to any of the destinations listed in Country Group A:6 (See Supplement No.1 to part 740 of the EAR).

LIST OF ITEMS CONTROLLED

Related Controls: (1) See also 8A992 and for underwater communications systems, see Category 5, Part I—Telecommunications. (2) See also 8A992 for self-contained underwater breathing apparatus that is not controlled by 8A002 or released for control by the 8A002.q Note. (3) For electronic imaging systems ''specially designed'' or modified for underwater use incorporating image intensifier tubes specified by 6A002.a.2.a or 6A002.a.2.b, see 6A003.b.3. (4) For electronic imaging systems ''specially designed'' or modified for underwater use incorporating ''focal plane arrays'' specified by 6A002.a.3.g, see 6A003.b.4.c. (5) Section 744.9 imposes a license requirement on commodities described in 8A002.d if being exported, reexported, or transferred (in-country) for use by a military end-user or for incorporation into an item controlled by ECCN 0A919.

Related Definitions: N/A

Items:

a. Systems, equipment, ''parts'' and ''components,'' ''specially designed'' or modified for submersible vehicles and designed to operate at depths exceeding 1,000 m, as follows:

a.1. Pressure housings or pressure hulls with a maximum inside chamber diameter exceeding 1.5 m;

a.2. Direct current propulsion motors or thrusters;

a.3. Umbilical cables, and connectors therefor, using optical fiber and having synthetic strength members;

a.4. ''Parts'' and ''components'' manufactured from material specified by ECCN 8C001;

Technical Note: For the purposes of 8A002.a.4, this entry should not be defeated by the export of 'syntactic foam' controlled by 8C001 when an intermediate stage of manufacture has been performed and it is not yet in its final component form.

b. Systems ''specially designed'' or modified for the automated control of the motion of submersible vehicles controlled by 8A001, using navigation data, having closed loop servo-controls and having any of the following:

b.1. Enabling a vehicle to move within 10 m of a predetermined point in the water column;

b.2. Maintaining the position of the vehicle within 10 m of a predetermined point in the water column; *or*

b.3. Maintaining the position of the vehicle within 10 m while following a cable on or under the seabed;

c. Fiber optic pressure hull penetrators;

d. Underwater vision systems having all of the following:

d.1. ''Specially designed'' or modified for remote operation with an underwater vehicle; and

d.2. Employing any of the following techniques to minimize the effects of back scatter:

d.2.a. Range-gated illuminators; or

d.2.b. Range-gated ''laser'' systems;

e. [Reserved]

f. [Reserved]

g. Light systems ''specially designed'' or modified for underwater use, as follows:

g.1. Stroboscopic light systems capable of a light output energy of more than 300 J per flash and a flash rate of more than 5 flashes per second;

g.2. Argon arc light systems ''specially designed'' for use below 1,000 m;

h. ''Robots'' ''specially designed'' for underwater use, controlled by using a dedicated computer and having any of the following:

h.1. Systems that control the ''robot'' using information from sensors which measure force or torque applied to an external object, distance to an external object, or tactile sense between the ''robot'' and an external object; *or*

h.2. The ability to exert a force of 250 N or more or a torque of 250 Nm or more and using titanium based alloys or ''composite'' ''fibrous or filamentary materials'' in their structural members;

i. Remotely controlled articulated manipulators ''specially designed'' or modified for use with submersible vehicles and having any of the following:

i.1. Systems which control the manipulator using information from sensors which measure any of the following:

i.1.a. Torque or force applied to an external object; *or*

i.1.b. Tactile sense between the manipulator and an external object; *or*

i.2. Controlled by proportional master-slave techniques and having 5 degrees of 'freedom of movement' or more;

Technical Note: For the purposes of 8A002.i.2, only functions having proportionally related motion control using positional feedback are counted when determining the number of degrees of 'freedom of movement'.

j. Air independent power systems ''specially designed'' for underwater use, as follows:

j.1. Brayton or Rankine cycle engine air independent power systems having any of the following:

j.1.a. Chemical scrubber or absorber systems, ''specially designed'' to remove carbon dioxide, carbon monoxide and particulates from recirculated engine exhaust;

j.1.b. Systems ''specially designed'' to use a monoatomic gas;

j.1.c. Devices or enclosures, ''specially designed'' for underwater noise reduction in frequencies below 10 kHz, or special mounting devices for shock mitigation; *or*

j.1.d. Systems having all of the following:

j.1.d.1. ''Specially designed'' to pressurize the products of reaction or for fuel reformation;

j.1.d.2. ''Specially designed'' to store the products of the reaction; *and*

j.1.d.3. ''Specially designed'' to discharge the products of the reaction against a pressure of 100 kPa or more;

j.2. Diesel cycle engine air independent systems having all of the following:

j.2.a. Chemical scrubber or absorber systems, ''specially designed'' to remove carbon dioxide, carbon monoxide and particulates from recirculated engine exhaust;

j.2.b. Systems ''specially designed'' to use a monoatomic gas;

j.2.c. Devices or enclosures, ''specially designed'' for underwater noise reduction in frequencies below 10 kHz, or special mounting devices for shock mitigation; *and*

j.2.d. ''Specially designed'' exhaust systems that do not exhaust continuously the products of combustion;

j.3. ''Fuel cell'' air independent power systems with an output exceeding 2 kW and having any of the following:

j.3.a. Devices or enclosures, ''specially designed'' for underwater noise reduction in frequencies below 10 kHz, or special mounting devices for shock mitigation; *or*

j.3.b. Systems having all of the following:

j.3.b.1. ''Specially designed'' to pressurize the products of reaction or for fuel reformation;

j.3.b.2. ''Specially designed'' to store the products of the reaction; *and*

j.3.b.3. ''Specially designed'' to discharge the products of the reaction against a pressure of 100 kPa or more;

j.4. Stirling cycle engine air independent power systems having all of the following:

j.4.a. Devices or enclosures, ''specially designed'' for underwater noise reduction in frequencies below 10 kHz, or special mounting devices for shock mitigation; *and*

j.4.b. ''Specially designed'' exhaust systems which discharge the products of combustion against a pressure of 100 kPa or more;

k. [Reserved]

l. [Reserved]

m. [Reserved]

n. [Reserved]

o. Propellers, power transmission systems, power generation systems and noise reduction systems, as follows:

o.1. [Reserved]

o.2. Water-screw propeller, power generation systems or transmission systems, designed for use on vessels, as follows:

o.2.a. Controllable-pitch propellers and hub assemblies, rated at more than 30 MW;

o.2.b. Internally liquid-cooled electric propulsion motors with a power output exceeding 2.5 MW;

o.2.c. ''Superconductive'' propulsion motors with a power output exceeding 0.1 MW;

o.2.d. Power transmission shaft systems incorporating ''composite'' material ''parts'' or ''components'' and capable of transmitting more than 2 MW;

o.2.e. Ventilated or base-ventilated propeller systems, rated at more than 2.5 MW;

o.3. Noise reduction systems designed for use on vessels of 1,000 tonnes displacement or more, as follows:

o.3.a. Systems that attenuate underwater noise at frequencies below 500 Hz and consist of compound acoustic mounts for the acoustic isolation of diesel engines, diesel generator sets, gas turbines, gas turbine generator sets, propulsion motors or propulsion reduction gears, ''specially designed'' for sound or vibration isolation and having an intermediate mass exceeding 30% of the equipment to be mounted;

o.3.b. 'Active noise reduction or cancellation systems' or magnetic bearings, ''specially designed'' for power transmission systems;

Technical Note: For the purposes of 8A002.o.3.b, 'active noise reduction or cancellation systems' incorporate electronic control systems capable of actively reducing equipment vibration by the generation of anti-noise or anti-vibration signals directly to the source.

o.4. Permanent magnet electric propulsion motors ''specially designed'' for submersible vehicles, having a power output exceeding 0.1 MW.

Note: 8A002.o.4. includes rim-driven propulsion systems.

p. Pumpjet propulsion systems having all of the following:

p.1. Power output exceeding 2.5 MW; *and*

p.2. Using divergent nozzle and flow conditioning vane techniques to improve propulsive efficiency or reduce propulsion-generated underwater-radiated noise;

q. Underwater swimming and diving equipment as follows;

q.1. Closed circuit rebreathers;

q.2. Semi-closed circuit rebreathers;

Note: 8A002.q does not control individual rebreathers for personal use when accompanying their users.

N.B. For equipment and devices ''specially designed'' for military use see ECCN 8A620.f.

r. Diver deterrent acoustic systems ''specially designed'' or modified to disrupt divers and having a sound pressure level equal to or exceeding 190 dB (reference 1 μPa at 1 m) at frequencies of 200 Hz and below.

Note 1: 8A002.r does not apply to diver deterrent systems based on under-water-explosive devices, air guns or combustible sources.

Note 2: 8A002.r includes diver deterrent acoustic systems that use spark gap sources, also known as plasma sound sources.

8A018 Items on the Wassenaar Arrangement Munitions List.

No items currently are in this ECCN. See ECCN 8A609 for engines and propulsion systems and ''specially designed'' ''components'' therefor that, immediately prior to January 6, 2014, were classified under ECCN 8A018.b.3. See ECCN 8A620 for closed and semi-closed circuit (rebreathing) apparatus, engines and propulsion systems for submersible vessels (diesel engines of 1,500 hp and over with rotary speed of 700 rpm or over ''specially designed'' for submarines), submarine and torpedo nets, and ''specially designed'' ''components'' therefor that, immediately prior to January 6, 2014, were classified under ECCN 8A018.a, .b.1, or .b.4, respectively. See ECCNs 8A001, 8A002 and 8A992 for controls on non-military submersible vehicles, oceanographic and associated equipment. See USML Category XX (22 CFR part 121) for electric motors ''specially designed'' for submarines that, immediately prior to January 6, 2014, were classified under ECCN 8A018.b.2.

8A609 Surface vessels of war and related commodities (see List of Items Controlled).

LICENSE REQUIREMENTS

Reason for Control: NS, RS, AT, UN

Control(s)	Country chart (see Supp. No. 1 to part 738)
NS applies to entire entry, except 8A609.y.	NS Column 1.
RS applies to entire entry, except 8A609.y.	RS Column 1.
RS applies to 8A609.y	China, Russia, or Venezuela (see §742.6(a)(7)).
AT applies to entire entry	AT Column 1.
UN applies to entire entry, except 8A609.y.	See §746.1(b) for UN controls.

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

LVS: $1,500

GBS: N/A

SPECIAL CONDITIONS FOR STA

STA: (1) Paragraph (c)(1) of License Exception STA (§740.20(c)(1) of the EAR) may not be used for any item in 8A609.a, unless determined by BIS to be eligible for License Exception STA in accordance with §740.20(g) (License Exception STA eligibility requests for 9x515 and ''600 series'' items). (2) Paragraph (c)(2) of License Exception STA (§740.20(c)(2) of the EAR) may not be used for any item in 8A609.

LIST OF ITEMS CONTROLLED

Related Controls: (1) Surface vessels of war and special naval equipment, and technical data (including software), and services directly related thereto, described in 22 CFR part 121, Category VI, Surface Vessels of War and Special Naval Equipment, are subject to the jurisdiction of the International Traffic in Arms Regulations. (2) See ECCN 0A919 for foreign-made ''military commodities'' that incorporate more than a de minimis amount of U.S.- origin ''600 series'' controlled content. (3) For controls on diesel engines and electric motors that are ''subject to the EAR'' for surface vessels of war ''subject to the EAR'' or ''subject to the ITAR,'' see ECCN 8A992.g. For diesel engines and electric motors for surface vessels of war ''subject to the ITAR,'' see 22 CFR part 121, Category VI(c) for parts, components, accessories, and attachments, ''specially designed'' for developmental vessels funded by the Department of Defense via contract or other funding authorization. (4) For controls on military gas turbine engines and related items for vessels of war, see ECCN 9A619. (4) For controls on military gas turbine engines and related items for vessels of war, see ECCN 9A619.

Related Definitions: N/A

Items:

a. Surface vessels of war ''specially designed'' for a military use and not enumerated or otherwise described in the USML.

Note 1: 8A609.a includes: (i) Underway replenishment ships; (ii) surface vessel and submarine tender and repair ships, except vessels that are ''specially designed'' to support naval nuclear propulsion plants; (iii) non-submersible submarine rescue ships; (iv) other auxiliaries (e.g., AGDS, AGF, AGM, AGOR, AGOS, AH, AP, ARL, AVB, AVM, and AVT); (v) amphibious warfare craft, except those that are armed; and (vi) unarmored and unarmed coastal, patrol, roadstead, and Coast Guard and other patrol craft with mounts or hard points for firearms of .50 caliber or less.

Note 2: For purposes of paragraph .a, surface vessels of war includes vessels ''specially designed'' for military use that are not identified in paragraph (a) of ITAR §121.15, including any demilitarized vessels, regardless of origin or designation, manufactured prior to 1950 and that have not been modified since 1949. For purposes of this note, the term modified does not include incorporation of safety features required by law, cosmetic changes (e.g., different paint), or the addition of ''parts'' or ''components'' available prior to 1950.

b. Non-magnetic diesel engines with a power output of 50 hp or more and either of the following:

b.1. Non-magnetic content exceeding 25% of total weight; or

b.2. Non-magnetic parts other than crankcase, block, head, pistons, covers, end plates, valve facings, gaskets, and fuel, lubrication and other supply lines.

c. through w. [Reserved]

x. ''Parts,'' ''components,'' ''accessories'' and ''attachments'' that are ''specially designed'' for a commodity enumerated or otherwise described in ECCN 8A609 (except for 8A609.y) or a defense article enumerated or otherwise described in USML Category VI and not specified elsewhere on the USML, in 8A609.y or 3A611.y.

Note 1: Forgings, castings, and other unfinished products, such as extrusions and machined bodies, that have reached a stage in manufacturing where they are clearly identifiable by mechanical properties, material composition, geometry, or function as commodities controlled by ECCN 8A609.x are controlled by ECCN 8A609.x.

Note 2: ''Parts,'' ''components,'' ''accessories'' and ''attachments'' specified in USML subcategory VI(f) are subject to the controls of that paragraph. ''Parts,'' ''components,'' ''accessories,'' and ''attachments'' specified in ECCN 8A609.y are subject to the controls of that paragraph.

y. Specific ''parts,'' ''components,'' ''accessories'' and ''attachments'' ''specially designed'' for a commodity subject to control in this ECCN or for a defense article in USML Category VI and not elsewhere specified in the USML, as follows, and ''parts,'' ''components,'' ''accessories,'' and ''attachments'' ''specially designed'' therefor:

y.1. Public address (PA) systems;

y.2. Filters and filter assemblies, hoses, lines, fittings, couplings, and brackets for pneumatic, hydraulic, oil and fuel systems;

y.3. Galleys;

y.4. Lavatories;

y.5. Magnetic compass, magnetic azimuth detector;

y.6. Medical facilities;

y.7. Potable water tanks, filters, valves, hoses, lines, fittings, couplings, and brackets;

y.8. Panel knobs, indicators, switches, buttons, and dials whether unfiltered or filtered for use with night vision imaging systems;

y.9. Emergency lighting;

y.10. Gauges and indicators;

y.11. Audio selector panels.

8A620 Submersible vessels, oceanographic and associated commodities (see List of Items Controlled).

LICENSE REQUIREMENTS

Reason for Control: NS, RS, AT, UN

Control(s)	Country chart (see Supp. No. 1 to part 738)
NS applies to entire entry, except 8A620. b and .y.	NS Column 1.
RS applies to entire entry, except 8A620.y.	RS Column 1.
RS applies to 8A620.y	China, Russia, or Venezuela (see §742.6(a)(7)).
AT applies to entire entry	AT Column 1.
UN applies to entire entry, except 8A620.y.	See §746.1(b) for UN controls.

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

LVS: $1,500

GBS: N/A

SPECIAL CONDITIONS FOR STA

STA: (1) Paragraph (c)(1) of License Exception STA (§740.20(c)(1) of the EAR) may not be used for any item in 8A620.a or .b, unless determined by BIS to be eligible for License Exception STA in accordance with §740.20(g) (License Exception STA eligibility requests for ''600 series'' end items). (2) Paragraph (c)(2) of License Exception STA (§740.20(c)(2) of the EAR) may not be used for any item in 8A620.

LIST OF ITEMS CONTROLLED

Related Controls: (1) Submersible vessels, oceanographic and associated equipment, and technical data (including software), and services directly related thereto, described in 22 CFR part 121, Category XX, Submersible Vessels, Oceanographic and Associated Equipment, are subject to the jurisdiction of the International Traffic in

Arms Regulations (ITAR). ''Parts,'' ''components,'' ''accessories,'' and ''attachments'' ''specially designed'' for defense articles in USML Category XX are controlled under USML sub-category XX(c). (2) See ECCN 0A919 for foreign made ''military commodities'' that incorporate more than a de minimis amount of U.S.-origin ''600 series'' controlled content. (3) For controls on nonmilitary submersible vehicles, oceanographic and associated equipment, see ECCNs 8A001, 8A002, and 8A992. (4) See ECCN 8A609 for controls on nonmagnetic diesel engines with a power output of 50 hp or more and either: (i) Nonmagnetic content exceeding 25% of total weight; or (ii) non-magnetic parts other than crankcase, block, head, pistons, covers, end plates, valve facings, gaskets, and fuel, lubrication and other supply lines.

Related Definitions: N/A

Items:

a. Submersible and semi-submersible vessels ''specially designed'' for a military use and not enumerated or otherwise described in the USML.

Note: 8A620.a includes submarine rescue vehicles and Deep Submergence Vehicles (DSV).

b. Submersible and semi-submersible vessels ''specially designed'' for cargo transport and ''parts,'' ''components,'' ''accessories,'' and ''attachments'' ''specially designed'' therefor.

c. Harbor entrance detection devices (magnetic, pressure, and acoustic) and controls therefor, not elsewhere specified on the USML or the CCL.

d. Diesel engines of 1,500 hp and over with rotary speed of 700 rpm or over ''specially designed'' for submarines.

Note: Propulsion systems not specified in ECCN 8A620.d that are ''specially designed'' for an article controlled by USML Category XX are controlled by USML XX(b) or (c).

e. Submarine nets and torpedo nets.

f. Diving and underwater swimming apparatus specially designed or modified for military use, as follows:

f.1. Self-contained diving rebreathers, closed or semi-closed circuit;

f.2. Underwater swimming apparatus specially designed for use with the diving apparatus specified in subparagraph f.1;

N.B.: See also 8A002.q.

g. through w. [Reserved]

x. ''Parts,'' ''components,'' ''accessories'' and ''attachments'' that are ''specially designed'' for a commodity enumerated or otherwise described in ECCN 8A620 (except for 8A620.b or 8A620.y) and not elsewhere specified on the USML, in 8A620.y or 3A611.y.

Note 1: Forgings, castings, and other unfinished products, such as extrusions and machined bodies, that have reached a stage in manufacturing where they are clearly identifiable by mechanical properties, material composition, geometry, or function as commodities controlled by ECCN 8A620.x are controlled by ECCN 8A620.x.

Note 2: ''Parts,'' ''components,'' ''accessories'' and ''attachments'' specified in ECCN 8A620.y are subject to the controls of that paragraph.

y. Specific ''parts,'' ''components,'' ''accessories,'' and ''attachments'' ''specially designed'' for a commodity subject to control in this ECCN, as follows, and ''parts,'' ''components,'' ''accessories,'' and ''attachments'' ''specially designed'' therefor:

y.1. Public address (PA) systems;

y.2. Filters and filter assemblies, hoses, lines, fittings, couplings, and brackets for pneumatic, hydraulic, oil and fuel systems;

y.3. Galleys;

y.4. Lavatories;

y.5. Magnetic compass, magnetic azimuth detector;

y.6. Medical facilities;

y.7. Potable water tanks, filters, valves, hoses, lines, fittings, couplings, and brackets;

y.8. Panel knobs, indicators, switches, buttons, and dials whether unfiltered or filtered for use with night vision imaging systems;

y.9. Emergency lighting;

y.10. Gauges and indicators;

y.11. Audio selector panels.

8A992 Vessels, marine systems or equipment, not controlled by 8A001 or 8A002, and "specially designed" "parts" and "components" therefor, and marine boilers and "parts," "components," "accessories," and "attachments" therefor (see List of Items Controlled).

LICENSE REQUIREMENTS

Reason for Control: AT, Foreign policy

Control(s)	Country chart (see Supp. No. 1 to part 738)
AT applies to entire entry ..... Russian industry sector sanctions apply to entire entry.	AT Column 1. See § 746.8 for specific license requirements and license review policy.

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

LVS: N/A

GBS: N/A

LIST OF ITEMS CONTROLLED

Related Controls: 1. See also 8A002. 2. Marine gas turbine engines are not controlled in paragraph .g of this entry. See ECCN 9A619 for possible controls on marine gas turbine engines specially designed for a military use. See ECCN 9A002 for possible controls on marine gas turbine engines not specially designed for a military use. Marine gas turbine engines subject to the EAR that are not controlled in ECCNs 9A002 or 9A619 are designated EAR99.

Related Definitions: N/A

Items:

a. Underwater vision systems, as follows:

a.1. Television systems (comprising camera, lights, monitoring and signal transmission equipment) having a limiting resolution when measured in air of more than 500 lines and ''specially designed'' or modified for remote operation with a submersible vehicle; *or*

a.2. Underwater television cameras having a limiting resolution when measured in air of more than 700 lines;

Technical Note: Limiting resolution in television is a measure of horizontal resolution usually expressed in terms of the maximum number of lines per picture height discriminated on a test chart, using IEEE Standard 208/1960 or any equivalent standard.

b. Photographic still cameras ''specially designed'' or modified for underwater use, having a film format of 35 mm or larger, and having autofocusing or remote focusing ''specially designed'' for underwater use;

c. Stroboscopic light systems, ''specially designed'' or modified for underwater use, capable of a light output energy of more than 300 J per flash;

d. Other underwater camera equipment, n.e.s.;

e. Other submersible systems, n.e.s.;

f. Vessels, n.e.s., including inflatable boats, and ''specially designed'' ''parts'' and ''components'' therefor, n.e.s.;

g. Marine engines (both inboard and outboard) and submarine engines, n.e.s.; and ''specially designed'' ''parts'' and ''components'' therefor, n.e.s.;

h. Other self-contained underwater breathing apparatus (scuba gear) and related equipment, n.e.s.;

i. Life jackets, inflation cartridges, compasses, wetsuits, masks, fins, weight belts, and dive computers;

j. Underwater lights and propulsion equipment;

k. Air compressors and filtration systems ''specially designed'' for filling air cylinders.

l. Marine boilers designed to have any of the following characteristics:

l.1. Heat release rate (at maximum rating) equal to or in excess of 190,000 BTU per hour per cubic foot of furnace volume; *or*

l.2. Ratio of steam generated in pounds per hour (at maximum rating) to the dry weight of the boiler in pounds equal to or in excess of 0.83.

m. Major ''components,'' ''accessories,'' and ''attachments'' for marine boilers described in 8A992.l.

B. ''Test'', ''Inspection'' and ''Production Equipment''

8B001 Water Tunnels Designed to Have a Background Noise of Less Than 100 dB (Reference 1 μPa, 1 Hz) Within the Frequency Range Exceeding 0 Hz But Not Exceeding to 500 Hz and Designed for Measuring Acoustic Fields Generated by a Hydro-Flow Around Propulsion System Models.

LICENSE REQUIREMENTS

Reason for Control: NS, AT

Control(s)	Country chart (see Supp. No. 1 to part 738)
NS applies to entire entry	NS Column 2
AT applies to entire entry	AT Column 1

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

LVS: $3,000

GBS: N/A

LIST OF ITEMS CONTROLLED

Related Controls: N/A

Related Definitions: N/A

Items:

The list of items controlled is contained in the ECCN heading.

8B609 Test, inspection, and production "equipment" and related commodities "specially designed" for the "development," "production," repair, overhaul or refurbishing of commodities enumerated or otherwise described in ECCN 8A609 or USML Category VI (except for Cat VI(f)(7)), as follows (see List of Items Controlled).

LICENSE REQUIREMENTS

Reason for Control: NS, RS, AT, UN

Control(s)	Country Chart (See Supp. No. 1 to part 738)
NS applies to entire entry	NS Column 1
RS applies to entire entry	RS Column 1
AT applies to entire entry	AT Column 1
UN applies to entire entry	See §746.1(b) for UN controls

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

LVS: $1500

GBS: N/A

SPECIAL CONDITIONS FOR STA

STA: Paragraph (c)(2) of License Exception STA (§740.20(c)(2) of the EAR) may not be used for any item in 8B609.

LIST OF ITEMS CONTROLLED

Related Controls: See ECCN 0A919 for foreign-made ''military commodities'' that incorporate more than a *de minimis* amount of U.S.-origin ''600 series'' controlled content.

Related Definitions: N/A

Items: a. Test, inspection, and production ''equipment'' ''specially designed'' for the ''development,'' ''production,'' repair, overhaul, or refurbishing of commodities enumerated or otherwise described in ECCN 8A609 (except for 8A609.y) or in USML Category VI (except for USML Cat VI(f)(7)), and

''parts,'' ''components,'' ''accessories,'' and ''attachments'' ''specially designed'' therefor.

b. [Reserved]

8B620 Test, inspection, and production "equipment" and related commodities "specially designed" for the "development," "production," repair, overhaul, or refurbishing of commodities enumerated or otherwise described in ECCN 8A620 (see List of Items Controlled).

LICENSE REQUIREMENTS

Reason for Control: NS, RS, AT, UN

Control(s)	Country Chart (See Supp. No. 1 to part 738)
NS applies to entire entry, except 8B620.b.	NS Column 1
RS applies to entire entry	RS Column 1
AT applies to entire entry	AT Column 1
UN applies to entire entry	See §746.1(b) for UN controls

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

LVS: $1500

GBS: N/A

SPECIAL CONDITIONS FOR STA

STA: Paragraph (c)(2) of License Exception STA (§740.20(c)(2) of the EAR) may not be used for any item in 8B620.

LIST OF ITEMS CONTROLLED

Related Controls: See ECCN 0A919 for foreign-made ''military commodities'' that incorporate more than a *de minimis* amount of U.S.-origin ''600 series'' controlled content.

Related Definitions: N/A

Items: a. Test, inspection and production ''equipment'' ''specially designed'' for the ''development,'' ''production,'' repair, overhaul or refurbishing of commodities enumerated or otherwise described in ECCN 8A620 (except for 8A620.b and .y) and ''parts,'' ''components,'' ''accessories,'' and ''attachments'' ''specially designed'' therefor.

b. Test, inspection, and production ''equipment'' ''specially designed'' for the ''development,'' ''production,'' repair, overhaul, or refurbishing of commodities enumerated or otherwise described in ECCN 8A620.b and ''parts,'' ''components,'' ''accessories,'' and ''attachments'' ''specially designed'' therefor.

C. ''MATERIALS''

8C001 'Syntactic foam' designed for underwater use and having all of the following (see List of Items Controlled).

LICENSE REQUIREMENTS

Reason for Control: NS, AT

Control(s)	Country chart (see Supp. No. 1 to part 738)
NS applies to entire entry	NS Column 2
AT applies to entire entry	AT Column 1

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

LVS: N/A

GBS: N/A

LIST OF ITEMS CONTROLLED

Related Controls: See also 8A002.a.4.

Related Definition: For the purposes of 8C001, 'Syntactic foam' consists of hollow spheres of plastic or glass embedded in a resin ''matrix.''

Items:

a. Designed for marine depths exceeding 1,000 m; *and*

b. A density less than 561 kg/m^3.

8C609 Materials "specially designed" for the "development" or "production" of commodities controlled by 8A609 not elsewhere specified in the USML (see List of Items Controlled).

LICENSE REQUIREMENTS

Reason for Control: NS, RS, AT, UN

Control(s)	Country Chart (See Supp. No. 1 to part 738)
NS applies to entire entry	NS Column 1
RS applies to entire entry	RS Column 1
AT applies to entire entry	AT Column 1
UN applies to entire entry	See §746.1(b) for UN controls

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

LVS: $1500

GBS: N/A

SPECIAL CONDITIONS FOR STA

STA: Paragraph (c)(2) of License Exception STA (§740.20(c)(2) of the EAR) may not be used for any item in 8C609.

LIST OF ITEMS CONTROLLED

Related Controls: (1) See USML Categories VI and XIII(f) for controls on materials ''specially designed'' for vessels of war enumerated or otherwise described in USML Category VI. (2) See ECCN 0A919 for foreign made ''military commodities'' that incorporate more than a *de minimis* amount of U.S.-origin ''600 series'' controlled content.

Related Definitions: N/A

Items: a. Materials, not enumerated on the USML, that are ''specially designed'' for commodities enumerated in ECCN 8A609 (except for 8A609.y).

b. [Reserved]

D. ''SOFTWARE''

8D001 "Software" "Specially Designed" or Modified for the "Development," "Production" or "use" of Equipment or Materials, Controlled by 8A (Except 8A992), 8B or 8C.

LICENSE REQUIREMENTS

Reason for Control: NS, AT

Control(s)	Country chart (see Supp. No. 1 to part 738)
NS applies to entire entry	NS Column 1
AT applies to entire entry	AT Column 1

REPORTING REQUIREMENTS

See §743.1 of the EAR for reporting requirements for exports under License Exceptions, and Validated End-User authorizations.

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

TSR: Yes, except for exports or reexports to destinations outside of those countries listed in Country Group A:5 (See Supplement No. 1 to part 740 of the EAR) of ''software'' ''specially designed'' for the ''development'' or ''production'' of equipment controlled by 8A001.b, 8A001.c.1, or 8A002.o.3.b.

SPECIAL CONDITIONS FOR STA

STA: License Exception STA may not be used to ship or transmit ''software'' ''specially designed'' for the ''development'' or ''production'' of equipment in 8A001.b, 8A001.c, 8A002.b, 8A002.h, 8A002.j, 8A002.o.3 or 8A002.p to any of the destinations listed in Country Group A:6 (See Supplement No. 1 to part 740 of the EAR).

LIST OF ITEMS CONTROLLED

Related Controls: N/A

Related Definitions: N/A

Items:

The list of items controlled is contained in the ECCN heading.

8D002 Specific "software" "specially designed" or modified for the "development", "production", repair, overhaul or refurbishing (re-machining) of propellers "specially designed" for underwater noise reduction.

LICENSE REQUIREMENTS

Reason for Control: NS, AT

Control(s)	Country Chart (See Supp. No. 1 to part 738)
NS applies to entire entry	NS Column 1
AT applies to entire entry	AT Column 1

REPORTING REQUIREMENTS See §743.1 of the EAR for reporting requirements for exports under License Exceptions, and Validated End-User authorizations

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

TSR: Yes

SPECIAL CONDITIONS FOR STA

STA: License Exception STA may not be used to ship or transmit any software in this entry to any of the destinations listed in Country Group A:6 (See Supplement No. 1 to part 740 of the EAR).

LIST OF ITEMS CONTROLLED

Related Controls: See also 8D992

Related Definitions: N/A

Items: The list of items controlled is contained in the ECCN heading.

8D609 "Software" "specially designed" for the "development," "production," operation or maintenance of commodities controlled by 8A609, 8B609, or 8C609 (see List of Items Controlled).

LICENSE REQUIREMENTS

Reason for Control: NS, RS, AT, UN

Control(s)	Country chart (see Supp. No. 1 to part 738)
NS applies to entire entry, except 8D609.y.	NS Column 1.
RS applies to entire entry, except 8D609.y.	RS Column 1.
RS applies to 8D609.y	China, Russia, or Venezuela (see §742.6(a)(7)).
AT applies to entire entry	AT Column 1.
UN applies to entire entry, except 8D609.y.	See §746.1(b) for UN controls.

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

TSR: N/A

SPECIAL CONDITIONS FOR STA

STA: Paragraph (c)(2) of License Exception STA (§740.20(c)(2) of the EAR) may not be used for any ''software'' in 8D609.

LIST OF ITEMS CONTROLLED

Related Controls: (1) ''Software'' directly related to articles enumerated in USML Category VI is controlled under USML Category VI(g). (2) See ECCN 0A919 for foreign made ''military commodities'' that incorporate more than a de minimis amount of U.S.-origin ''600 series'' controlled content.

Related Definitions: N/A

Items:

a. ''Software'' ''specially designed'' for the ''development,'' ''production,'' operation, or maintenance of commodities controlled by ECCN 8A609, ECCN 8B609, or ECCN 8C609 (except for commodities controlled by ECCN 8A609.y).

b. through .x [Reserved]

y. Specific ''software'' ''specially designed'' for the ''development,'' ''production,'' operation, or maintenance of commodities in ECCN 8A609.y.

8D620 "Software" "specially designed" for the "development," "production," operation, or maintenance of commodities controlled by 8A620 or 8B620 (see List of Items Controlled).

LICENSE REQUIREMENTS

Reason for Control: NS, RS, AT, UN

Control(s)	Country chart (see Supp. No. 1 to part 738)
NS applies to entire entry, except 8D620.b and .y.	NS Column 1.

Control(s)	Country chart (see Supp. No. 1 to part 738)
RS applies to entire entry, except 8D620.y.	RS Column 1.
RS applies to 8D620.y	China, Russia, or Venezuela (see § 742.6(a)(7)).
AT applies to entire entry	AT Column 1.
UN applies to entire entry, except 8D620.y.	See § 746.1(b) for UN controls.

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

TSR: N/A

SPECIAL CONDITIONS FOR STA

STA: Paragraph (c)(2) of License Exception STA (§740.20(c)(2) of the EAR) may not be used for any ''software'' in 8D620.

LIST OF ITEMS CONTROLLED

Related Controls: (1) ''Software'' directly related to articles enumerated or otherwise described in USML Category XX is controlled under USML Category XX(d). (2) See ECCN 0A919 for foreign made ''military commodities'' that incorporate more than a de minimis amount of U.S.-origin ''600 series'' controlled content.

Related Definitions: N/A

Items:

a. ''Software'' ''specially designed'' for the ''development,'' ''production,'' operation, or maintenance of commodities controlled by ECCN 8A620 or ECCN 8B620 (except for commodities controlled by ECCN 8A620.b or .y or ECCN 8B620.b).

b. ''Software'' ''specially designed'' for the ''development,'' ''production,'' operation, or maintenance of commodities controlled by ECCN 8A620.b or ECCN 8B620.b.

c. through .x [Reserved]

y. Specific ''software'' ''specially designed'' for the ''development,'' ''production,'' operation, or maintenance of commodities in ECCN 8A620.y.

8D992 "Software" "specially designed" or modified for the "development", "production" or "use" of equipment controlled by 8A992.

LICENSE REQUIREMENTS

Reason for Control: AT

Control(s)	Country Chart (See Supp. No. 1 to part 738)
AT applies to entire entry	AT Column 1

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

TSR: N/A

LIST OF ITEMS CONTROLLED

Related Controls: N/A

Related Definitions: N/A

Items: The list of items controlled is contained in the ECCN heading.

8D999 "Software" "specially designed" for the operation of unmanned submersible vehicles used in the oil and gas industry.

LICENSE REQUIREMENTS

Reason for Control: Foreign policy

Control(s)	Country chart (see Supp. No. 1 to part 738)
Russian industry sector sanctions apply to entire entry.	See § 746.8 for specific license requirements and license review policy.

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

TSR: N/A

LIST OF ITEMS CONTROLLED

Related Controls: N/A

Related Definitions: N/A

Items: The list of items controlled is contained in the ECCN heading.

E. ''TECHNOLOGY''

8E001 "Technology" According to the General Technology Note for the "Development" or "Production" of Equipment or Materials, Controlled by 8A (Except 8A992), 8B or 8C.

LICENSE REQUIREMENTS

Reason for Control: NS, AT

Control(s)	Country chart (see Supp. No. 1 to part 738)
NS applies to entire entry	NS Column 1
AT applies to entire entry	AT Column 1

REPORTING REQUIREMENTS

See § 743.1 of the EAR for reporting requirements for exports under License Exceptions, and Validated End-User authorizations.

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

TSR: Yes, except for exports or reexport to destinations outside of those countries listed in Country Group A:5 (Supplement No. 1 to part 740 of the EAR) of ''technology'' for items controlled by 8A001.b, 8A001.c.1 or 8A002.o.3.b.

SPECIAL CONDITIONS FOR STA

STA: License Exception STA may not be used to ship or transmit ''technology'' according to the General Technology Note for the ''development'' or ''production'' of equipment specified by 8A001.b, 8A001.c, 8A002.b, 8A002.h, 8A002.j, 8A002.o.3 or 8A002.p to any of the destinations listed in Country Group A:6 (See Supplement No.1 to part 740 of the EAR).

LIST OF ITEMS CONTROLLED

Related Controls: N/A

Related Definitions: N/A

Items:

The list of items controlled is contained in the ECCN heading.

8E002 Other "technology" as follows (see List of Items Controlled).

LICENSE REQUIREMENTS

Reason for Control: NS, AT

Control(s)	Country chart (see supp. No. 1 to part 738)
NS applies to entire entry	NS Column 1
AT applies to entire entry	AT Column 1

REPORTING REQUIREMENTS

See §743.1 of the EAR for reporting requirements for exports under License Exceptions, and Validated End-User authorizations.

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

TSR: N/A

License Exceptions Note: License Exception TSU is not applicable for the repair ''technology'' controlled by 8E002.a or .b, see Supplement No. 2 to part 774.

SPECIAL CONDITIONS FOR STA

STA: License Exception STA may not be used to ship or transmit technology in 8E002.a to any of the destinations listed in Country Group A:6 (See Supplement No. 1 to part 740 of the EAR).

LIST OF ITEMS CONTROLLED

Related Controls: See also 8E992.

Related Definitions: N/A

Items:

a. ''Technology'' for the ''development'', ''production'', repair, overhaul or refurbishing (re-machining) of propellers ''specially designed'' for underwater noise reduction;

b. ''Technology'' for the overhaul or refurbishing of equipment controlled by 8A001, 8A002.b, 8A002.j, 8A002.o or 8A002.p.

c. ''Technology'' according to the General Technology Note for the ''development'' or ''production'' of any of the following:

c.1. Surface-effect vehicles (fully skirted variety) having all of the following:

c.1.a. Maximum design speed, fully loaded, exceeding 30 knots in a significant wave height of 1.25 m or more;

c.1.b. Cushion pressure exceeding 3,830 Pa; *and*

c.1.c. Light-ship-to-full-load displacement ratio of less than 0.70;

c.2. Surface-effect vehicles (rigid sidewalls) with a maximum design speed, fully loaded, exceeding 40 knots in a significant wave height of 3.25 m or more;

c.3. Hydrofoil vessels with active systems for automatically controlling foil systems, with a maximum design speed, fully loaded, of 40 knots or more in a significant wave height of 3.25 m or more; *or*

c.4. 'Small waterplane area vessels' having any of the following:

c.4.a. Full load displacement exceeding 500 tonnes with a maximum design speed, fully loaded, exceeding 35 knots in a significant wave height of 3.25 m or more; *or*

c.4.b. Full load displacement exceeding 1,500 tonnes with a maximum design speed, fully loaded, exceeding 25 knots in a significant wave height of 4 m or more.

Technical Note: For the purposes of 8E002.c.4, a 'small waterplane area vessel' is defined by the following formula: waterplane area at an operational design draft less than 2x (displaced volume at the operational design draft)$^{2/3}$.

8E609 "Technology" "required" for the "development," "production," operation, installation, maintenance, repair, overhaul, or refurbishing of commodities controlled by 8A609, 8B609, or 8C609, or "software" controlled by 8D609 (see List of Items Controlled).

LICENSE REQUIREMENTS

Reason for Control: NS, RS, AT, UN

Control(s)	Country chart (see Supp. No. 1 to part 738)
NS applies to entire entry, except 8E609.y.	NS Column 1.
RS applies to entire entry, except 8E609.y.	RS Column 1.
RS applies to 8E609.y	China, Russia, or Venezuela (see §742.6(a)(7)).
AT applies to entire entry	AT Column 1.
UN applies to entire entry, except 8E609.y.	See §746.1(b) for UN controls.

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

TSR: N/A

SPECIAL CONDITIONS FOR STA

STA: Paragraph (c)(2) of License Exception STA (§740.20(c)(2) of the EAR) may not be used for any ''technology'' in 8E609.

LIST OF ITEMS CONTROLLED

Related Controls: Technical data directly related to articles enumerated or otherwise described in USML Category VI are controlled under USML Category VI(g).

Related Definitions: N/A

Items:

a. ''Technology'' ''required'' for the ''development,'' ''production,'' operation, installation, maintenance, repair, overhaul, or refurbishing of commodities controlled by ECCN 8A609, 8B609, or 8C609 (except for commodities controlled by ECCN 8A609.y), or ''software'' controlled by ECCN 8D609.

b. through .x [Reserved]

y. Specific ''technology'' ''required'' for the ''development,'' ''production,'' operation, installation, maintenance, repair, overhaul, or refurbishing of commodities or software in ECCN 8A609.y or 8D609.y.

8E620 "Technology" "required" for the "development," "production," operation, installation, maintenance, repair, overhaul,

or refurbishing of commodities controlled by 8A620 or 8B620, or "software" controlled by 8D620 (see List of Items Controlled).

LICENSE REQUIREMENTS

Reason for Control: NS, RS, AT, UN

Control(s)	Country chart see Supp. No. 1 to part 738)
NS applies to entire entry, except 8E620.b and .y.	NS Column 1.
RS applies to entire entry, except 8E620.y.	RS Column 1.
RS applies to 8E620.y	China, Russia, or Venezuela (see §742.6(a)(7)).
AT applies to entire entry	AT Column 1.
UN applies to entire entry, except 8E620.y.	See §746.1(b) for UN controls.

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

TSR: N/A

SPECIAL CONDITIONS FOR STA

STA: Paragraph (c)(2) of License Exception STA (§740.20(c)(2) of the EAR) may not be used for any ''technology'' in 8E620.

LIST OF ITEMS CONTROLLED

Related Controls: Technical data directly related to articles enumerated or otherwise described in USML Category XX are controlled under USML Category XX(d).

Related Definitions: N/A

Items:

a. ''Technology'' ''required'' for the ''development,'' ''production,'' operation, installation, maintenance, repair, overhaul, or refurbishing of commodities controlled by ECCN 8A620 or 8B620 or ''software'' controlled by ECCN 8D620 (except for commodities controlled by ECCN 8A620.b or .y or ECCN 8B620.b or ''software'' controlled by 8D620.b or .y).

b. ''Technology'' ''required'' for the ''development,'' ''production,'' operation, installation, maintenance, repair, overhaul, or refurbishing of commodities controlled by ECCN 8A620.b or 8B620.b or ''software'' controlled by ECCN 8D620.b.

c. through .x [Reserved]

y. Specific ''technology'' ''required'' for the ''development,'' ''production,'' operation, installation, maintenance, repair, overhaul or refurbishing of commodities or software in ECCN 8A620.y or 8D620.y.

8E992 "Technology" for the "development", "production" or "use" of equipment controlled by 8A992.

LICENSE REQUIREMENTS

Reason for Control: AT

Control(s)	Country Chart (See Supp. No. 1 to part 738)
AT applies to entire entry	AT Column 1

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

TSR: N/A

LIST OF ITEMS CONTROLLED

Related Controls: N/A

Related Definitions: N/A

Items: The list of items controlled is contained in the ECCN heading.

EAR99 Items subject to the EAR that are not elsewhere specified in this CCL Category or in any other category in the CCL are designated by the number EAR99.

CATEGORY 9—AEROSPACE AND PROPULSION

A. ''END ITEMS'', ''EQUIPMENT'', ''ACCESSORIES'', ''ATTACHMENTS'', ''PARTS'', ''COMPONENTS'' AND ''SYSTEMS''

N.B.: For propulsion systems designed or rated against neutron or transient ionizing radiation, see the U.S. Munitions List, 22 CFR part 121.

9A001 Aero gas turbine engines having any of the following (see List of Items Controlled).

LICENSE REQUIREMENTS

Reason for Control: NS, MT, AT

Control(s)	Country chart (see supp. No. 1 to part 738)
NS applies to entire entry	NS Column 1
MT applies to only to those engines that meet the characteristics listed in 9A101.	MT Column 1
AT applies to entire entry	AT Column 1

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

LVS: N/A

GBS: N/A

LIST OF ITEMS CONTROLLED

Related Controls: See also 9A101 and 9A991.

Related Definitions: N/A

Items:

a. Incorporating any of the ''technologies'' controlled by 9E003.a, 9E003.h, or 9E003.i;

Note 1: 9A001 does not control aero gas turbine engines which meet all of the following:

a. Certified by the civil aviation authority in a country listed in Supplement No. 1 to Part 743; and

b. Intended to power non-military manned ''aircraft'' for which any of the following has been issued by a Wassenaar Arrangement Participating State listed in Supplement No. 1 to Part 743 for the ''aircraft'' with this specific engine type:

b.1. A civil type certificate; or

b.2. An equivalent document recognized by the International Civil Aviation Organization (ICAO).

Note 2: 9A001 does not apply to aero gas turbine engines designed for Auxiliary Power Units

(APUs) approved by the civil aviation authority in a Wassenaar Arrangement Participating State (see Supplement No. 1 to part 743 of the EAR).

b. [Reserved]

9A002 'Marine gas turbine engines' designed to use liquid fuel and having all of the following (see List of Items Controlled), and "specially designed" assemblies and "components" therefor.

LICENSE REQUIREMENTS

Reason for Control: NS, AT

Control(s)	Country chart (see Supp. No. 1 to part 738)
NS applies to entire entry	NS Column 2
AT applies to entire entry	AT Column 1

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

LVS: $5,000

GBS: N/A

LIST OF ITEMS CONTROLLED:

Related Controls: N/A

Related Definition: N/A

Items: a. Maximum continuous power when operating in ''steady state mode'' at standard reference conditions specified by ISO 3977–2:1997 (or national equivalent) of 24,245 kW or more; *and*

b. 'Corrected specific fuel consumption' not exceeding 0.219 kg/kWh at 35% of the maximum continuous power when using liquid fuel.

Note: The term 'marine gas turbine engines' includes those industrial, or aero-derivative, gas turbine engines adapted for a ship's electric power generation or propulsion.

Technical Note: For the purposes of 9A002, 'corrected specific fuel consumption' is the specific fuel consumption of the engine corrected to a marine distillate liquid fuel having a net specific energy (i.e., net heating value) of 42 MJ/kg (ISO 3977–2:1997).

9A003 "Specially designed" assemblies or "components", incorporating any of the "technologies" controlled by 9E003.a, 9E003.h, 9E003.i, or 9E003.k, for any of the following aero gas turbine engines (see List of Items Controlled).

LICENSE REQUIREMENTS

Reason for Control: NS, AT

Control(s)	Country chart (see supp. No. 1 to part 738)
NS applies to entire entry	NS Column 2
AT applies to entire entry	AT Column 1

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

LVS: $5000

GBS: N/A

LIST OF ITEMS CONTROLLED

Related Controls: N/A

Related Definition: N/A

Items:

a. Controlled by 9A001; *or*

b. Whose design or production origins are either not from a Wassenaar Participating State (see Supplement No. 1 to part 743 of the EAR) or unknown to the manufacturer.

9A004 Space launch vehicles and "spacecraft," "spacecraft buses," "spacecraft payloads," "spacecraft" on-board systems or equipment, terrestrial equipment, and air-launch platforms, and "sub-orbital craft," as follows (see List of Items Controlled).

LICENSE REQUIREMENTS

Reason for Control: NS, RS, AT

Control(s)	Country chart (see Supp. No. 1 to part 738)
NS applies to 9A004 .g, .r, .u, and .w.	NS Column 1.
NS applies to 9A004.s, .v, and .x.	NS Column 2.
RS applies to 9A004.y	China, Russia, or Venezuela (see § 742.6(a)(7)).
AT applies to 9A004.g, .s, .u, .v, .w, .x, and .y.	AT Column 1.

LICENSE REQUIREMENT NOTE: *ECCN 9A004.a through .f apply to certain space launch vehicles, spacecraft, spacecraft buses, spacecraft payloads, on-board systems or equipment, and terrestrial equipment. They are described in ECCN 9A004.a through .f in order to harmonize 9A004 with the Wassenaar Arrangement Dual-Use List, even though the controls for these items are found under ECCN 9A515 and direct exporters, reexporters, and transferors to see USML Category IV for 9A004.a. See UMSL Category IV for 9A004.a. See ECCN 9A515 for 9A004.b through .f, and .h. See this ECCN 9A004 for .g, .h, .r, and .u through .y.*

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

LVS: N/A

GBS: N/A

LIST OF ITEMS CONTROLLED

Related Controls: (1) See also 9A104, 9A515, and 9B515. (2) See ECCNs 9E001 (''development'') and 9E002 (''production'') for technology for items controlled by this entry. (3) See USML Categories IV for the space launch vehicles and XV for other spacecraft that are ''subject to the ITAR.''

Related Definition: N/A

Items:

a. Space launch vehicles.

b. ''Spacecraft.''

c. ''Spacecraft buses.''

d. ''Spacecraft payloads'' incorporating items specified by 3A001.b.1.a.4 or z (if also described in 3A001.b.1.a.4), 3A002.g, 5A001.a.1, .b.3, 5A002.c, z.3 or z.8, .e, z.5, 6A002.a.1, a.2, .b, .d, 6A003.b, 6A004.c, .e, 6A008.d, .e, .k, .l or 9A010.c.

e. On-board systems or equipment, ''specially designed'' for ''spacecraft'' and having any of the following functions:

e.1. 'Command and telemetry data handling;'

Note 1 to 9A004.e.1: For the purpose of 9A004.e.1, 'command and telemetry data handling' includes bus data management, storage, and processing.

e.2. 'Payload data handling;' *or*

Note 2 to 9A004.e.2: For the purpose of 9A004.e.2, 'payload data handling' includes payload data management, storage, and processing.

e.3. 'Attitude and orbit control;'

Note 3 to 9A004.e.3: For the purpose of 9A004.e.3, 'attitude and orbit control' includes sensing and actuation to determine and control the position and orientation of a ''spacecraft.''

f. Terrestrial equipment specially designed for ''spacecraft,'' as follows:

f.1. Telemetry and telecommand equipment ''specially designed'' for any of the following data processing functions:

f.1.a. Telemetry data processing of frame synchronization and error corrections, for monitoring of operational status (also known as health and safe status) of the ''spacecraft bus;'' *or*

f.1.b. Command data processing for formatting command data being sent to the ''spacecraft'' to control the ''spacecraft bus;''

f.2. Simulators ''specially designed'' for 'verification of operational procedures' of ''spacecraft''.

Technical Note: For the purposes of 9A004.f.2, 'verification of operational procedures' is any of the following:

1. Command sequence confirmation;

2. Operational training;

3. Operational rehearsals; or

4. Operational analysis.

g. ''Aircraft'' ''specially designed'' or modified to be air-launch platforms for space launch vehicles or ''sub-orbital craft.''

h. ''Sub-orbital craft.''

i. through q. [Reserved]

r. In-space habitats, other than the International Space Station (ISS).

Note 4 to 9A004.r: In-space habitats are considered the commercial equivalent of a space station because it is used for persons conducting experiments or space tourism activities.

s. ''Parts,'' ''components,'' ''accessories,'' and ''attachments'' that are ''specially designed'' for in-space habitats in 9A004.r and that are NOT:

s.1. Described on the USML;

s.2. Described in ECCN 7A004 or 7A104;

s.3. Described in an ECCN containing ''space-qualified'' as a control criterion (refer to 9A515.x.4); or

s.4 Described in 9A001, 9A002, 9A003, 9A515, or 9A991.

t. [Reserved]

u. The James Webb Space Telescope (JWST) being operated under the supervision of the U.S. National Aeronautics and Space Administration (NASA).

v. ''Parts,'' ''components,'' ''accessories,'' and ''attachments'' that are ''specially designed'' for the James Webb Space Telescope and that are NOT:

v.1. Described on the USML;

v.2. Microelectronic circuits;

v.3. Described in ECCN 7A004 or 7A104; *or*

v.4. Described in an ECCN containing ''space-qualified'' as a control criterion (refer to 9A515.x.4).

w. The International Space Station being operated under the supervision of the U.S. National Aeronautics and Space Administration.

x. ''Parts,'' ''components,'' ''accessories,'' and ''attachments'' that are ''specially designed'' for the International Space Station.

y. Items that would otherwise be within the scope of ECCN 9A004.s or .x but that have been identified in an interagency-cleared commodity classification (CCATS) pursuant to §748.3(e) as warranting control in 9A004.y.

y.1. Discrete electronic components not specified in 9A515.e;

y.2. Thermistors for spacecraft applications;

y.3. RF microwave bandpass ceramic filters (*e.g.,* Dielectric Resonator Bandpass Filters);

y.4. Hall effect sensors for spacecraft applications;

y.5. Subminiature (SMA and SMP) plugs and connectors, TNC plugs and cable and connector assemblies with SMA plugs and connectors for spacecraft applications;

y.6. Flight cable assemblies for spacecraft applications;

y.7. Public address (PA) systems;

y.8. Audio selector panels;

y.9. Spacecraft crew, passenger, or participant lavatories and body waste management systems;

y.10. Spacecraft crew, passenger, or participant hygiene facilities and systems;

y.11. Spacecraft crew, passenger, or participant crew rest equipment or sleeping quarters;

y.12. Spacecraft crew, passenger, or participant galleys or food preparation or serving systems;

y.13. Spacecraft crew, passenger, or participant entertainment systems;

y.14. Spacecraft crew, passenger, or participant exercise systems;

y.15. Spacecraft crew, passenger, or participant laundry systems;

y.16. Spacecraft crew, passenger, or participant safety systems not including launch

abort systems/launch escape systems, ejector seats, spacesuits, flight suits, helmets, or parts and components therefor;

y.17. Spacecraft crew, passenger, or participant storage units, facilities, or systems (for items related to human safety, welfare, and health);

y.18. Spacecraft crew, passenger, or participant medical facilities or health-related systems for monitoring, evaluating, or assessing, or for providing treatments;

y.19. Spacecraft crew, passenger, or participant information systems (*e.g.,* personal laptops and phones);

y.20. Name plates, identification plates, and identification systems;

y.21. Internal, external, and emergency lighting systems;

y.22. Humidity and CO_2 removal systems;

y.23. Potable water storage systems;

y.24. Water regeneration systems;

y.25. Air filters, filter networks, or air quality systems;

y.26. Space heaters, temperature sensors, or thermostats for human habitation;

y.27. Environmental control systems for human habitation;

y.28. Spacecraft environmental control systems (*e.g.,* air conditioner, air distribution, air filtration and sanitation, CO_2 removal, cabin pressure control, dehumidifier, fire suppression system, nitrogen oxygen recharge system, heater systems, thermostats);

y.29. Plant growth systems;

y.30. Fire extinguishers;

y.31. Flame, smoke, or CO_2 detectors;

y.32. Fire suppression systems;

y.33. Spacecraft crew, passenger, or participant seats and parts and components;

y.34. Spaceflight crew, passenger, or participant ejection seat mounted survival aids;

y.35. Spaceflight crew, passenger, or participant life rafts;

y.36. Spacecraft crew, passenger, or participant locator beacons;

y.37. Spacecraft crew, passenger, or participant mirrors;

y.38. Spacecraft crew, passenger, or participant windows;

y.39. Spacecraft locator beacons;

y.40. Viewing windows on non-crewed spacecraft;

y.41. Hydraulic, pneumatic, oil, fuel, gas, propellant, fluid, and thermal control fluid reservoirs, filters, filter assemblies, tubing, lines, hoses, check valves, and quick disconnects, and associated fittings, couplings, clamps, brackets, adapters, valves, gaskets, and shims;

y.42. Gauges and indicators;

y.43. Filtered and unfiltered panel knobs, indicators, annunciator panels, switches, buttons and dials;

y.44. Energy dissipating pads for cargo or crew;

y.45. Bracket adapters for bus and payload structures;

y.46. Latches and hinges;

y.47. Boom assemblies;

y.48. Multiplexor and Demultiplexors (MUX & DEMUX);

y.49. Switches, switch bank assemblies, beam select switches, transfer switch assemblies, switch matrices, thermal switches;

y.50. Magnetic torque bars;

y.51. Filters, filter networks;

y.52. Network switches;

y.53. Antenna feed horns;

y.54. Diplexers, modulators, demodulators;

y.55. Backshells, pins, and contacts;

y.56. Measurement devices;

y.57. Non Propulsive landing systems (*e.g.,* skids, inflatable);

y.58. Electrical connectors;

y.59. Electric fans;

y.60. Microphones;

y.61. Speakers;

y.62. Circuit breakers; *and*

y.63. Printed circuit boards.

Note 5 to 9A004: An item operating on any celestial body other than Earth is treated as if it is on Earth for classification purposes on the CCL.

9A005 Liquid rocket propulsion systems containing any of the systems or "components," controlled by 9A006. (These items are "subject to the ITAR." See 22 CFR parts 120 through 130.)

9A006 Systems, "components," "specially designed" for liquid rocket propulsion systems. (These items are "subject to the ITAR." See 22 CFR parts 120 through 130.)

9A007 Solid rocket propulsion systems. (These items are "subject to the ITAR." See 22 CFR parts 120 through 130.)

9A008 "Components" "specially designed" for solid rocket propulsion systems. (These items are "subject to the ITAR." See 22 CFR parts 120 through 130.)

9A009 Hybrid rocket propulsion systems. (These items are "subject to the ITAR." See 22 CFR parts 120 through 130.)

9A010 "Specially Designed" "Parts," "Components," Systems and Structures, for Launch Vehicles, Launch Vehicle Propulsion Systems or "Spacecraft". (See Related Controls Paragraph.)

LIST OF ITEMS CONTROLLED

Related Controls: (1) See USML Category IV of the International Traffic in Arms Regulations (ITAR) (22 CFR parts 120 through 130) and ECCN 9A604 for paragraphs 9A010.a, .b and .d. (2) See USML Category XV of the ITAR and ECCN 9A515 for paragraph 9A010.c. (3) See Supplement No. 4 to part 774, Order of Review for guidance on

the process for determining classification of items.

Related Definitions: N/A

Items:

a. ''Parts'', ''components'' and structures, each exceeding 10 kg and ''specially designed'' for launch vehicles manufactured using any of the following:

a.1. ''Composite'' materials consisting of ''fibrous or filamentary materials'' specified by 1C010.e and resins specified by 1C008 or 1C009.b;

a.2. Metal ''matrix'' ''composites'' reinforced by any of the following:

a.2.a. Materials specified by 1C007;

a.2.b. ''Fibrous or filamentary materials'' specified by 1C010; *or*

a.2.c. Aluminides specified by 1C002.a; *or*

a.3. Ceramic ''matrix'' ''composite'' materials specified by 1C007;

Note: The weight cut-off is not relevant for nose cones.

b. ''Parts'', ''components'' and structures, ''specially designed'' for launch vehicle propulsion systems specified by 9A005 to 9A009, manufactured using any of the following:

b.1. ''Fibrous or filamentary materials'' specified by 1C010.e and resins specified by 1C008 or 1C009.b;

b.2. Metal ''Matrix ''composites'' reinforced by any of the following:

b.2.a. Materials specified by 1C007;

b.2.b. ''Fibrous or filamentary materials'' specified by 1C010; *or*

b.2.c. Aluminides specified by 1C002.a; *or*

b.3. Ceramic ''matrix'' ''composite'' materials specified by 1C007;

c. Structural components and isolation systems, specially designed to control actively the dynamic response or distortion of ''spacecraft'' structures;

d. Pulsed liquid rocket engines with thrust-to-weight ratios equal to or more than 1 kN/kg and a 'response time' of less than 30 ms.

Technical Note: For the purposes of 9A010.d, 'response time' means the time required to achieve 90% of total rated thrust from start-up.

9A011 Ramjet, scramjet or 'combined cycle engines', and "specially designed" "parts" and "components" therefor. (These items are "subject to the ITAR." See 22 CFR parts 120 through 130.)

Technical Note: For the purposes of 9A011, 'combined cycle engines' combine two or more of the following types of engines:

—Gas turbine engine (turbojet, turboprop and turbofan);

—Ramjet or scramjet;

—Rocket motor or engine (liquid/gel/solid-propellant and hybrid).

9A012 Non-military "Unmanned Aerial Vehicles," ("UAVs"), unmanned "airships", related equipment and "components", as follows (see List of Items Controlled).

LICENSE REQUIREMENTS

Reason for Control: NS, MT, AT

Control(s)	Country chart (See supp. no. 1 to part 738)
NS applies to entire entry	NS Column 1.
MT applies to non-military Unmanned Aerial Vehicles (UAVs) and Remotely Piloted Vehicles (RPVs) that are capable of a maximum range of at least 300 kilometers (km), regardless of payload, and UAVs that meet the requirements of 9A120.	MT Column 1.
AT applies to entire entry	AT Column 1.

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

LVS: N/A

GBS: N/A

LIST OF ITEMS CONTROLLED

Related Controls: (1) See the U.S. Munitions List Category VIII (22 CFR part 121). (2) Also see ECCN 9A610 and §744.3 of the EAR. (3) For ''UAVs'' that are ''sub-orbital craft,'' see ECCNs 9A004.h and 9A515.a.

Related Definitions: N/A

Items:

a. ''UAVs'' or unmanned ''airships'', designed to have controlled flight out of the direct 'natural vision' of the 'operator' and having any of the following:

a.1. Having all of the following:

a.1.a. A maximum 'endurance' greater than or equal to 30 minutes but less than 1 hour; and

a.1.b. Designed to take-off and have stable controlled flight in wind gusts equal to or exceeding 46.3 km/h (25 knots); *or*

a.2. A maximum 'endurance' of 1 hour or greater;

Technical Notes:

1. For the purposes of 9A012.a, 'operator' is a person who initiates or commands the ''UAV'' or unmanned ''airship'' flight.

2. For the purposes of 9A012.a, 'endurance' is to be calculated for ISA conditions (ISO 2533:1975) at sea level in zero wind.

3. For the purposes of 9A012.a, 'natural vision' means unaided human sight, with or without corrective lenses.

b. Related equipment and ''components'', as follows:

b.1 [Reserved]

b.2. [Reserved]

b.3. Equipment or ''components'' ''specially designed'' to convert a manned ''aircraft'' or a manned ''airship'' to a ''UAV'' or unmanned ''airship'', controlled by 9A012.a;

b.4. Air breathing reciprocating or rotary internal combustion type engines, ''specially designed'' or modified to propel ''UAVs'' or

unmanned ''airships'', at altitudes above 15,240 meters (50,000 feet).

9A018 Equipment on the Wassenaar Arrangement Munitions List.

(a) See ECCN 9A610 for the aircraft, refuelers, ground equipment, parachutes, harnesses, and instrument flight trainers, as well as ''parts'', ''accessories,'' and ''attachments'' for the forgoing that, immediately prior to October 15, 2013, were classified under 9A018.a.1, .a.3, .c, .d, .e, or .f.

(b) See ECCN 9A619 for military trainer aircraft turbo prop engines and ''parts'' and ''components'' therefor that, immediately prior to October 15, 2013, were classified under ECCN 9A018.a.2 or .a.3.

(c) See ECCN 0A606.b for certain armored ground transport vehicles that prior to January 6, 2014 were classified under ECCN 9A018.b.

9A101 Turbojet and turbofan engines, other than those controlled by 9A001, as follows (see List of Items Controlled).

LICENSE REQUIREMENTS

Reason for Control: MT, AT

Control(s)	Country chart (see Supp. No. 1 to part 738)
MT applies to entire entry	MT Column 1.
AT applies to entire entry	AT Column 1.

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

LVS: N/A

GBS: N/A

LIST OF ITEMS CONTROLLED

Related Controls: 9A101.b controls only engines for non-military unmanned aerial vehicles [UAVs] or remotely piloted vehicles [RPVs], and does not control other engines designed or modified for use in ''missiles'', which are ''subject to the ITAR'' (see 22 CFR parts 120 through 130).

Related Definitions: N/A

Items:

a. Engines having all of the following characteristics:

a.1. 'Maximum thrust value' greater than 400 N (achieved un-installed) excluding civil certified engines with a maximum thrust value greater than 8,890 N (achieved un-installed);

a.2. Specific fuel consumption of 0.15 kg N^{-1} h^{-1} or less;

a.3. 'Dry weight' less than 750 kg; *and*

a.4. 'First-stage rotor diameter' less than 1 m; *or*

Technical Notes: 1. 'Maximum thrust value' in 9A101.a.1 is the manufacturer's demonstrated maximum thrust for the engine type un-installed at sea level static conditions using the ICAO standard atmosphere. The civil type certified thrust value will be equal to or less than the manufacturer's demonstrated maximum thrust for the engine type.

2. Specific fuel consumption is determined at maximum continuous thrust for engine type un-installed at sea level static conditions using the ICAO standard atmosphere.

3. 'Dry weight' is the weight of the engine without fluids (fuel, hydraulic fluid, oil, etc.) and does not include the nacelle (housing).

4. 'First-stage rotor diameter' is the diameter of the first rotating stage of the engine, whether a fan or compressor, measured at the leading edge of the blade tips.

b. Engines designed or modified for use in ''missiles'' or UAVs with a range equal to or greater than 300 km, regardless of thrust, specific fuel consumption, 'dry weight' or 'first-stage rotor diameter'.

9A102 'Turboprop engine systems' "specially designed" for items controlled in 9A012 for MT reasons, and "specially designed" "parts" and "components" therefor, having a maximum power greater than 10 kW (achieved uninstalled at sea level static conditions using the ICAO standard atmosphere), excluding civil certified engines.

LICENSE REQUIREMENTS

Reason for Control: MT, AT

Control(s)	Country chart (see Supp. No. 1 to part 738).
MT applies to entire entry.	MT Column 1
AT applies to entire entry.	AT Column 1

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

LVS: N/A

GBS: N/A

LIST OF ITEMS CONTROLLED

Related Controls: (1) See also 9A001 and 9A101.

Related Definitions: N/A

Items: The list of items controlled is contained in the ECCN heading.

Technical Note to 9A102: For the purposes of 9A102 a 'turboprop engine system' incorporates all of the following:

a. Turboshaft engine; and

b. Power transmission system to transfer the power to a propeller.

9A103 Liquid propellant tanks "specially designed" for the propellants controlled in ECCNs 1C011, 1C111 or other liquid propellants used in "missiles." (These items are "subject to the ITAR." See 22 CFR parts 120 through 130.)

9A104 Sounding rockets, capable of a range of at least 300 km. (These items are "subject to the ITAR." See 22 CFR parts 120 through 130.)

9A105 Liquid propellant rocket engines. (These items are "subject to the ITAR." See 22 CFR parts 120 through 130.)

9A106 Systems, "parts" or "components," other than those controlled by 9A006, usable in "missiles," and "specially designed" for liquid rocket propulsion systems, as follows (see List of Items Controlled).

LICENSE REQUIREMENTS

Reason for Control: MT, AT

Control(s)	Country Chart (See Supp. No. 1 to part 738)
MT applies to entire entry	MT Column 1
AT applies to entire entry	AT Column 1

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

LVS: N/A

GBS: N/A

LIST OF ITEMS CONTROLLED

Related Controls: Items described in 9A106.a, .b, and .c are ''subject to the ITAR'' (see 22 CFR parts 120 through 130).

Related Definitions: N/A

Items: a. Ablative liners for thrust or combustion chambers;

b. Rocket nozzles;

c. Thrust vector control sub-systems;

Technical Note: Examples of methods of achieving thrust vector control controlled by 9A106.c includes:

1. Flexible nozzle;

2. Fluid or secondary gas injection;

3. Movable engine or nozzle;

4. Deflection of exhaust gas steam (jet vanes or probes); or

5. Thrust tabs.

d. Liquid, slurry and gel propellant (including oxidizers) control systems, and ''specially designed'' ''parts'' and ''components'' therefor, designed or modified to operate in vibration environments greater than 10 g rms between 20 Hz and 2000 Hz.

Note: The only servo valves, pumps and gas turbines controlled by 9A106.d, are the following:

a. Servo valves designed for flow rates equal to or greater than 24 liters per minute, at an absolute pressure equal to or greater than 7 MPa, that have an actuator response time of less than 100 ms;

b. Pumps, for liquid propellants, with shaft speeds equal to or greater than 8,000 rpm at the maximum operating mode or with discharge pressures equal to or greater than 7 Mpa; or

c. Gas turbines, for liquid propellant turbopumps, with shaft speeds equal to or greater than 8,000 rpm at the maximum operating mode.

e. Flight control servo valves designed or modified for use in ''missiles'' and designed or modified to operate in a vibration environment greater than 10g rms over the entire range between 20Hz and 2 kHz.

9A107 Solid propellant rocket motors, usable in rockets with a range capability of 300 km or greater, other than those controlled by 9A007, having total impulse capacity equal to or greater than 8.41×10^5 Ns, but less than 1.1×10^6 Ns. (These items are "subject to the ITAR." See 22 CFR parts 120 through 130.)

9A108 Solid rocket propulsion "parts" and "components," other than those controlled by 9A008, usable in rockets with a range capability of 300 km or greater. (These items are "subject to the ITAR." See 22 CFR parts 120 through 130.)

9A109 Hybrid rocket motors, usable in rockets with a range capability of 300 km or greater, other than those controlled by 9A009, and "specially designed" "parts" and "components" therefor. (These items are "subject to the ITAR." See 22 CFR parts 120 through 130.)

9A110 Composite structures, laminates and manufactures thereof "specially designed" for 9A012 items that are controlled for MT reasons.

LICENSE REQUIREMENTS

Reason for Control: MT, AT

Control(s)	Country Chart (See Supp. No. 1 to part 738)
MT applies to entire entry	MT Column 1
AT applies to entire entry	AT Column 1

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

LVS: N/A

GBS: N/A

LIST OF ITEMS CONTROLLED

Related Controls: See also 1A002.

Related Definitions: N/A

Items: The list of items controlled is contained in the ECCN heading.

9A111 Pulse jet engines, usable in rockets, missiles, or unmanned aerial vehicles capable of achieving a "range" equal to or greater than 300 km, and "specially designed" "parts" and "components" therefor. (These items are "subject to the ITAR." See 22 CFR parts 120 through 130.)

9A115 Apparatus, devices and vehicles, designed or modified for the transport, handling, control, activation and launching of rockets, missiles, and unmanned aerial vehicles capable of achieving a "range" equal to or greater than 300 km.

LICENSE REQUIREMENTS

Reason for Control: MT, AT

Control(s)	Country chart (see Supp. No. 1 to part 738)
MT applies to entire entry	MT Column 1
AT applies to entire entry	AT Column 1

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

LVS: N/A

GBS: N/A

LIST OF ITEMS CONTROLLED

Related Controls: See the U.S. Munitions List (22 CFR part 121). Also see ECCN 9A610.u.

Related Definitions: N/A

Items: The list of items controlled is contained in the ECCN heading.

9A116 Reentry vehicles, usable in "missiles," and equipment designed or modified therefor. (These items are "subject to the ITAR." See 22 CFR parts 120 through 130.)

9A117 Staging mechanisms, separation mechanisms, and interstages therefor, usable in "missiles". (These items are "subject to the ITAR." See 22 CFR parts 120 through 130.)

9A118 Devices to regulate combustion usable in engines which are usable in rockets, missiles, and unmanned aerial vehicles capable of achieving a "range" equal to or greater than 300 km, controlled by 9A011 or 9A111. (These items are "subject to the ITAR." See 22 CFR parts 120 through 130.)

9A119 Individual rocket stages, usable in rockets with a range capability greater than 300 km or greater, other than those controlled by 9A005, 9A007, 9A009, 9A105, 9A107 and 9A109. (These items are "subject to the ITAR." See 22 CFR parts 120 through 130.)

9A120 Complete unmanned aerial vehicles, not specified in 9A012, having all of the following characteristics (see List of Items Controlled).

LICENSE REQUIREMENTS

Reason for Control: MT, AT

Control(s)	Country Chart (See Supp. No. 1 to part 738)
MT applies to entire entry	MT Column 1.
AT applies to entire entry	AT Column 1.

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

LVS: N/A

GBS: N/A

LIST OF ITEMS CONTROLLED

Related Controls: See ECCN 9A012 or the U.S. Munitions List Category VIII (22 CFR part 121). Also see ECCN 2B352.i for controls on certain spraying or fogging systems, and ''parts'' and ''components'' therefor, ''specially designed'' or modified for fitting to aircraft, ''lighter than air vehicles,'' or ''UAVs.''

Related Definitions: N/A

Items: a. Having any of the following:

a.1. An autonomous flight control and navigation capability; *or*

a.2. Capability of controlled-flight out of the direct vision range involving a human operator; *and*

b. Having any of the following:

b.1. Incorporating an aerosol dispensing system/mechanism with a capacity greater than 20 liters; *or*

b.2. Designed or modified to incorporate an aerosol dispensing system/mechanism with a capacity of greater than 20 liters.

Note: 9A120 does not control model aircraft, ''specially designed'' for recreational or competition purposes.

Technical Notes: 1. An aerosol consists of particulate or liquids other than fuel components, by—products or additives, as part of the ''payload'' to be dispersed in the atmosphere. Examples of aerosols include pesticides for crop dusting and dry chemicals for cloud seeding.

2. An aerosol dispensing system/mechanism contains all above devices (mechanical, electrical, hydraulic, etc.), which are necessary for storage and dispersion of an aerosol into the atmosphere. This includes the possibility of aerosol injection into the combustion exhaust vapor and into the propeller slip stream.

9A515 "Spacecraft" and related commodities, as follows (see List of Items Controlled).

LICENSE REQUIREMENTS

Reason for Control: NS, RS, MT, AT

Control(s)	Country chart (see Supp. No. 1 to part 738)
NS applies to entire entry, except .e, .x, and .y.	NS Column 1.
RS applies to entire entry, except .e, .x, and .y.	RS Column 1.
MT applies to microcircuits in 9A515.d and 9A515.e.2 when ''usable in'' ''missiles'' for protecting ''missiles'' against nuclear effects (*e.g.,* Electromagnetic Pulse (EMP), X-rays, combined blast and thermal effects). MT also applies to 9A515.h when the total impulse capacity is equal to or greater than 8.41×10^5 newton seconds.	MT Column 1.

Control(s)	Country chart (see Supp. No. 1 to part 738)
NS applies to 9A515.x	NS Column 2.
RS applies to 9A515.e and .x.	RS Column 2.
RS applies to 9A515.y	China, Russia or Venezuela (see §742.6(a)(7)).
AT applies to entire entry	AT Column 1.

License Requirement Notes: (1) The Commerce Country Chart is not used for determining license requirements for commodities classified in ECCN 9A515.a.1, .a.2, .a.3, .a.4, and .g. See §742.6(a)(9), which specifies that such commodities are subject to a worldwide license requirement, except to Australia, Canada, and the United Kingdom.

(2) ECCN 9A004.a through .f apply to certain space launch vehicles, spacecraft, spacecraft buses, spacecraft payloads, on-board systems or equipment, and terrestrial equipment. They are listed in ECCN 9A004.a through .f in order to harmonize 9A004 with the Wassenaar Arrangement Dual-Use List, even though the controls for these items are found under ECCN 9A515 and to direct exporters, reexporters, and transferors to see USML Category IV for 9A004.a. See UMSL Category IV for 9A004.a. See ECCN 9A515 for 9A004.b through .f, and .h. See this ECCN 9A004 for .g, .h, .r, .s, and .u through .y.

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

LVS: $1500

GBS: N/A

SPECIAL CONDITIONS FOR STA

STA: (1) Paragraph (c)(1) of License Exception STA (§740.20(c)(1) of the EAR) may not be used for ''spacecraft'' in ECCNs 9A515.a.1, a.2, a.3, or a.4, ''sub-orbital craft,'' or items in 9A515.g, unless determined by BIS to be eligible for License Exception STA in accordance with §740.20(g) (License Exception STA eligibility requests for certain 9x515 and ''600 series'' items). (2) License Exception STA may not be used if the ''spacecraft'' controlled in ECCN 9A515.a.1, a.2, a.3, or a.4 contains a separable or removable propulsion system described in USML Category IV(d)(2) or USML Category XV(e)(12) and designated MT. (3) Paragraph (c)(2) of License Exception STA (§740.20(c)(2) of the EAR) may not be used for any item in 9A515.

LIST OF ITEMS CONTROLLED

Related Controls: Spacecraft, launch vehicles and related articles that are described on the USML, and technical data (including ''software'') directly related thereto, and all services (including training) directly related to the integration of any satellite or spacecraft to a launch vehicle, including both planning and onsite support, or furnishing any assistance (including training) in the launch failure analysis or investigation for items in ECCN 9A515.a, are ''subject to the ITAR.'' All other ''spacecraft,'' as enumerated below and defined in §772.1, are subject to the controls of this ECCN. See also ECCNs 3A001, 3A002, 3A991, 3A992, 6A002, 6A004, 6A008, and 6A998 for specific ''space-qualified'' items, 7A004 and 7A104 for star trackers, and 9A004 for the International Space Station (ISS), the James Webb Space Telescope (JWST), and ''specially designed'' ''parts'' and ''components'' therefor. See USML Category XI(c) for controls on certain ''Monolithic Microwave Integrated Circuit'' (''MMIC'') amplifiers. See ECCN 9A610.g for pressure suits used for high altitude aircraft.

Related Definitions: 'Microcircuit' means a device in which a number of passive or active elements are considered as indivisibly associated on or within a continuous structure to perform the function of a circuit.

Items:

''Spacecraft'' and other items described in ECCN 9A515 remain subject to the EAR even if exported, reexported, or transferred (in-country) with defense articles ''subject to the ITAR'' integrated into and included therein as integral parts of the item. In all other cases, such defense articles are subject to the ITAR. For example, a 9A515.a ''spacecraft'' remains ''subject to the EAR'' even when it is exported, reexported, or transferred (in-country) with a ''hosted payload'' described in USML Category XV(e)(17) incorporated therein. In all other cases, a ''hosted payload'' performing a function described in USML Category XV(a) always remains a USML item. The removal of the defense article subject to the ITAR from the spacecraft is a retransfer under the ITAR and would require an ITAR authorization, regardless of the CCL authorization the spacecraft is exported under. Additionally, transfer of technical data regarding the defense article subject to the ITAR integrated into the spacecraft would require an ITAR authorization.

a. ''Spacecraft,'' including satellites, and space vehicles and ''sub-orbital craft,'' whether designated developmental, experimental, research or scientific, not described in USML Category XV or described in ECCN 9A004.r, .u, or .w, that:

a.1. Have electro-optical remote sensing capabilities and having a clear aperture greater than 0.35 meters, but less than or equal to 0.50 meters;

a.2. Have remote sensing capabilities beyond NIR (*i.e.*, SWIR, MWIR, or LWIR);

a.3. Have radar remote sensing capabilities (*e.g.*, AESA, SAR, or ISAR) having a center frequency equal to or greater than 1.0 GHz, but less than 10.0 GHz and having a bandwidth equal to or greater than 100 MHz, but less than 300 MHz;

a.4. Provide space-based logistics, assembly, or servicing of another ''spacecraft''; *or*

a.5. Are not described in ECCN 9A515.a.1, .a.2, .a.3 or .a.4.

Note 1 to 9A515: ECCN 9A515.a includes commercial communications satellites, remote sensing satellites, ''sub-orbital craft,'' and planetary and interplanetary probes, not identified in ECCN 9A004 or USML Category XV(a).

b. Equipment for telemetry, tracking, and control, as follows:

b.1. Ground control systems and training simulators ''specially designed'' for telemetry, tracking, and control of the ''spacecraft'' controlled in paragraphs 9A004.u or 9A515.a;

b.2. Terrestrial equipment ''specially designed'' for ''spacecraft,'' as follows:

b.2.a. Telemetry and telecommand equipment ''specially designed'' for any of the following data processing functions:

b.2.a.1. Telemetry data processing of frame synchronization and error corrections, for monitoring of operational status (also known as health and safe status) of the ''spacecraft bus;'' *or*

b.2.a.2. Command data processing for formatting command data being sent to the ''spacecraft'' to control the ''spacecraft bus;''

b.2.b. [Reserved]

b.3. Simulators ''specially designed'' for 'verification of operational procedures' of ''spacecraft.''

Technical Note: For the purposes of 9A515.b.3, 'verification of operational procedures' is any of the following:

1. Command sequence confirmation;

2. Operational training;

3. Operational rehearsals; or

4. Operational analysis.

c. [Reserved]

d. Microelectronic circuits (*e.g.*, integrated circuits, microcircuits, or MOSFETs) and discrete electronic components rated, certified, or otherwise specified or described as meeting or exceeding all the following characteristics and that are ''specially designed'' for defense articles, ''600 series'' items, or items controlled by ECCNs 9A004.v or 9A515:

d.1. A total dose of 5×10^5 Rads (Si) (5×10^3 Gy (Si));

d.2. A dose rate upset threshold of 5×10^8 Rads (Si)/sec (5×10^6 Gy (Si)/sec);

d.3. A neutron dose of 1×10^{14} n/cm^2 (1 MeV equivalent);

d.4. An uncorrected single event upset sensitivity of 1×10^{-10} errors/bit/day or less, for the CREME–MC geosynchronous orbit, Solar Minimum Environment for heavy ion flux; and

d.5. An uncorrected single event upset sensitivity of 1×10^{-10} errors/part or less for a fluence of 1×10^7 protons/cm^2 for proton energy greater than 50 MeV.

e. Microelectronic circuits (*e.g.*, integrated circuits, microcircuits, or MOSFETs) and discrete electronic components that are rated, certified, or otherwise specified or described as meeting or exceeding the characteristics in either paragraph e.1 or e.2, AND ''specially designed'' for defense articles described in USML Category XV or items controlled by ECCNs 9A004.u or 9A515:

e.1. A total dose $\geq 1 \times 10^5$ Rads (Si) (1×10^3 Gy(Si)) and $< 5 \times 10^5$ Rads (Si) (5×10^3 Gy(Si)); and a single event effect (SEE) (*i.e.*, single event latchup (SEL), single event burnout (SEB), or single event gate rupture (SEGR)) immunity to a linear energy transfer (LET) $\geq$80 MeV-cm^2/mg; *or*

e.2. A total dose $\geq 5 \times 10^5$ Rads (Si) (5×10^3 Gy (Si)) and not described in 9A515.d.

Note 2 to 9A515.d and .e: See USML Category XI for military electronics. See 3A611.f for PLDs and ASICs programmed for 600 series items.

Note 3 to 9A515.d and .e: See 3A001.a and .z for controls on radiation-hardened microelectronic circuits ''subject to the EAR'' that are not controlled by 9A515.d or .e.

f. Pressure suits (*i.e.*, space suits) capable of operating at altitudes greater than or equal to 55,000 feet above sea level.

g. Remote sensing components ''specially designed'' for ''spacecraft'' described in ECCNs 9A515.a.1 through .a.4 as follows:

g.1. Space-qualified optics (*i.e.*, lens, mirror, membrane having active properties (*e.g.*, adaptive, deformable)) with the largest lateral clear aperture dimension equal to or less than 0.35 meters; or with the largest clear aperture dimension greater than 0.35 meters but less than or equal to 0.50 meters;

g.2. Optical bench assemblies ''specially designed'' for ECCN 9A515.a.1, a.2, a.3, or a.4 ''spacecraft;'' *or*

g.3. Primary, secondary, or hosted payloads that perform a function of ECCN 9A515.a.1, a.2, a.3, or a.4 ''spacecraft.''

h. Spacecraft thrusters using bi-propellants or mono-propellants that provide thrust equal to or less than 150 lbf (*i.e.*, 667.23 N) vacuum thrust.

i. through w. [RESERVED]

w. ''Parts,'' ''components,'' ''accessories,'' and ''attachments'' that would otherwise be within the scope of ECCN 9A515.x but that have been identified by the interagency as warranting control in 9A515.w, as follows:

w.1. [Reserved]

x. ''Parts,'' ''components,'' ''accessories'' and ''attachments'' that are ''specially designed'' for defense articles described in USML Category XV or items controlled by 9A515, and that are NOT:

x.1. Described on the USML or elsewhere within ECCNs 9A515 or 9A004;

x.2. Microelectronic circuits and discrete electronic components;

x.3. Described in ECCNs 7A004 or 7A104;

x.4. Described in an ECCN containing ''space-qualified'' as a control criterion (*i.e.*, 3A001.b.1, .e.4 or .z, 3A002.g.1, 3A991.o, 3A992.b.3, 6A002.a.1, .b.2, .d.1, 6A004.c and .d, 6A008.j.1, 6A998.b, or 7A003.d.2);

x.5. Microwave solid state amplifiers and microwave assemblies (refer to ECCN 3A001.b.4 and .z for controls on these items);

x.6. Travelling wave tube amplifiers (refer to ECCN 3A001.b.8 and .z for controls on these items); *or*

x.7. Elsewhere specified in ECCN 9A515.y.

Note 4 to 9A515.x: ''Parts,'' ''components,'' ''accessories,'' and ''attachments'' described on the USML, either in Category XV(e) or elsewhere, are subject to the ITAR.

Note 5 to 9A515.b and .x: This note clarifies the scope of controls over baseband units (BBU). For purposes of 9A515.b and .x, a BBU means a device that interprets the original frequency range of a transmission signal. These devices are not controlled under 9A515.b or .x when they do not perform telemetry, track, and control.

y. Items that would otherwise be within the scope of ECCN 9A515.x but that have been identified in an interagency-cleared commodity classification (CCATS) pursuant to §748.3(e) as warranting control in 9A515.y.

y.1. Discrete electronic components not specified in 9A515.e;

y.2. Thermistors for spacecraft applications;

y.3. RF microwave bandpass ceramic filters (*e.g.*, Dielectric Resonator Bandpass Filters);

y.4. Hall effect sensors for spacecraft applications;

y.5. Subminiature (SMA and SMP) plugs and connectors, TNC plugs and cable and connector assemblies with SMA plugs and connectors for spacecraft applications;

y.6. Flight cable assemblies for spacecraft applications;

y.7. Public address (PA) systems;

y.8. Audio selector panels;

y.9. Spacecraft crew, passenger, or participant lavatories and body waste management systems;

y.10. Spacecraft crew, passenger, or participant hygiene facilities and systems;

y.11. Spacecraft crew, passenger, or participant crew rest equipment or sleeping quarters;

y.12. Spacecraft crew, passenger, or participant galleys or food preparation or serving systems;

y.13. Spacecraft crew, passenger, or participant entertainment systems;

y.14. Spacecraft crew, passenger, or participant exercise systems;

y.15. Spacecraft crew, passenger, or participant laundry systems;

y.16. Spacecraft crew, passenger, or participant safety systems, not including launch abort systems/launch escape systems, ejector seats, spacesuits, flight suits, helmets, or ''parts'' and ''components'' therefor;

y.17. Spacecraft crew, passenger, or participant storage units, facilities, or systems (for items related to human safety, welfare, and health);

y.18. Spacecraft crew, passenger, or participant medical facilities or health-related systems for monitoring, evaluating, or assessing, or for providing treatments;

y.19. Spacecraft crew, passenger, or participant information systems (*e.g.*, personal laptops and phones);

y.20. Name plates, identification plates, and identification systems;

y.21. Internal, external, and emergency lighting systems;

y.22. Humidity and CO_2 removal systems;

y.23. Potable water storage systems;

y.24. Water regeneration systems;

y.25. Air filters, filter networks, or air quality systems;

y.26. Space heaters, temperature sensors, or thermostats for human habitation;

y.27. Environmental control systems for human habitation;

y.28. Spacecraft environmental control systems (*e.g.*, air conditioner, air distribution, air filtration and sanitation, CO_2 removal, cabin pressure control, dehumidifier, fire suppression system, nitrogen oxygen recharge system, heater systems, thermostats);

y.29. Plant growth systems;

y.30. Fire extinguishers;

y.31. Flame, smoke, or CO_2 detectors;

y.32. Fire suppression systems;

y.33. Spacecraft crew, passenger, or participant seats, other than ejection seats, and ''parts'' and ''components;''

y.34. Spaceflight crew, passenger, or participant ejection seat mounted survival aids;

y.35. Spaceflight crew, passenger, or participant life rafts;

y.36. Spacecraft crew, passenger, or participant locator beacons;

y.37. Spacecraft crew, passenger, or participant mirrors;

y.38. Spacecraft crew, passenger, or participant windows;

y.39. Spacecraft locator beacons;

y.40. Viewing windows on non-crewed spacecraft;

y.41. Temperature sensors and pressure transducers;

y.42. Thermal control pumps, accumulators, fluid filters and filter assemblies, control valves, heat exchangers, and radiators;

y.43. Hydraulic, pneumatic, oil, fuel, gas, propellant, fluid, and thermal control fluid reservoirs, filters, filter assemblies, tubing, lines, hoses, check valves, and quick disconnects, and associated fittings, couplings, clamps, brackets, adapters, valves, gaskets, shims, and o-rings;

y.44. Gauges and indicators;

y.45. Filtered and unfiltered panel knobs, indicators, annunciator panels, switches, buttons and dials;

y.46. Spacecraft tires and brake systems (does not include sintered mix or carbon/carbon materials);

y.47. Bearings (*e.g.*, Ball, roller, wheel);

y.48. Energy dissipating pads for cargo or crew;
y.49. Spacecraft bus structures;
y.50. Bracket adapters for bus and payload structures;
y.51. Latches and hinges;
y.52. Boom assemblies;
y.53. Cables, cable assemblies, and connectors;
y.54. Batteries and associated battery management circuitry;
y.55. Germanium coated polyimide tapes (*e.g.*, Kapton tape);
y.56. Multiplexors and Demultiplexors (MUX & DEMUX);
y.57. Switches, switch bank assemblies, beam select switches, transfer switch assemblies, switch matrices, thermal switches;
y.58. Magnetic torque bars;
y.59. Filters, filter networks;
y.60. Network switches;
y.61. Reflectors, antennas;
y.62. Antenna feed horns;
y.63. Diplexers, modulators, demodulators;
y.64. Second surface mirrors;
y.65. Backshells, pins and contacts;
y.66. Measurement devices;
y.67. Electrical power distribution and control units;
y.68. Electrical connectors;
y.69. Non-propulsive landing systems (*e.g.*, skids, inflatable);
y.70. Electric fans;
y.71. Microphones;
y.72. Speakers;
y.73. Circuit breakers; *and*
y.74. Printed circuit boards ''specially designed'' for items classified under 9A515.y

Note 6 to 9A515: An item operating on any celestial body other than Earth is treated as if it is on Earth for classification purposes on the CCL.

9A604 Commodities related to launch vehicles, missiles, and rockets (see List of Items Controlled).

LICENSE REQUIREMENTS

Reason for Control: NS, RS, MT, AT, UN

Control(s)	Country chart (see Supp. No. 1 to part 738)
NS applies to entire entry	NS Column 1.
RS applies to entire entry	RS Column 1.
MT applies to 9A604.c, .d, and .f.	MT Column 1.
RS applies to 9A604.y	China, Russia, or Venezuela (see §742.6(a)(7)).
AT applies to entire entry	AT Column 1.
UN applies to entire entry	See §746.1(b) for UN controls.

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

LVS: N/A

GBS: N/A

SPECIAL CONDITIONS FOR STA

STA: Paragraph (c)(2) of License Exception STA (§740.20(c)(2) of the EAR) may not be used for any item in this ECCN 9A604.

LIST OF ITEMS CONTROLLED

Related Controls: (1) Launch vehicles, missiles, and rockets are subject to the ITAR (see USML Category IV). (2) See ECCN 0A919 for foreign-made ''military commodities'' that incorporate more than a *de minimis* amount of U.S.-origin ''600 series'' controlled content. (3) Thermal batteries for USML Category IV items are subject to the ITAR (see USML Category XIII).

Related Definitions: N/A

Items:

a. through b. [Reserved]

c. ''Components'' ''specially designed'' for ramjet, scramjet, pulse jet, or combined cycle engines described in USML Category IV, including devices to regulate combustion in such commodities.

d. ''Components'' ''specially designed'' for hybrid rocket motors described in USML Category IV usable in rockets, missiles, or unmanned aerial vehicles capable of a range equal to or greater than 300 km.

e. ''Components'' ''specially designed'' for pressure gain combustion-based propulsion systems described in USML Category IV.

f. Composite structures, laminates and manufactures thereof ''specially designed'' for the following items described in USML Category IV:

f.1. Systems capable of a range equal to or greater than 300 km;

f.2. Individual rocket stages usable in 9A604.f.1. systems;

f.3. Solid propellant rocket motors or hybrid rocket motors having a total impulse capacity equal to or greater than 8.41×10^5 Ns; or

f.4. Liquid propellant rocket engines integrated, or designed or modified to be integrated, into a liquid propellant propulsion system which has a total impulse capacity equal to or greater than 8.41×10^5 Ns.

f.5. Thrust vector control systems usable in rockets, space launch vehicles (SLVs), and missiles capable of delivering at least a 500 kg payload to a range of at least 300 km.

f.6. Re-entry vehicles or warhead heat shields usable in rockets, SLVs, and missiles capable of delivering at least a 500 kg payload to a range of at least 300 km.

f.7. Safing, arming, fuzing, and firing components usable in rockets, SLVs, and missiles capable of delivering at least a 500 kg payload to a range of at least 300 km.

g. through w. [Reserved]

x. ''Parts,'' ''components,'' ''accessories,'' and ''attachments'' that are ''specially designed'' for a commodity subject to control in paragraphs .a through .d of this ECCN, or

a defense article described in USML Category IV, and not specified elsewhere on the USML or in 9A604.y.

Note to 9A604.x: ''Parts,'' ''components,'' ''accessories,'' and ''attachments'' specified in USML Category IV(h) are subject to the controls of that paragraph.

y. Specific ''parts,'' ''components,'' ''accessories,'' and ''attachments'' ''specially designed'' for a commodity subject to control in this entry, ECCN 9A604, or for a defense article in USML Category IV and not elsewhere specified on the USML or on the CCL, and other commodities, as follows, and ''parts,'' ''components,'' ''accessories,'' and ''attachments'' ''specially designed'' therefor:

y.1. ''Parts'' and minor ''components'' for landing leg assemblies; *and*

y.2. [RESERVED]

9A610 Military Aircraft and Related Commodities, Other Than Those Enumerated in 9A991.a (See List of Items Controlled).

LICENSE REQUIREMENTS

Reason for Control: NS, RS, MT, AT, UN

Control(s)	Country chart (see Supp. No. 1 to part 738)
NS applies to entire entry except: 9A610.b; parts and components controlled in 9A610.x if being exported or reexported for use in an aircraft controlled in 9A610.b; and 9A610.y.	NS Column 1
RS applies to entire entry except: 9A610.b; parts and components controlled in 9A610.x if being exported or reexported for use in an aircraft controlled in 9A610.b; and 9A610.y.	RS Column 1
RS applies to 9A610.y	China, Russia, or Venezuela (see §742.6(a)(7))
MT applies to 9A610.t, .u, .v, and .w.	MT Column 1
AT applies to entire entry	AT Column 1
UN applies to entire entry except 9A610.y.	See §746.1(b) for UN controls

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

LVS: $1,500

GBS: N/A

SPECIAL CONDITIONS FOR STA

STA: (1) Paragraph (c)(1) of License Exception STA (§740.20(c)(1) of the EAR) may not be used for any item in 9A610.a (*i.e.*, ''end item'' military aircraft), unless determined by BIS to be eligible for License Exception STA in accordance with §740.20(g) (License Exception STA eligibility requests for 9x515 and ''600 series'' items). (2) Paragraph (c)(2) of License Exception STA (§740.20(c)(2) of the EAR) may not be used for any item in 9A610.

LIST OF ITEMS CONTROLLED

Related Controls: (1) Military aircraft and related articles that are enumerated in USML Category VIII, and technical data (including software) directly related thereto, are subject to the ITAR. (2) See ECCN 0A919 for controls on foreign-made ''military commodities'' that incorporate more than a de minimis amount of U.S.-origin ''600 series'' controlled content. (3) See USML Category XIX and ECCN 9A619 for controls on military aircraft gas turbine engines and related items.

Related Definitions: In paragraph .y of this entry, the term 'fluid' includes liquids and gases.

Items:

a. 'Military Aircraft' ''specially designed'' for a military use that are not enumerated in USML paragraph VIII(a).

Note 1: For purposes of paragraph .a the term 'military aircraft' means the LM–100J aircraft and any aircraft ''specially designed'' for a military use that are not enumerated in USML paragraph VIII(a). The term includes: Trainer aircraft; cargo aircraft; utility fixed wing aircraft; military helicopters; observation aircraft; military non-expansive balloons and other lighter-than-air aircraft; and unarmed military aircraft, regardless of origin or designation. Aircraft with modifications made to incorporate safety of flight features or other FAA or NTSB modifications such as transponders and air data recorders are ''unmodified'' for the purposes of this paragraph .a.

Note 2: 9A610.a does not control 'military aircraft' or ''lighter-than-air vehicles'' that:

a. Were first manufactured before 1946;

b. Do not incorporate defense articles enumerated or otherwise described on the U.S. Munitions List, unless the items are required to meet safety or airworthiness standards of civil aviation authorities of a Wassenaar Arrangement Participating State; and

c. Do not incorporate weapons enumerated or otherwise described on the U.S. Munitions List, unless inoperable and incapable of being returned to operation.

b. L–100 aircraft manufactured prior to 2013.

c.–d. [Reserved]

e. Mobile aircraft arresting and engagement runway systems for aircraft controlled by either USML Category VIII(a) or ECCN 9A610.a.

f. Pressure refueling equipment and equipment that facilitates operations in confined areas, ''specially designed'' for aircraft controlled by either USML paragraph VIII(a) or ECCN 9A610.a.

g. Aircrew life support equipment, aircrew safety equipment and other devices for emergency escape from aircraft controlled by either USML paragraph VIII(a) or ECCN 9A610.a.

h. Parachutes, paragliders, complete parachute canopies, harnesses, platforms, electronic release mechanisms, ''specially designed'' for use with aircraft controlled by either USML paragraph VIII(a) or ECCN 9A610.a, and ''equipment'' ''specially designed'' for military high altitude parachutists, such as suits, special helmets, breathing systems, and navigation equipment.

i. Controlled opening equipment or automatic piloting systems, designed for parachuted loads.

j. Ground effect machines (GEMS), including surface effect machines and air cushion vehicles, ''specially designed'' for use by a military.

k. through s. [Reserved]

t. Composite structures, laminates, and manufactures thereof ''specially designed'' for unmanned aerial vehicles controlled under USML Category VIII(a) with a range equal to or greater than 300 km.

Note to paragraph .t: Composite structures, laminates, and manufactures thereof ''specially designed'' for unmanned aerial vehicles controlled under USML Category VIII(a) with a maximum range less than 300 km are controlled in paragraph .x of this entry.

u. Apparatus and devices ''specially designed'' for the handling, control, activation and non-ship-based launching of UAVs controlled by either USML paragraph VIII(a) or ECCN 9A610.a, and capable of a range equal to or greater than 300 km.

Note to paragraph .u: Apparatus and devices ''specially designed'' for the handling, control, activation and non-ship-based launching of UAVs controlled by either USML paragraph VIII(a) or ECCN 9A610.a with a maximum range less than 300 km are controlled in paragraph .x of this entry.

v. Radar altimeters designed or modified for use in UAVs controlled by either USML paragraph VIII(a) or ECCN 9A610.a., and capable of delivering at least 500 kilograms payload to a range of at least 300 km.

Note to paragraph .v: Radar altimeters designed or modified for use in UAVs controlled by either USML paragraph VIII(a) or ECCN 9A610.a. that are not capable of delivering at least 500 kilograms payload to a range of at least 300 km are controlled in paragraph .x of this entry.

w.1. Pneumatic hydraulic, mechanical, electro-optical, or electromechanical flight control systems (including fly-by-wire and fly-by-light systems) and attitude control equipment designed or modified for UAVs controlled by either USML paragraph VIII(a) or ECCN 9A610.a., and capable of delivering at least 500 kilograms payload to a range of at least 300 km.

Note to paragraph .w.1: Pneumatic, hydraulic, mechanical, electro-optical, or electromechanical flight control systems (including fly-by-wire and fly-by-light systems) and attitude control equipment designed or modified for UAVs controlled by either USML paragraph VIII(a) or ECCN 9A610.a., not capable of delivering at least 500 kilograms payload to a range of at least 300 km are controlled in paragraph .x of this entry.

w.2. Flight control servo valves designed or modified for the systems in 9A610.w.1. and designed or modified to operate in a vibration environment greater than 10g rms over the entire range between 20Hz and 2 kHz.

Note to paragraph .w: Paragraphs 9A610.w.1. and 9A610.w.2. include the systems, equipment and valves designed or modified to enable operation of manned aircraft as unmanned aerial vehicles.

x. ''Parts,'' ''components,'' ''accessories,'' and ''attachments'' that are ''specially designed'' for a commodity enumerated or otherwise described in ECCN 9A610 (except for 9A610.y) or a defense article enumerated or otherwise described in USML Category VIII and not elsewhere specified on the USML or in 9A610.y, 9A619.y, or 3A611.y.

y. Specific ''parts,'' ''components,'' ''accessories,'' and ''attachments'' ''specially designed'' for a commodity subject to control in this entry, ECCN 9A619, or for a defense article in USML Categories VIII or XIX and not elsewhere specified in the USML or the CCL, and other aircraft commodities ''specially designed'' for a military use, as follows, and ''parts,'' ''components,'' ''accessories,'' and ''attachments'' ''specially designed'' therefor:

y.1. Aircraft tires;

y.2. Analog gauges and indicators;

y.3. Audio selector panels;

y.4. Check valves for hydraulic and pneumatic systems;

y.5. Crew rest equipment;

y.6. Ejection seat mounted survival aids;

y.7. Energy dissipating pads for cargo (for pads made from paper or cardboard);

y.8. Fluid filters and filter assemblies;

y.9. Galleys;

y.10. Fluid hoses, straight and unbent lines (for a commodity subject to control in this entry or defense article in USML Category VIII), and fittings, couplings, clamps (for a commodity subject to control in this entry or defense article in USML Category VIII) and brackets therefor;

y.11. Lavatories;

y.12. Life rafts;

y.13. Magnetic compass, magnetic azimuth detector;

y.14. Medical litter provisions;

y.15. Cockpit or cabin mirrors;

y.16. Passenger seats including palletized seats;

y.17. Potable water storage systems;

y.18. Public address (PA) systems;

y.19. Steel brake wear pads (does not include sintered mix or carbon/carbon materials);

y.20. Underwater locator beacons;

y.21. Urine collection bags/pads/cups/pumps;

y.22. Windshield washer and wiper systems;

y.23. Filtered and unfiltered panel knobs, indicators, switches, buttons, and dials;

y.24. Lead-acid and Nickel-Cadmium batteries;

y.25. Propellers, propeller systems, and propeller blades used with reciprocating engines;

y.26. Fire extinguishers;

y.27. Flame and smoke/CO_2 detectors;

y.28. Map cases;

y.29. 'Military Aircraft' that were first manufactured from 1946 to 1955 that do not incorporate defense articles enumerated or otherwise described on the U.S. Munitions List, unless the items are required to meet safety or airworthiness standards of a Wassenaar Arrangement Participating State; and do not incorporate weapons enumerated or otherwise described on the U.S. Munitions List, unless inoperable and incapable of being returned to operation;

y.30. ''Parts,'' ''components,'' ''accessories,'' and ''attachments,'' other than electronic items or navigation equipment, for use in or with a commodity controlled by ECCN 9A610.h;

y.31. Identification plates and nameplates; *and*

y.32. Fluid manifolds.

9A619 Military gas turbine engines and related commodities (see List of Items Controlled).

LICENSE REQUIREMENTS

Reason for Control: NS, RS, AT, UN

Control(s)	Country chart (see Supp. No. 1 to part 738)
NS applies to entire entry except 9A619.y.	NS Column 1.
RS applies to entire entry except 9A619.y.	RS Column 1.
RS applies to 9A619.y	China, Russia, or Venezuela (see §742.6(a)(7)).
AT applies to entire entry	AT Column 1.
UN applies to entire entry except 9A619.y.	See §746.1(b) for UN controls.

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

LVS: $1,500

GBS: N/A

SPECIAL CONDITIONS FOR STA

STA: Paragraph (c)(2) of License Exception STA (§740.20(c)(2) of the EAR) may not be used for any item in ECCN 9A619.

LIST OF ITEMS CONTROLLED

Related Controls: (1) Military gas turbine engines and related articles that are enumerated or otherwise described in USML Category XIX, and technical data (including software) directly related thereto, are subject to the jurisdiction of the International Traffic in Arms Regulations (ITAR). (2) Gas turbine engines designated 501–D22 are controlled in ECCN 9A991.d regardless of the aircraft type into which they will be installed. (3) See ECCN 0A919 for foreign-made ''military commodities'' that incorporate more than a de minimis amount of U.S.-origin ''600 series'' controlled content. (4) ''Parts,'' ''components,'' ''accessories,'' and ''attachments'' specified in USML Category XIX(f) are subject to the controls of that paragraph. (5) ''Parts,'' ''components,'' ''accessories,'' and ''attachments'' specified in ECCN 9A619.y are subject to the controls of that paragraph.

Related Definitions: In paragraph .y of this entry, the term 'fluid' includes liquids and gases.

Items:

a. ''Military Gas Turbine Engines'' ''specially designed'' for a military use that are not controlled in USML Category XIX(a), (b), (c), or (d).

Note: For purposes of ECCN 9A619.a, the term ''military gas turbine engines'' means gas turbine engines ''specially designed'' for ''end items'' enumerated in USML Categories VI, VII or VIII or on the CCL under ECCNs 0A606, 8A609 or 9A610.

b. Digital engine controls (*e.g.,* Full Authority Digital Engine Controls (FADEC) and Digital Electronic Engine Controls (DEEC)) ''specially designed'' for gas turbine engines controlled in this ECCN 9A619.

c. If ''specially designed'' for gas turbine engines controlled in 9A619.a, hot section components (*i.e.,* combustion chambers and liners; high pressure turbine blades, vanes, disks and related cooled structure; cooled low pressure turbine blades, vanes, disks and related cooled structure; cooled augmenters; and cooled nozzles);

d. If ''specially designed'' for gas turbine engines controlled in 9A619.a, uncooled turbine blades, vanes, disks, and tip shrouds;

e. If ''specially designed'' for gas turbine engines controlled in 9A619.a, combustor cowls, diffusers, domes, and shells;

f. Engine monitoring systems (*i.e.,* those that conduct prognostics, diagnostics, and monitor health) ''specially designed'' for gas turbine engines and components controlled in this ECCN 9A619.

g. through w. [Reserved]

x. Parts,'' ''components,'' ''accessories,'' and ''attachments'' that are ''specially designed'' for a commodity controlled by this ECCN 9A619 (other than ECCN 9A619.c) or for a defense article enumerated in USML Category XIX and not specified elsewhere on the USML or in ECCN 3A611.y, 9A610.y or 9A619.y.

Note to paragraph .x: ''Parts,'' ''components,'' ''accessories,'' and ''attachments'' specified in USML subcategory XIX(f) are subject to the controls of that paragraph. ''Parts,'' ''components,'' ''accessories,'' and ''attachments'' specified in ECCN 3A611.y, 9A610.y or 9A619.y are subject to the controls of that paragraph.

y. Specific ''parts,'' ''components,'' ''accessories,'' and ''attachments'' ''specially designed'' for a commodity subject to control in this entry, ECCN 9A610, or for a defense article in USML Category VIII or Category XIX and not elsewhere specified on the USML or in the CCL, and other commodities, as follows, and ''parts,'' ''components,'' ''accessories,'' and ''attachments'' ''specially designed'' therefor:

y.1. Oil tank and reservoirs;

y.2. Oil lines and tubes;

y.3. Fluid hoses, and lines (for a commodity subject to control in this entry or a defense article in USML Category XIX), fittings, couplings, and brackets therefor;

y.4. Fluid filters and filter assemblies;

y.5. Clamps (for a commodity subject to control in this entry or a defense article in USML Category XIX);

y.6. Shims;

y.7. Identification plates and nameplates;

y.8. Fluid manifolds; and

y.9. Check valves for fluid systems.

9A620 Cryogenic and "superconductive" equipment, as follows (see list of items controlled).

Reason for Control: NS, RS, AT, UN

Control(s)	Country chart (see Supp. No. 1 to part 738)
NS applies to entire entry	NS Column 1
RS applies to entire entry	RS Column 1
AT applies to entire entry	AT Column 1
UN applies to entire entry	See §746.1(b) for UN controls

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

LVS: $1500.

GBS: N/A

SPECIAL CONDITIONS FOR STA

STA: Paragraph (c)(2) of License Exception STA (§740.20(c)(2) of the EAR) may not be used for any item in 9A620.

LIST OF ITEMS CONTROLLED

Related Controls: Electronic items that are enumerated in USML Category XI or other USML categories, and technical data (including software) directly related thereto, are subject to the ITAR.

Related Definitions: N/A

Items: a. Equipment ''specially designed'' to be installed in a vehicle for military ground, marine, airborne, or space applications, and capable of operating while in motion and of producing or maintaining temperatures below 103 K (−170 °C).

Note to 9A620.a: ECCN 9A620.a includes mobile systems incorporating or employing ''accessories'' or ''components'' manufactured from non-metallic or non-electrical conductive materials such as plastics or epoxy-impregnated materials.

b. ''Superconductive'' electrical equipment (rotating machinery and transformers) ''specially designed'' to be installed in a vehicle for military ground, marine, airborne, or space applications, and capable of operating while in motion.

Note to 9A620.b: ECCN 9A620.b. does not control direct-current hybrid homopolar generators that have single-pole normal metal armatures which rotate in a magnetic field produced by superconducting windings, provided those windings are the only superconducting components in the generator.

c. through w. [Reserved].

x. ''Parts,'' ''components,'' ''accessories'' and ''attachments'' that are ''specially designed'' for a commodity controlled by ECCN 9A620.

9A980 Nonmilitary mobile crime science laboratories; and accessories, n.e.s.

Heading Note: In order for a vehicle to be classified as a nonmilitary mobile crime scene laboratory under ECCN 9A980, the vehicle must contain one or more analytical or laboratory items controlled for Crime Control (CC) reasons on the CCL, such as ECCNs 3A980 and 3A981.

LICENSE REQUIREMENTS

Reason for Control: CC

Control(s)	Country Chart (See Supp. No. 1 to part 738)
CC applies to entire entry	CC Column 1

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

LVS: N/A

GBS: N/A

LIST OF ITEMS CONTROLLED

Related Controls: N/A

Related Definitions: N/A

Items: The list of items controlled is contained in the ECCN heading.

9A990 Diesel engines, n.e.s., and tractors and "specially designed" "parts" and "components" therefor, n.e.s. (see List of Items Controlled).

LICENSE REQUIREMENTS

Reason for Control: AT

Control(s)	Country Chart (See Supp. No. 1 to part 738)
AT applies to entire entry except 9A990.a.	AT Column 1.
AT applies to 9A990.a only ...	AT Column 2.

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)
LVS: N/A
GBS: N/A
LIST OF ITEMS CONTROLLED
Related Controls: N/A
Related Definitions: N/A
Items: a. Diesel engines, n.e.s., for trucks, tractors, and automotive applications of continuous brake horsepower of 400 BHP (298 kW) or greater (performance based on SAE J1349 standard conditions of 100 Kpa and 25°)

b. Off highway wheel tractors of carriage capacity 9 mt (20,000 lbs) or more; and major ''components'' and accessories, n.e.s.

c. On-Highway tractors, with single or tandem rear axles rated for 9 mt per axel (20,000 lbs.) or greater and ''specially designed'' major ''components''.

9A991 "Aircraft," n.e.s., and gas turbine engines not controlled by 9A001 or 9A101 and "parts" and "components," n.e.s. (see List of Items Controlled).

LICENSE REQUIREMENTS
Reason for Control: AT, UN

Control(s)	Country Chart (See Supp. No. 1 to part 738)
AT applies to entire entry	AT Column 1.
UN applies to 9A991.a	See §746.1(b) for UN controls.

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)
LVS: N/A
GBS: N/A
LIST OF ITEMS CONTROLLED
Related Controls: N/A
Related Definitions: N/A
Items: a. Military aircraft, demilitarized (not specifically equipped or modified for military operation), as follows:

a.1 Cargo aircraft bearing ''C'' designations and numbered C–45 through C–118 inclusive, C–121 through C–125 inclusive, and C–131, using reciprocating engines only.

a.2 Trainer aircraft bearing ''T'' designations and using reciprocating engines or turboprop engines with less than 600 horsepower (s.h.p.).

a.3 Utility aircraft bearing ''U'' designations and using reciprocating engines only.

a.4 All liaison aircraft bearing an ''L'' designation.

a.5 All observation aircraft bearing ''O'' designations and using reciprocating engines.

b. Aircraft n.e.s.;

c. Aero gas turbine engines, and ''parts'' and ''components'' ''specially designed'' therefor.

Note: 9A991.c does not control aero gas turbine engines that are destined for use in civil ''aircraft'' and that have been in use in bona fide civil ''aircraft'' for more than eight years. If they have been in use in bona fide civil ''aircraft'' for more than eight years, such engines are controlled under 9A991.d.

d. ''Parts'' and ''components,'' ''specially designed'' for ''aircraft,'' n.e.s.

e. Pressurized aircraft breathing equipment, n.e.s.; *and* ''parts'' and ''components'' ''specially designed'' therefor, n.e.s.

9A992 Complete canopies, harnesses, and platforms and electronic release mechanisms therefor, except such types as are in normal sporting use.

LICENSE REQUIREMENTS
Reason for Control: AT

Control(s)	Country Chart (See Supp. No. 1 to part 738)
AT applies to entire entry	AT Column 1

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)
LVS: N/A
GBS: N/A
LIST OF ITEMS CONTROLLED
Related Controls: N/A
Related Definitions: N/A
Items: The list of items controlled is contained in the ECCN heading.

B. ''TEST'', ''INSPECTION'' AND ''PRODUCTION EQUIPMENT''

9B001 Manufacturing equipment, tooling or fixtures, as follows (See List of Items Controlled).

LICENSE REQUIREMENTS
Reason for Control: NS, MT, AT

Control(s)	Country chart (see Supp. No. 1 to part 738)
NS applies to entire entry	NS Column 1.
MT applies to equipment for engines controlled under 9A001 for MT reasons and for engines controlled under 9A101.	MT Column 1.
AT applies to entire entry	AT Column 1.

REPORTING REQUIREMENTS
See §743.1 of the EAR for reporting requirements for exports under License Exceptions, and Validated End-User authorizations.
LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)
LVS: $5000, except N/A for MT
GBS: Yes, except N/A for MT
SPECIAL CONDITIONS FOR STA
STA: License Exception STA may not be used to ship commodities in 9B001 to any of the destinations listed in Country Group A:6 (See Supplement No.1 to part 740 of the EAR).
LIST OF ITEMS CONTROLLED

Related Controls: For ''specially designed'' production equipment of systems, sub-systems, ''parts'' and ''components'' controlled by *9A005* to *9A009*, *9A011*, *9A101*, *9A105* to *9A109*, *9A111*, and *9A116* to *9A119* usable in ''missiles'' see *9B115*. See also *9B991*.
Related Definitions: N/A
Items:
a. Directional solidification or single crystal casting equipment designed for ''superalloys'';
b. Casting tooling, ''specially designed'' for manufacturing gas turbine engine blades, vanes or ''tip shrouds'', manufactured from refractory metals or ceramics, as follows:
b.1. Cores;
b.2. Shells (moulds);
b.3. Combined core and shell (mould) units;
c. Directional-solidification or single-crystal additive-manufacturing equipment designed for ''superalloys''.

9B002 On-line (real time) control systems, instrumentation (including sensors) or automated data acquisition and processing equipment, having all of the following (see List of Items Controlled).

LICENSE REQUIREMENTS
Reason for Control: NS, MT, AT

Control(s)	Country chart (see Supp. No. 1 to part 738)
NS applies to entire entry	NS Column 1
MT applies to equipment for engines controlled under 9A001 for MT reasons and for engines controlled under 9A101.	MT Column 1
AT applies to entire entry	AT Column 1

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)
LVS: $3,000, except N/A for MT
GBS: Yes, except N/A for MT
LIST OF ITEMS CONTROLLED
Related Controls: N/A
Related Definitions: N/A
Items: a. ''Specially designed'' for the ''development'' of gas turbine engines, assemblies, ''parts'' or ''components''; *and*
b. Incorporating any of the ''technologies'' controlled by 9E003.h or 9E003.i.

9B003 Equipment "specially designed" for the "production" or test of gas turbine brush seals designed to operate at tip speeds exceeding 335 m/s, and temperatures in excess of 773 K (500 °C), and "specially designed" "components" or "accessories" therefor.

LICENSE REQUIREMENTS
Reason for Control: NS, MT, AT

Control(s)	Country Chart (See Supp. No. 1 to part 738)
NS applies to entire entry	NS Column 1
MT applies to equipment for engines controlled under 9A001 for MT reasons and for engines controlled under 9A101.	MT Column 1
AT applies to entire entry	AT Column 1

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)
LVS: $5000, except N/A for MT
GBS: Yes, except N/A for MT
LIST OF ITEMS CONTROLLED
Related Controls: See also 9B115
Related Definitions: N/A
Items: The list of items controlled is contained in the ECCN heading.

9B004 Tools, dies or fixtures, for the solid state joining of "superalloy", titanium or intermetallic airfoil-to-disk combinations described in 9E003.a.3 or 9E003.a.6 for gas turbines.

Reason for Control: NS, MT, AT

Control(s)	Country Chart (See Supp. No. 1 to part 738)
NS applies to entire entry	NS Column 1
MT applies to equipment for engines controlled under 9A001 for MT reasons and for engines controlled under 9A101.	MT Column 1
AT applies to entire entry	AT Column 1

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)
LVS: $3000, except N/A for MT
GBS: Yes, except N/A for MT
LIST OF ITEMS CONTROLLED
Related Controls: N/A
Related Definitions: N/A
Items: The list of items controlled is contained in the ECCN heading.

9B005 On-line (real time) control systems, instrumentation (including sensors) or automated data acquisition and processing equipment, "specially designed" for use with any of the following (see List of Items Controlled).

Reason for Control: NS, AT

Control(s)	Country chart (see supp. No. 1 to part 738)
NS applies to entire entry	NS Column 1
AT applies to entire entry	AT Column 1

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)
LVS: N/A
GBS: N/A
LIST OF ITEMS CONTROLLED

Related Controls: See also 9B105.
Related Definitions: N/A
Items:

a. Wind tunnels designed for speeds of Mach 1.2 or more;

Note: 9B005.a does not control wind tunnels ''specially designed'' for educational purposes and having a 'test section size' (measured laterally) of less than 250 mm.

Technical Note: For the purposes of 9B005.a Note, 'test section size' means the diameter of the circle, or the side of the square, or the longest side of the rectangle, at the largest test section location.

b. Devices for simulating flow-environments at speeds exceeding Mach 5, including hot-shot tunnels, plasma arc tunnels, shock tubes, shock tunnels, gas tunnels and light gas guns; *or*

c. Wind tunnels or devices, other than two-dimensional sections, capable of simulating Reynolds number flows exceeding 25×10^6.

9B006 Acoustic vibration test equipment capable of producing sound pressure levels of 160 Db or more (referenced to 20 uPa) with a rated output of 4 kW or more at a test cell temperature exceeding 1,273 K (1,000 °C), and "specially designed" quartz heaters therefor.

LICENSE REQUIREMENTS
Reason for Control: NS, AT

Control(s)	Country Chart (See Supp. No. 1 to part 738)
NS applies to entire entry	NS Column 2
AT applies to entire entry	AT Column 1

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)
LVS: $3000
GBS: Yes
LIST OF ITEMS CONTROLLED
Related Controls: See also 9B106. Note that some items in 9B006 may also be controlled under 9B106
Related Definitions: N/A
Items: The list of items controlled is contained in the ECCN heading.

9B007 Equipment "specially designed" for inspecting the integrity of rocket motors and using Non-Destructive Test (NDT) techniques other than planar x-ray or basic physical or chemical analysis.

LICENSE REQUIREMENTS
Reason for Control: NS, MT, AT

Control(s)	Country Chart (See Supp. No. 1 to part 738)
NS applies to entire entry	NS Column 1
MT applies to entire entry	MT Column 1
AT applies to entire entry	AT Column 1

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)
LVS: N/A
GBS: N/A
LIST OF ITEMS CONTROLLED
Related Controls: N/A
Related Definitions: N/A
Items: The list of items controlled is contained in the ECCN heading.

9B008 Direct measurement wall skin friction transducers "specially designed" to operate at a test flow total (stagnation) temperature exceeding 833 K (560 °C)).

LICENSE REQUIREMENTS
Reason for Control: NS, AT

Control(s)	Country Chart (See Supp. No. 1 to part 738)
NS applies to entire entry	NS Column 2
AT applies to entire entry	AT Column 1

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)
LVS: $5000
GBS: N/A
LIST OF ITEMS CONTROLLED
Related Controls: N/A
Related Definitions: N/A
Items: The list of items controlled is contained in the ECCN heading.

9B009 Tooling "specially designed" for producing gas turbine engine powder metallurgy rotor "parts" or "components" having all of the following (see List of Items Controlled).

LICENSE REQUIREMENTS
Reason for Control: NS, AT

Control(s)	Country chart (see Supp. No. 1 to part 738)
NS applies to entire entry	NS Column 2
AT applies to entire entry	AT Column 1

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)
LVS: $5,000
GBS: N/A
LIST OF ITEMS CONTROLLED
Related Controls: See 9B002.
Related Definitions: N/A
Items: a. Designed to operate at stress levels of 60% of Ultimate Tensile Strength (UTS) or more measured at a temperature of 873 K (600 °C); *and*

b. Designed to operate at a temperature of 873 K (600 °C) or more.

Note: 9B009 does not specify tooling for the production of powder.

9B010 Equipment "Specially Designed" for the Production of Items Specified by 9A012.

LICENSE REQUIREMENTS
Reason for Control: NS, AT

Control(s)	Country Chart (See Supp. No. 1 to part 738)
NS applies to entire entry	NS Column 1.
AT applies to entire entry	AT Column 1.

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)
LVS: N/A
GBS: N/A
LIST OF ITEMS CONTROLLED
Related Controls: N/A
Related Definitions: N/A
Items: The list of items controlled is contained in the ECCN heading.

9B104 'Aerothermodynamic test facilities', usable for rockets, missiles, or unmanned aerial vehicles capable of achieving a "range" equal to or greater than 300 km and their subsystems, and having an electrical power supply equal to or greater than 5 MW or a gas supply total pressure equal to or greater than 3 MPa.

LICENSE REQUIREMENTS
Reasons for Control: MT, AT

Control(s)	Country Chart (See Supp. No. 1 to part 738)
MT applies to entire entry	MT Column 1.
AT applies to entire entry	AT Column 1.

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)
LVS: N/A
GBS: N/A
LIST OF ITEMS CONTROLLED
Related Controls: See ECCNs 9D101, 9E001 and 9E002.
Related Definitions: 'Aerothermodynamic test facilities' include plasma arc jet facilities and plasma wind tunnels for the study of thermal and mechanical effects of airflow on objects.
Items: The list of items controlled is contained in the ECCN heading.

9B105 'Aerodynamic test facilities' for speeds of Mach 0.9 or more, usable for rockets, missiles, or unmanned aerial vehicles capable of achieving a "range" equal to or greater than 300 km and their subsystems.

LICENSE REQUIREMENTS
Reason for Control: MT, AT

Control(s)	Country Chart (See Supp. No. 1 to part 738)
MT applies to entire entry	MT Column 1
AT applies to entire entry	AT Column 1

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)
LVS: N/A
GBS: N/A
LIST OF ITEMS CONTROLLED
Related Controls: See also 9B005
Related Definitions: N/A
Items: The list of items controlled is contained in the ECCN heading.

Note: 9B105 does not control wind tunnels for speeds of Mach 3 or less with the dimension of the 'test cross section size' equal to or less than 250 mm.

Technical Notes: 1. 'Aerodynamic test facilities' includes wind tunnels and shock tunnels for the study of airflow over objects.

2. 'Test cross section size' means the diameter of the circle, or the side of the square, or the longest side of the rectangle, or the major axis of the ellipse at the largest 'test cross section' location. 'Test cross section' is the section perpendicular to the flow direction.

9B106 Environmental chambers usable for rockets, missiles, or unmanned aerial vehicles capable of achieving a "range" equal to or greater than 300 km and their subsystems, as follows (see List of Items Controlled).

LICENSE REQUIREMENTS
Reason for Control: MT, AT

Control(s)	Country Chart (See Supp. No. 1 to part 738)
MT applies to entire entry	MT Column 1
AT applies to entire entry	AT Column 1

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)
LVS: N/A
GBS: N/A
LIST OF ITEMS CONTROLLED
Related Controls: N/A
Related Definitions: N/A
Items: a. Environmental chambers having all of the following characteristics:

a.1. Capable of simulating any of the following flight conditions:

a.1.a. Altitude equal to or greater than 15,000 m; or

a.1.b. Temperature range from below −50 °C to above 125 °C; and

a.2. Incorporating, or designed or modified to incorporate, a shaker unit or other vibration test equipment to produce vibration environments equal to or greater than 10 g rms, measured 'bare table,' between 20 Hz and 2 kHz while imparting forces equal to or greater than 5 kN;

Technical Notes: 1. Item 9B106.a.2 describes systems that are capable of generating a vibration environment with a single wave (e.g., a sine wave) and systems capable of generating a broad band random vibration (i.e., power spectrum).

2. The term 'bare table' means a flat table, or surface, with no fixture or fittings.

3. In Item 9B106.a.2, designed or modified means the environmental chamber provides appropriate interfaces (e.g., sealing devices) to incorporate a shaker unit or other vibration test equipment as specified in this Item.

b. Environmental chambers capable of simulating all of the following flight conditions:

b.1. Acoustic environments at an overall sound pressure level of 140 dB or greater (referenced to 2×10^{-5} N/m^2) or with a total rated acoustic power output of 4kW or greater; and

b.2. Any of the following:

b.2.a. Altitude equal to or greater than 15,000 m; or

b.2.b. Temperature range of at least −50 °C to + 125 °C.

9B115 "Specially designed" production "equipment" for systems, sub-systems and "components" controlled by ECCN 9A101 or by USML Category IV(d)(2), (d)(3), (d)(4), or (h)(17).

LICENSE REQUIREMENTS

Reason for Control: MT, AT

Control(s)	Country Chart (See Supp. No. 1 to part 738)
MT applies to entire entry	MT Column 1
AT applies to entire entry	AT Column 1

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

LVS: N/A

GBS: N/A

LIST OF ITEMS CONTROLLED

Related Controls: (1) Although items described in USML Category IV(d)(2), (d)(3), (d)(4), or (h)(17) are ''subject to the ITAR'' (see 22 CFR parts 120 through 130), the production ''equipment'' controlled in this entry that is related to these items is subject to the export licensing authority of BIS. (2) ''Specially designed'' production ''equipment'' for systems, sub-systems, and ''components'' described in USML Category IV(d)(1), (d)(7), (h)(1), (h)(4), (h)(6), (h)(7), (h)(8), (h)(9), (h)(11), (h)(20), (h)(21), (h)(26), or (h)(28) are controlled by ECCN 9B604. (3) See ECCN 0A919 for foreign-made ''military commodities'' that incorporate more than a *de minimis* amount of US-origin ''600 series'' controlled content.

Related Definitions: NA

Items: The list of items controlled is contained in the ECCN heading.

9B116 "Specially designed" "production facilities" for systems, sub-systems, and "components" controlled by ECCN 9A012 (applies to MT-controlled items only) or 9A101 or by USML Category IV(d)(2), (d)(3), (d)(4), or (h)(17).

LICENSE REQUIREMENTS

Reason for Control: MT, AT

Control(s)	Country Chart (See Supp. No. 1 to part 738)
MT applies to entire entry	MT Column 1
AT applies to entire entry	AT Column 1

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

LVS: N/A

GBS: N/A

LIST OF ITEMS CONTROLLED

Related Controls: (1) Although items described in USML Category IV(d)(2), (d)(3), (d)(4), or (h)(17) are ''subject to the ITAR'' (see 22 CFR parts 120 through 130), the ''production facilities'' controlled in this entry that are related to these items are subject to the export licensing authority of BIS. (2) ''Specially designed'' ''production facilities'' for systems, sub-systems, and ''components'' described in USML Category IV(d)(1), (d)(7), (h)(1), (h)(4), (h)(6), (h)(7), (h)(8), (h)(9), (h)(11), (h)(20), (h)(21), (h)(26), or (h)(28) are controlled by ECCN 9B604. (3) See ECCN 0A919 for foreign-made ''military commodities'' that incorporate more than a *de minimis* amount of US-origin ''600 series'' controlled content.

Related Definitions: NA

Items: The list of items controlled is contained in the ECCN heading.

9B117 Test Benches and Test Stands for Solid or Liquid Propellant Rockets, Motors or Rocket Engines, Having Either of the Following Characteristics (see List of Items Controlled).

LICENSE REQUIREMENTS

Reason for Control: MT, AT

Control(s)	Country Chart (See Supp. No. 1 to part 738)
MT applies to entire entry	MT Column 1
AT applies to entire entry	AT Column 1

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

LVS: N/A

GBS: N/A

LIST OF ITEMS CONTROLLED

Related Controls: See also 9B990

Related Definitions: N/A

Items: a. The capacity to handle solid or liquid propellant rocket motors or rocket engines having a thrust greater than 68 kN; or

b. Capable of simultaneously measuring the three axial thrust components.

9B515 Test, inspection, and production "equipment" "specially designed" for "spacecraft" and related commodities, as follows (see List of Items Controlled).

LICENSE REQUIREMENTS

Reason for Control: NS, MT, RS, AT

Control(s)	Country chart (see supp. no. 1 to part 738)
NS applies to entire entry	NS Column 1.
MT applies to equipment in 9B515.a for the ''development'' or ''production'' of commodities in USML Category XV(e)(12) and XV(e)(19) that are MT controlled.	MT Column 1.
RS applies to entire entry	RS Column 1.
AT applies to entire entry	AT Column 1.

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

LVS: $1500; $5000 for 9B515.b

GBS: N/A

SPECIAL CONDITIONS FOR STA

STA: Paragraph (c)(2) of License Exception STA (§740.20(c)(2) of the EAR) may not be used for any item in 9B515.

LIST OF ITEMS CONTROLLED

Related Controls: N/A

Related Definitions: N/A

Items: a. Test, inspection, and production ''equipment'' ''specially designed'' for the ''production'' or ''development'' of commodities enumerated in ECCNs 9A004.u, 9A515.a, or USML Category XV(a) or XV(e).

Note: ECCN 9B515.a includes equipment, cells, and stands ''specially designed'' for the analysis or isolation of faults in commodities enumerated in ECCNs 9A004.u or 9A515.a, or USML Category XV(a) or XV(e).

b. Environmental test chambers capable of pressures below (10^{-4}) Torr, and ''specially designed'' for commodities enumerated in 9A515.a or USML Category XV(a).

9B604 Test, inspection, and production ''equipment'' and related commodities ''specially designed'' for the ''development,'' ''production,'' repair, overhaul, or refurbishing of commodities in ECCN 9A604 or related defense articles in USML Category IV (see List of Items Controlled).

LICENSE REQUIREMENTS

Reason for Control: NS, RS, MT, AT, UN

Control(s)	Country chart (See Supp. No. 1 to part 738)
NS applies to entire entry	NS Column 1
RS applies to entire entry	RS Column 1
MT applies to 9B604.a and .b and to 9B604.d ''specially designed'' ''production facilities'' or production ''equipment'' for defense articles identified as MTCR Annex items in USML Category IV(d)(1), (h)(1), (h)(4), (h)(6), (h)(7), (h)(8), (h)(9), (h)(11), (h)(20), (h)(21), or (h)(26).	MT Column 1
AT applies to entire entry	AT Column 1
UN applies to entire entry	See §746.1(b) for UN controls

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

LVS: $1,500

GBS: N/A

SPECIAL CONDITIONS FOR STA

STA: Paragraph (c)(2) of License Exception STA (§740.20(c)(2) of the EAR) may not be used for any item in this ECCN 9B604.

LIST OF ITEMS CONTROLLED

Related Controls: (1) ''Production facilities'' for the ''production'' or ''development'' of commodities enumerated or otherwise described in ECCN 9A012 or 9A101 or in USML Category IV(d)(2), (d)(3), (d)(4), or (h)(17) are controlled by ECCN 9B116. (2) Test, inspection, and other production ''equipment'' ''specially designed'' for the ''production'' or ''development'' of commodities enumerated or otherwise described in ECCN 9A101 or in USML Category IV(d)(2), (d)(3), (d)(4), or (h)(17) are controlled by ECCN 9B115. (3) See ECCN 0A919 for foreign-made ''military commodities'' that incorporate more than a *de minimis* amount of US-origin ''600 series'' controlled content.

Related Definitions: N/A

Items: a. ''Production facilities'' ''specially designed'' for items that are controlled by USML Category IV(a)(1) or (a)(2).

b. Test, calibration, and alignment equipment ''specially designed'' for items that are controlled by USML Category IV(h)(28).

c. Test, inspection, and other production ''equipment'' that is ''specially designed'' for the ''development,'' ''production,'' repair, overhaul, or refurbishing of commodities described in ECCN 9A604, or defense articles controlled under USML Category IV, and not specified in ECCN 0B604.a or in ECCN 9B604.a, .b, or .d.

d. ''Specially designed'' ''production facilities'' or production ''equipment'' for systems, sub-systems, and ''components'' controlled by USML Category IV(d)(1), (d)(7), (h)(1), (h)(4), (h)(6), (h)(7), (h)(8), (h)(9), (h)(11), (h)(20), (h)(21), (h)(26), or (h)(28).

e. through w. [Reserved]

x. ''Parts,'' ''components,'' ''accessories,'' and ''attachments'' that are ''specially designed'' for a commodity subject to control in paragraph .a or .b of this ECCN.

9B610 Test, inspection, and production ''equipment'' and related commodities ''specially designed'' for the ''development'' or ''production'' of commodities enumerated or otherwise described in ECCN 9A610 or USML Category VIII (see List of Items Controlled).

LICENSE REQUIREMENTS
Reason for Control: NS, RS, MT, AT, UN

Control(s)	Country Chart (See Supp. No. 1 to part 738)
NS applies to entire entry except 9B610.c.	NS Column 1
RS applies to entire entry	RS Column 1
MT applies to 9B610.c	MT Column 1
AT applies to entire entry	AT Column 1
UN applies to entire entry	See §746.1(b) for UN controls

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)
LVS: $1500
GBS: N/A
SPECIAL CONDITIONS FOR STA
STA: Paragraph (c)(2) of License Exception STA (§740.20(c)(2) of the EAR) may not be used for any item in 9B610.
LIST OF ITEMS CONTROLLED
Related Controls: USML Category VIII(h)(1) controls ''parts,'' ''components,'' ''accessories,'' and ''attachments'' ''specially designed'' for the aircraft enumerated or otherwise described in Category VIII(h)(1), but does not control the commodities enumerated or otherwise described in ECCN 9B610. USML Category VIII(h)(2)–(28) controls other aircraft ''parts,'' ''components,'' ''accessories,'' ''attachments,'' and ''systems.''
Related Definitions: N/A
Items: a. Test, inspection, and production ''equipment'' ''specially designed'' for the ''production,'' ''development,'' operation, installation, maintenance, repair, overhaul, or refurbishing of commodities enumerated or otherwise described in ECCN 9A610 (except 9A610.y) or USML Category VIII, and ''parts,'' ''components,'' ''accessories,'' and ''attachments'' ''specially designed'' therefor.

b. Environmental test facilities ''specially designed'' for the certification, qualification, or testing of commodities enumerated or otherwise described in ECCN 9A610 (except for 9A610.y) or USML Category VIII and ''parts,'' ''components,'' ''accessories,'' and ''attachments'' ''specially designed'' therefor.

c. ''Production facilities'' designed or modified for UAVs or drones that are (i) controlled by either USML paragraph VIII(a) or ECCN 9A610.a and (ii) capable of a range equal to or greater than 300 km.

9B619 Test, inspection, and production "equipment" and related commodities "specially designed" for the "development" or "production" of commodities enumerated or otherwise described in ECCN 9A619 or USML Category XIX (see List of Items Controlled).

LICENSE REQUIREMENTS
Reason for Control: NS, RS, AT, UN

Control(s)	Country chart (see Supp. No. 1 to part 738)
NS applies to entire entry except 9B619.y.	NS Column 1.
RS applies to entire entry except 9B619.y.	RS Column 1.
RS applies to 9B619.y	China, Russia, or Venezuela (see §742.6(a)(7)).
AT applies to entire entry	AT Column 1.
UN applies to entire entry except 9B619.y.	See §746.1(b) for UN controls.

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)
LVS: $1,500
GBS: N/A
SPECIAL CONDITIONS FOR STA
STA: Paragraph (c)(2) of License Exception STA (§740.20(c)(2) of the EAR) may not be used for any item in ECCN 9B619.
LIST OF ITEMS CONTROLLED
Related Controls: USML Category XIX(f)(1) controls ''parts,'' ''components,'' ''accessories,'' and ''attachments'' ''specially designed'' for the engines described in Category XIX(f)(1), but does not control the commodities enumerated or otherwise described in ECCN 9B619. USML Category XIX(f)(2)–(11) controls other engine ''parts,'' ''components,'' ''accessories,'' ''attachments,'' and ''systems.''
Related Definitions: N/A
Items:

a. Test, inspection, and production ''equipment'' ''specially designed'' for the ''production,'' ''development,'' operation, installation, maintenance, repair, overhaul, or refurbishing of commodities enumerated or otherwise described in ECCN 9A619 (except for 9A619.y) or in USML Category XIX, and ''parts,'' ''components,'' ''accessories,'' and ''attachments'' ''specially designed'' therefor.

b. Equipment, cells, or stands ''specially designed'' for testing, analysis and fault isolation of engines, ''systems,'' ''components,'' ''parts,'' ''accessories,'' and ''attachments'' enumerated or otherwise described in ECCN 9A619 (except for 9A619.y) on the CCL or in Category XIX on the USML.

c. through x. [Reserved]

y. Bearing pullers ''specially designed'' for the ''production'' or ''development'' of commodities enumerated or otherwise described in ECCN 9A619 (except for 9A619.y) or USML Category XIX and ''parts,'' ''components,'' ''accessories,'' and ''attachments'' ''specially designed'' therefor.

9B620 Test, inspection, and production commodities for cryogenic and "superconductive" equipment (see List of Items controlled).

LICENSE REQUIREMENTS
Reason for Control: NS, RS, AT, UN

Control(s)	Country chart (see Supp. No. 1 to part 738)
NS applies to entire entry	NS Column 1
RS applies to entire entry	RS Column 1
AT applies to entire entry	AT Column 1
UN applies to entire entry	See §746.1(b) for UN controls

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)
LVS: $1500.
GBS: N/A
SPECIAL CONDITIONS FOR STA
STA: Paragraph (c)(2) of License Exception STA (§740.20(c)(2) of the EAR) may not be used for any item in 9B620.
LIST OF ITEMS CONTROLLED
Related Controls: N/A
Related Definitions: N/A
Items: a. Test, inspection, and production end items and equipment ''specially designed'' for the ''development,'' ''production,'' repair, overhaul or refurbishing of items controlled in ECCN 9A620.
b. [Reserved]

9B990 Vibration test equipment and "specially designed" "parts" and "components," n.e.s.
LICENSE REQUIREMENTS
Reason for Control: AT

Control(s)	Country Chart (See Supp. No. 1 to part 738)
AT applies to entire entry	AT Column 1

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)
LVS: N/A
GBS: N/A
LIST OF ITEMS CONTROLLED
Related Controls: N/A
Related Definitions: N/A
Items: The list of items controlled is contained in the ECCN heading.

9B991 "Specially designed" "equipment," tooling or fixtures, not controlled by 9B001, for manufacturing or measuring gas turbine blades, vanes or tip shroud castings, as follows (see List of Items Controlled).
LICENSE REQUIREMENTS
Reason for Control: AT

Control(s)	Country Chart (See Supp. No. 1 to part 738)
AT applies to entire entry	AT Column 1

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)
LVS: N/A
GBS: N/A
LIST OF ITEMS CONTROLLED
Related Controls: N/A
Related Definitions: N/A
Items: a. Automated equipment using non-mechanical methods for measuring airfoil wall thickness;
b. Tooling, fixtures or measuring equipment for the ''laser'', water jet or ECM/EDM hole drilling processes controlled by 9E003.c;
c. Ceramic core leaching equipment;
d. Ceramic core manufacturing equipment or tools;
e. Ceramic shell wax pattern preparation equipment;
f. Ceramic shell burn out or firing equipment.

C. ''MATERIALS''

9C110 Resin impregnated fiber prepregs and metal coated fiber preforms therefor, for composite structures, laminates and manufactures specified in 9A110, made either with organic matrix or metal matrix utilizing fibrous or filamentary reinforcements having a "specific tensile strength" greater than 7.62×10^4 m and a "specific modulus" greater than 3.18×10^6 m.
LICENSE REQUIREMENTS
Reason for Control: MT, AT

Control(s)	Country Chart (See Supp. No. 1 to part 738)
MT applies to entire entry	MT Column 1
AT applies to entire entry	AT Column 1

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)
LVS: N/A
GBS: N/A
LIST OF ITEMS CONTROLLED
Related Controls: (1) See also 1C010 and 1C210.c.
(2) The only resin impregnated fiber prepregs controlled by entry 9C110 are those using resins with a glass transition temperature (T_g), after cure, exceeding 418 K (145 °C) as determined by ASTM D4065 or national equivalents.
Related Definitions: N/A
Items: The list of items controlled is contained in the ECCN heading.

9C610 Materials "specially designed" for commodities controlled by USML Category VIII or ECCN 9A610 and not elsewhere specified in the CCL or the USML (see List of Items Controlled).
LICENSE REQUIREMENTS
Reason for Control: NS, RS, AT, UN

Control(s)	Country Chart (See Supp. No. 1 to part 738)
NS applies to entire entry	NS Column 1
RS applies to entire entry	RS Column 1
AT applies to entire entry	AT Column 1
UN applies to entire entry	See §746.1(b) for UN controls

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

LVS: $1500

GBS: N/A

SPECIAL CONDITIONS FOR STA

STA: Paragraph (c)(2) of License Exception STA (§740.20(c)(2) of the EAR) may not be used for any item in 9C610.

LIST OF ITEMS CONTROLLED a. Materials not elsewhere specified in the USML or the CCL and ''specially designed'' for commodities enumerated or otherwise described in USML Category VIII or ECCN 9A610 (except 9A610.y).

Note 1: Materials enumerated elsewhere in the CCL, such as in a CCL Category 1 ECCN, are controlled pursuant to controls of the applicable ECCN.

Note 2: Materials ''specially designed'' for both aircraft enumerated in USML Category VIII and aircraft enumerated in ECCN 9A610 are subject to the controls of this ECCN.

b. [Reserved]

9C619 Materials "specially designed" for commodities controlled by USML Category XIX or ECCN 9A619 and not elsewhere specified in the CCL or on the USML (see List of Items Controlled).

LICENSE REQUIREMENTS

Reason for Control: NS, RS, AT, UN

Control(s)	Country Chart (See Supp. No. 1 to part 738)
NS applies to entire entry	NS Column 1
RS applies to entire entry	RS Column 1
AT applies to entire entry	AT Column 1
UN applies to entire entry	See §746.1(b) for UN controls

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

LVS: $1,500

GBS: N/A

SPECIAL CONDITIONS FOR STA

STA: Paragraph (c)(2) of License Exception STA (§740.20(c)(2) of the EAR) may not be used for any item in ECCN 9C619.

LIST OF ITEMS CONTROLLED

Related Controls: (1) See USML subcategory XIII(f) for controls on structural materials specifically designed, developed, configured, modified, or adapted for defense articles, such as USML Category XIX engines. (2) See ECCN 0A919 for foreign made ''military commodities'' that incorporate more than a *de minimis* amount of U.S.-origin ''600 series'' controlled content.

Related Definitions: N/A

Items: a. Materials not controlled by paragraph .b of this entry and not elsewhere specified in the CCL or on the USML, and ''specially designed'' for commodities enumerated or otherwise described in USML Category XIX or ECCN 9A619 (except 9A619.y).

b. Materials ''specially designed'' for use in certain gas turbine engines, as follows:

b.1. Powders ''specially designed'' for thermal or environmental barrier coating of defense articles enumerated or described in USML Category XIX paragraphs (f)(1)–(f)(4) for engines listed in (f)(1);

b.2. Superalloys (*i.e.*, nickel, cobalt or iron based), used in directionally solidified or single crystal casting, ''specially designed'' for defense articles enumerated or described in USML Category XIX paragraphs (f)(1)–(f)(4) for engines listed in paragraph (f)(1); or

b.3. Imide matrix, metal matrix, or ceramic matrix composite material (*i.e.*, reinforcing fiber combined with a matrix) ''specially designed'' for defense articles enumerated or described in USML Category XIX paragraphs (f)(1)–(f)(4) for engines listed in paragraph (f)(1).

Note 1: Materials enumerated elsewhere in the CCL, such as in a CCL Category 1 ECCN, are controlled pursuant to the controls of the applicable ECCN.

Note 2: Materials described in paragraph .a of this entry that are ''specially designed'' for both an engine enumerated in USML Category XIX and an engine enumerated in ECCN 9A619 are subject to the controls of this ECCN 9C619.

Note 3: Materials described in this entry that are or have been used in gas turbine engines in production (i.e., not in development) that are not enumerated or otherwise described on the USML or ECCN 9A619 are not controlled by this entry.

D. ''SOFTWARE''

9D001 "Software", not specified in 9D003 or 9D004, "specially designed" or modified for the "development" of equipment or "technology" controlled by ECCN 9A001 to 9A004, 9A012, 9A101 (except for items in 9A101.b that are "subject to the ITAR", see 22 CFR part 121), 9A106.d. or .e, 9A110, or 9A120, 9B (except for ECCNs 9B604, 9B610, 9B619, 9B990, and 9B991), or ECCN 9E003.

LICENSE REQUIREMENTS

Reason for Control: NS, MT, AT

Control(s)	Country chart (see Supp. No. 1 to part 738)
NS applies to ''software'' for equipment controlled by 9A001 to 9A004, 9A012, 9B001 to 9B010, and technology controlled by 9E003.	NS Column 1
MT applies to ''software'' for equipment controlled by 9B116 for MT reasons.	MT Column 1
AT applies to entire entry	AT Column 1

REPORTING REQUIREMENTS

See §743.1 of the EAR for reporting requirements for exports under License Exceptions, and Validated End-User authorizations.

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

TSR: N/A

SPECIAL CONDITIONS FOR STA

STA: License Exception STA may not be used to ship or transmit ''software'' ''specially designed'' or modified for the ''development'' of equipment or ''technology'', specified by ECCNs 9B001.b. or 9E003.a.1, 9E003.a.2 to a.5, 9E003.a.8, or 9E003.h to any of the destinations listed in Country Group A:6 (See Supplement No.1 to part 740 of the EAR).

LIST OF ITEMS CONTROLLED

Related Controls: ''Software'' that is ''required'' for the ''development'' of items specified in ECCNs 9A005 to 9A011, 9A101.b (except for items that are subject to the EAR), 9A103 to 9A105, 9A106.a, .b, and .c, 9A107 to 9A109, 9A110 (for items that are ''specially designed'' for use in missile systems and subsystems), and 9A111 to 9A119 is ''subject to the ITAR''.

Related Definitions: N/A

Items: The list of items controlled is contained in the ECCN heading.

9D002 "Software", not specified in 9D003 or 9D004, "specially designed" or modified for the "production" of equipment controlled by ECCN 9A001 to 9A004, 9A012, 9A101 (except for items in 9A101.b that are "subject to the ITAR", see 22 CFR part 121), 9A106.d or .e, 9A110, or 9A120, 9B (except for ECCNs 9B604, 9B610, 9B619, 9B990, and 9B991).

LICENSE REQUIREMENTS

Reason for Control: NS, MT, AT

Control(s)	Country chart (see Supp. No. 1 to part 738)
NS applies to ''software'' for equipment controlled by 9A001 to 9A004, 9A012, 9B001 to 9B010.	NS Column 1
MT applies to ''software'' for equipment controlled by 9B116 for MT reasons.	MT Column 1
AT applies to entire entry	AT Column 1

REPORTING REQUIREMENTS

See §743.1 of the EAR for reporting requirements for exports under License Exceptions, and Validated End-User authorizations.

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

TSR: N/A.

SPECIAL CONDITIONS FOR STA

STA: License Exception STA may not be used to ship or transmit ''software'' ''specially designed'' or modified for the ''production'' of equipment specified by 9B001.b to any of the destinations listed in Country Group A:6 (See Supplement No.1 to part 740 of the EAR).

LIST OF ITEMS CONTROLLED

Related Controls: ''Software'' that is ''required'' for the ''production'' of items specified in ECCNs 9A005 to 9A011, 9A101.b (except for items that are subject to the EAR), 9A103 to 9A105, 9A106.a, .b, and .c, 9A107 to 9A109, 9A110 (for items that are ''specially designed'' for use in missile systems and subsystems), and 9A111 to 9A119 is ''subject to the ITAR''.

Related Definitions: N/A

Items: The list of items controlled is contained in the ECCN heading.

9D003 "Software" Incorporating "Technology" Specified by ECCN 9E003.h and Used in "FADEC Systems" for Systems Controlled by ECCN 9A001 to 9A003, 9A101 (Except for Items in 9A101.b That Are "Subject to the ITAR", See 22 CFR Part 121), 9A106.d or .e, or 9B (Except for ECCNs 9B604, 9B610, 9B619, 9B990, and 9B991).

LICENSE REQUIREMENTS

Reason for Control: NS, MT, AT

Control(s)	Country Chart (See Supp. No. 1 to part 738)
NS applies to ''software'' for ''use'' of ''FADEC systems'' for equipment controlled by 9A001 to 9A003.	NS Column 1.
MT applies to ''software'' required for the ''use'' of ''FADEC systems'' for gas turbine engines controlled by 9A101, or 9A106..	MT Column 1.
AT applies to entire entry	AT Column 1.

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

TSR: Yes, except N/A for MT

LIST OF ITEMS CONTROLLED

Related Controls: (1) See also 9D103. (2) ''Software'' ''required'' for the ''use'' of equipment specified in ECCNs 9A004 (except for items that are subject to the EAR), 9A005 to 9A011, 9A101.b (except for items that are subject to the EAR), 9A103 to 9A105, 9A106.a, .b, and .c, 9A107 to 9A109, 9A110 (for items that are ''specially designed'' for use in missile systems and subsystems), and 9A111 to 9A119 is ''subject to the ITAR'' (see 22 CFR parts 120 through 130). (3) ''Software'' directly related to defense articles that are ''subject to the ITAR'' (see 22 CFR parts 120 through 130) is also ''subject to the ITAR'' (see 22 CRR parts 120 through 130).

Related Definitions: N/A

Items: The list of items controlled is contained in the ECCN heading.

9D004 Other "software" as follows (see List of Items Controlled).

LICENSE REQUIREMENTS

Reason for Control: NS, AT

Control(s)	Country chart (see Supp. No. 1 to part 738)
NS applies to entire entry	NS Column 1
AT applies to entire entry	AT Column 1

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

TSR: N/A.

SPECIAL CONDITIONS FOR STA

STA: License Exception STA may not be used to ship or transmit software in 9D004.a and 9D004.c to any of the destinations listed in Country Group A:6 (See Supplement No.1 to part 740 of the EAR)

LIST OF ITEMS CONTROLLED

Related Controls: See also 9D104.

Related Definitions: N/A

Items: a. 2D or 3D viscous ''software'', validated with wind tunnel or flight test data required for detailed engine flow modelling;

b. ''Software'' for testing aero gas turbine engines, assemblies, ''parts'' or ''components'', having all of the following:

b.1. ''Specially designed'' for testing any of the following:

b.1.a. Aero gas turbine engines, assemblies or components, incorporating ''technology'' specified by 9E003.a, 9E003.h or 9E003.i; *or*

b.1.b. Multi-stage compressors providing either bypass or core flow, specially designed for aero gas turbine engines incorporating ''technology'' specified by 9E003.a or 9E003.h; *and*

b.2. ''Specially designed'' for all of the following:

b.2.a. Acquisition and processing of data, in real time; *and*

b.2.b. Feedback control of the test article or test conditions (*e.g.,* temperature, pressure, flow rate) while the test is in progress;

Note: 9D004.b does not specify software for operation of the test facility or operator safety (e.g., overspeed shutdown, fire detection and suppression), or production, repair or maintenance acceptance-testing limited to determining if the item has been properly assembled or repaired.

c. ''Software'' ''specially designed'' to control directional solidification or single crystal material growth in equipment specified by 9B001.a or 9B001.c;

d. [Reserved]

e. ''Software'' ''specially designed'' or modified for the operation of items specified by 9A012;

f. ''Software'' ''specially designed'' to design the internal cooling passages of aero gas turbine engine blades, vanes and ''tip shrouds'';

g. ''Software'' having all of the following:

g.1. ''Specially designed'' to predict aero thermal, aeromechanical and combustion conditions in aero gas turbine engines; *and*

g.2. Theoretical modeling predictions of the aero thermal, aeromechanical and combustion conditions, which have been validated with actual turbine engine (experimental or production) performance data.

9D005 "Software" Specially Designed or Modified for the Operation of Items Specified by 9A004.e or 9A004.f. (This "Software" Is Controlled by ECCN 9D515.)

9D018 "Software" for the "use" of equipment controlled by 9A018.

(a) See ECCN 9D610 for ''software'' related to aircraft, refuelers, ground equipment, parachutes, harnesses, instrument flight trainers and ''parts'', ''accessories,'' and ''attachments'' for the forgoing that, immediately prior to October 15, 2013, were classified under 9A018.a.1, .a.3, .c, .d, .e, or .f.

(b) See ECCN 9D619 for ''software'' related to military trainer aircraft turbo prop engines and ''parts'' and ''components'' therefor that, immediately prior to October 15, 2013, were classified under ECCN 9A018.a.2 or .a.3.

(c) Software related to certain armored ground transport vehicles that prior to January 6, 2014 were classified under ECCN 9A018.b is EAR99 (See 0D606).

9D101 "Software" "specially designed" or modified for the "use" of commodities controlled by 9B104, 9B105, 9B106, 9B116, or 9B117.

LICENSE REQUIREMENTS

Reason for Control: MT, AT

Control(s)	Country Chart (See Supp. No. 1 to part 738)
MT applies to entire entry	MT Column 1
AT applies to entire entry	AT Column 1

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

TSR: N/A

LIST OF ITEMS CONTROLLED

Related Controls: (1) See ECCN 9D610 for ''software'' related to aircraft, refuelers, ground equipment, parachutes, harnesses, instrument flight trainers and ''parts,'' ''accessories,'' and ''attachments'' for the forgoing that, immediately prior to October 15, 2013, were classified under 9A018.a.1, .a.3, .c, .d, .e, or .f. (2) See ECCN 9D619 for ''software'' related to military trainer aircraft turbo prop engines and ''parts'' and ''components'' therefor that, immediately prior to October 15, 2013, were classified under ECCN 9A018.a.2 or .a.3.

Related Definitions: N/A

Items: The list of items controlled is contained in the ECCN heading.

9D103 "Software" "specially designed" for modelling, simulation or design integration of "missiles," or the subsystems controlled by 9A005, 9A007, 9A009, 9A105, 9A106, 9A107, 9A108, 9A109, 9A116 or 9A119. (This entry is "subject to the ITAR." See 22 CFR parts 120 through 130.)

9D104 "Software" specially designed or modified for the "use" of equipment controlled by ECCN 9A001, 9A012 (for MT controlled items only), 9A101 (except for items in 9A101.b that are "subject to the ITAR", see 22 CFR part 121), or 9A106.d.

LICENSE REQUIREMENTS

Reason for Control: MT, AT

Control(s)	Country Chart (See Supp. No. 1 to part 738)
MT applies to entire entry	MT Column 1
AT applies to entire entry	AT Column 1

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

TSR: N/A

LIST OF ITEMS CONTROLLED

Related Controls: ''Software'' for commodities specified in ECCNs 9A005 to 9A011, 9A103 to 9A105, 9A101.b (except for items that are subject to the EAR), 9A106.a, .b, and .c, 9A107 to 9A109, 9A111, 9A115 to 9A118 is ''subject to the ITAR'' (see 22 CFR parts 120 through 130).

Related Definitions: N/A

Items: The list of items controlled is contained in the ECCN heading.

Note: For a manned aircraft converted to operate as an unmanned aerial vehicle specified in 9A012 and controlled for MT reasons, 9D104 includes ''software'', as follows:

a. ''Software'' ''specially designed'' or modified to integrate the conversion equipment with the aircraft system functions;

b. ''Software'' ''specially designed'' or modified to operate the aircraft as an unmanned aerial vehicle.

9D105 "Software" that coordinates the function of more than one subsystem, "specially designed" or modified for "use" in rockets, missiles, or unmanned aerial vehicles capable of achieving a "range" equal to or greater than 300 km. (These items are "subject to the ITAR." See 22 CFR parts 120 through 130.)

9D515 "Software" "specially designed" for the "development," "production," operation, installation, maintenance, repair, overhaul, or refurbishing of "spacecraft" and related commodities, as follows (see List of Items Controlled).

LICENSE REQUIREMENTS

Reason for Control: NS, RS, AT

Control(s)	Country chart (see Supp. No. 1 to part 738)
NS applies to entire entry except 9D515.x and y.	NS Column 1.
RS applies to entire entry except 9D515.x and y.	RS Column 1.
NS applies to 9D515.x ...	NS Column 2.
RS applies to 9D515.x ...	RS Column 2.
RS applies to 9D515.y, except to Russia for use in, with, or for the International Space Station (ISS), including launch to the ISS.	China, Russia, or Venezuela (see §742.6(a)(7)).
AT applies to entire entry	AT Column 1.

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

TSR: N/A

SPECIAL CONDITIONS FOR STA

STA: (1) Paragraph (c)(1) of License Exception STA (§740.20(c)(1) of the EAR) may not be used for 9D515.b, .d, or .e. (2) Paragraph (c)(2) of License Exception STA (§740.20(c)(2) of the EAR) may not be used for any ''software'' in 9D515.

LIST OF ITEMS CONTROLLED

Related Controls: (1) ''Software'' directly related to articles described in USML Category XV is subject to the ITAR. (2) See also ECCNs 3D001, 6D001, 6D002, and 6D991 for controls of specific ''software'' ''specially designed'' for certain ''space-qualified'' items. (3) For ''software'' for items listed in 9A004.d that are incorporated into ''spacecraft payloads'', see the appropriate ''software'' ECCN within those Categories.

Related Definitions: N/A

Items:

a. ''Software'' (other than ''software'' controlled in paragraphs .b, .d, or .e of this entry) ''specially designed'' for the ''development,'' ''production,'' operation, installation, maintenance, repair, overhaul, or refurbishing of commodities controlled by ECCN 9A515 (except 9A515.d, .e, or .x) or 9B515.

b. ''Source code'' that:

b.1. Contains the algorithms or control principles (*e.g.*, for clock management), precise orbit determination (*e.g.*, for ephemeris or pseudo range analysis), signal construct (*e.g.*, pseudo-random noise (PRN) anti-spoofing) ''specially designed'' for items controlled by ECCN 9A515;

b.2. Is ''specially designed'' for the integration, operation, or control of items controlled by ECCN 9A515;

b.3. Contains algorithms or modules ''specially designed'' for system, subsystem, component, part, or accessory calibration, manipulation, or control of items controlled by ECCN 9A515;

b.4. Is ''specially designed'' for data assemblage, extrapolation, or manipulation of items controlled by ECCN 9A515;

b.5. Contains the algorithms or control laws ''specially designed'' for attitude, position, or flight control of items controlled in ECCN 9A515; or

b.6. Is ''specially designed ''for built-in test and diagnostics for items controlled by ECCN 9A515.

c. [Reserved]

d. ''Software'' ''specially designed'' for the ''development,'' ''production,'' operation, failure analysis or anomaly resolution of commodities controlled by ECCN 9A515.d.

e. ''Software'' ''specially designed'' for the ''development,'' ''production,'' operation, failure analysis or anomaly resolution of commodities controlled by ECCN 9A515.e.

f. through w. [Reserved]

x. ''Software'' ''specially designed'' for the ''development,'' ''production,'' operation, failure analysis or anomaly resolution of commodities controlled by ECCN 9A515.x.

y. Specific ''software'' ''specially designed'' for the ''development,'' ''production,'' operation, or maintenance of commodities enumerated in ECCN 9A515.y.

9D604 "Software" "specially designed" for the "development," "production," operation, or maintenance of commodities controlled by ECCN 9A604 or 9B604 (see List of Items Controlled).

LICENSE REQUIREMENTS

Reason for Control: NS, RS, MT, AT, UN

Control(s)	Country chart (See Supp. No. 1 to part 738)
NS applies to entire entry	NS Column 1
RS applies to entire entry	RS Column 1
MT applies to "software," as described in paragraph .a of this entry, for commodities controlled for MT reasons in ECCN 9A604.c or .d, or ECCN 9B604.	MT Column 1
AT applies to entire entry	AT Column 1
UN applies to entire entry	See §746.1(b) for UN controls

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

TSR: N/A

SPECIAL CONDITIONS FOR STA

STA: Paragraph (c)(2) of License Exception STA (§740.20(c)(2) of the EAR) may not be used for any item in this ECCN 9D604.

LIST OF ITEMS CONTROLLED

Related Controls: (1) Software directly related to articles enumerated or otherwise described in USML Category IV is controlled under USML Category IV(i). (2) See also ECCNs 9D101 and 9D104 for controls on ''software'' for the ''use'' of missiles and related commodities. (3) See ECCN 0A919 for foreign-made ''military commodities'' that incorporate more than a *de minimis* amount of U.S.-origin ''600 series'' controlled content.

Related Definitions: N/A

Items a. ''Software'' ''specially designed'' for the ''development,'' ''production,'' operation or maintenance of commodities controlled by ECCN 9A604 or ECCN 9B604.

b. [Reserved]

9D610 Software "specially designed" for the "development," "production," operation, or maintenance of military aircraft and related commodities controlled by 9A610, equipment controlled by 9B610, or materials controlled by 9C610 (see List of Items Controlled).

LICENSE REQUIREMENTS

Reason for Control: NS, RS, MT, AT, UN

Control(s)	Country chart (see Supp. No. 1 to part 738)
NS applies to entire entry except 9D610.y.	NS Column 1.
MT applies to software "specially designed" for the operation, installation, maintenance, repair, overhaul, or refurbishing of commodities controlled for MT reasons in 9A610 or 9B610.	MT Column 1.
RS applies to entire entry except 9D610.y.	RS Column 1.
RS applies to 9D610.y	China, Russia, or Venezuela (see §742.6(a)(7)).
AT applies to entire entry	AT Column 1.
UN applies to entire entry except 9D610.y.	See §746.1(b) for UN controls.

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

TSR: N/A

SPECIAL CONDITIONS FOR STA

STA: (1) Paragraph (c)(1) of License Exception STA (§740.20(c)(1) of the EAR) may not be used for 9D610.b. (2) Paragraph (c)(2) of License Exception STA (§740.20(c)(2) of the EAR) may not be used for any software in 9D610.

LIST OF ITEMS CONTROLLED

Related Controls: Software directly related to articles enumerated or otherwise described in USML Category VIII is subject to the control of USML paragraph VIII(i).

Related Definitions: N/A

Items:

a. ''Software'' (other than software controlled in paragraphs .b or .y of this entry) ''specially designed'' for the ''development,'' ''production,'' operation, or maintenance of commodities controlled by ECCN 9A610, ECCN 9B610, or ECCN 9C610.

b. ''Software'' ''specially designed'' for the ''development'' or ''production'' of any of the following:

b.1. Static structural members;

b.2. Exterior skins, removable fairings, non-removable fairings, radomes, access doors and panels, and in-flight opening doors;

b.3. Control surfaces, leading edges, trailing edges, and leading edge flap seals;

b.4. Leading edge flap actuation system commodities (*i.e.*, power drive units, rotary geared actuators, torque tubes, asymmetry brakes, position sensors, and angle gearboxes) ''specially designed'' for fighter, attack, or bomber aircraft controlled in USML Category VIII;

b.5. Engine inlets and ducting;

b.6. Fatigue life monitoring systems ''specially designed'' to relate actual usage to the analytical or design spectrum and to compute amount of fatigue life ''specially designed'' for aircraft controlled by either USML subcategory VIII(a) or ECCN 9A610.a, except for Military Commercial Derivative Aircraft;

b.7. Landing gear, and ''parts'' and ''components'' ''specially designed'' therefor, ''specially designed'' for use in aircraft weighing more than 21,000 pounds controlled by either USML subcategory VIII(a) or ECCN 9A610.a, except for Military Commercial Derivative Aircraft;

b.8. Conformal fuel tanks and ''parts'' and ''components'' ''specially designed'' therefor;

b.9. Electrical ''equipment,'' ''parts,'' and ''components'' ''specially designed'' for electro-magnetic interference (EMI)—*i.e.*, conducted emissions, radiated emissions, conducted susceptibility and radiated susceptibility—protection of aircraft that conform to the requirements of MIL–STD–461;

b.10. HOTAS (Hand-on Throttle and Stick) controls, HOCAS (Hands on Collective and Stick), Active Inceptor Systems (*i.e.*, a combination of Active Side Stick Control Assembly, Active Throttle Quadrant Assembly, and Inceptor Control Unit), rudder pedal assemblies for digital flight control systems, and parts and components ''specially designed'' therefor;

b.11. Integrated Vehicle Health Management Systems (IVHMS), Condition Based Maintenance (CBM) Systems, and Flight Data Monitoring (FDM) systems;

b.12. Equipment ''specially designed'' for system prognostic and health management of aircraft;

b.13. Active Vibration Control Systems; or

b.14. Self-sealing fuel bladders ''specially designed'' to pass a .50 caliber or larger gunfire test (MIL–DTL–5578, MIL–DTL–27422).

c. to x. [Reserved]

y. Specific ''software'' ''specially designed'' for the ''development,'' ''production,'' operation, or maintenance of commodities enumerated in ECCN 9A610.y.

9D619 Software "specially designed" for the "development," "production," operation or maintenance of military gas turbine engines and related commodities controlled by 9A619, equipment controlled by 9B619, or materials controlled by 9C619 (see List of Items Controlled).

LICENSE REQUIREMENTS

Reason for Control: NS, RS, AT, UN

Control(s)	Country chart (see Supp. No. 1 to part 738)
NS applies to entire entry except 9D619.y.	NS Column 1.
RS applies to entire entry except 9D619.y.	RS Column 1.
RS applies to 9D619.y	China, Russia, or Venezuela (see §742.6(a)(7)).
AT applies to entire entry	AT Column 1.
UN applies to entire entry except 9D619.y.	See §746.1(b) for UN controls.

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

TSR: N/A

SPECIAL CONDITIONS FOR STA

STA: (1) Paragraph (c)(1) of License Exception STA (§740.20(c)(1) of the EAR) may not be used for 9D619.b. (2) Paragraph (c)(2) of License Exception STA (§740.20(c)(2) of the EAR) may not be used for any software in ECCN 9D619.

LIST OF ITEMS CONTROLLED

Related Controls: Software directly related to articles enumerated or otherwise described in USML Category XIX is subject to the control of USML paragraph XIX(g).

Related Definitions: N/A

Items:

a. ''Software'' (other than software controlled in paragraph .b of this entry) ''specially designed'' for the ''development,'' ''production,'' operation, or maintenance of commodities controlled by ECCN 9A619 (except 9A619.y), ECCN 9B619 (except 9B619.y), or ECCN 9C619.

b. ''Software'' ''specially designed'' for the ''development'' or ''production'' of any of the following:

b.1. Front, turbine center, and exhaust frames;

b.2. Low pressure compressor (*i.e.*, fan) ''components'' and ''parts'' as follows: nose cones, casings, blades, vanes, spools, shrouds, blisks, shafts and disks;

b.3. High pressure compressor ''components'' and ''parts'' as follows: casings, blades, vanes, spools, shrouds, blisks, shafts, disks, and impellers;

b.4. Combustor ''components'' and ''parts'' as follows: casings, fuel nozzles, swirlers, swirler cups, deswirlers, valve injectors, igniters, diffusers, liners, chambers, cowlings, domes and shells;

b.5. High pressure turbine ''components'' and ''parts'' as follows: casings, shafts, disks, blades, vanes, nozzles, and tip shrouds;

b.6. Low pressure turbine ''components'' and ''parts'' as follows: casings, shafts, disks, blades, vanes, nozzles, and tip shrouds;

b.7. Augmentor ''components'' and ''parts'' as follows: casings, flame holders, spray bars, pilot burners, augmentor fuel controls, flaps (external, convergent, and divergent), guide and syncronization rings, and flame detectors and sensors;

b.8. Mechanical ''components'' and ''parts'' as follows: fuel metering units and fuel pump metering units, valves (fuel throttle, main metering, oil flow management), heat exchangers (air/air, fuel/air, fuel/oil), debris monitoring (inlet and exhaust), seals (carbon, labyrinth, brush, balance piston, and knife-edge), permanent magnetic alternator and generator, eddy current sensors;

b.9. Torquemeter assembly (*i.e.,* housing, shaft, reference shaft, and sleeve);

b.10. Digital engine control systems (*e.g.,* Full Authority Digital Engine Controls (FADEC) and Digital Electronic Engine Controls (DEEC)) ''specially designed'' for gas turbine engines controlled in this ECCN; or

b.11. Engine monitoring systems (*i.e.,* prognostics, diagnostics, and health) ''specially designed'' for gas turbine engines and components controlled in this ECCN.

c. to x. [Reserved]

y. Specific ''software'' ''specially designed'' for the ''development,'' ''production,'' operation, or maintenance of commodities enumerated in ECCN 9A619.y or 9B619.y.

9D620 "Software" "specially designed" for cryogenic and "superconductive" equipment, as follows (see List of Items Controlled).

LICENSE REQUIREMENTS

Reasons for Control: NS, RS, AT, UN

Control(s)	Country chart (see Supp. No. 1 to part 738)
NS applies to entire entry	NS Column 1
RS applies to entire entry	RS Column 1
AT applies to entire entry	AT Column 1
UN applies to entire entry	See §746.1(b) for UN controls

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

TSR: N/A

SPECIAL CONDITIONS FOR STA

STA: Paragraph (c)(2) of License Exception STA (§740.20(c)(2) of the EAR) may not be used for any ''software'' in 9D620.

LIST OF ITEMS CONTROLLED

Related Controls: ''Software'' directly related to articles enumerated on USML are subject to the control of that USML category.

Related Definitions: N/A

Items: Software ''specially designed'' for the ''development,'' ''production,'' operation, or maintenance of commodities controlled by ECCNs 9A620 or 9B620.

9D990 "Software", n.e.s., for the "development" or "production" of equipment controlled by 9A990 or 9B990.

LICENSE REQUIREMENTS

Reason for Control: AT

Control(s)	Country Chart (See Supp. No. 1 to part 738)
AT applies to "software" for equipment under 9A990 except 9A990.a.	AT Column 1
AT applies to "software" for equipment under 9A990.a only.	AT Column 2

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

TSR: N/A

LIST OF ITEMS CONTROLLED

Related Controls: N/A

Related Definitions: N/A

Items: The list of items controlled is contained in the ECCN heading.

9D991 "Software", for the "development" or "production" of equipment controlled by 9A991 or 9B991.

LICENSE REQUIREMENTS

Reason for Control: AT

Control(s)	Country Chart (See Supp. No. 1 to part 738)
AT applies to entire entry	AT Column 1

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

TSR: N/A

LIST OF ITEMS CONTROLLED

Related Controls: N/A

Related Definitions: N/A

Items: The list of items controlled is contained in the ECCN heading.

E. ''TECHNOLOGY''

Note 1: ''Development'' or ''production'' ''technology'' controlled by 9E001 to 9E003 for gas turbine engines remains controlled when used for repair or overhaul. Excluded from 9E001 to 9E003 control are: technical data, drawings or documentation for maintenance activities directly associated with calibration, removal or replacement of damaged or unserviceable line replaceable units, including replacement of whole engines or engine modules.

Note 2: USML Category XV(f) and ECCNs 9E001, 9E002 and 9E515 do not control the data transmitted to or from a satellite or ''spacecraft,'' whether real or simulated, when limited to information about the health, operational status, or measurements or function of, or raw sensor output from, the ''spacecraft,'' ''spacecraft'' payload(s), or its associated subsystems or components. Such information is not within the scope of information captured within the

definition of ''technology'' in the EAR for purposes of Category 9 Product Group E. Examples of such information, which are commonly referred to as ''housekeeping data,'' include (i) system, hardware, component configuration, and operation status information pertaining to temperatures, pressures, power, currents, voltages, and battery charges; (ii) ''spacecraft'' or payload orientation or position information, such as state vector or ephemeris information; (iii) payload raw mission or science output, such as images, spectra, particle measurements, or field measurements; (iv) command responses; (v) accurate timing information; and (vi) link budget data. The act of processing such telemetry data—i.e., converting raw data into engineering units or readable products—or encrypting it does not, in and of itself, cause the telemetry data to become subject to the ITAR or to ECCN 9E515 for purposes of 9A515, or to ECCNs 9E001 or 9E002 for purposes of 9A004. All classified technical data directly related to items controlled in USML Category XV or ECCNs 9A515, and defense services using the classified technical data remains subject to the ITAR. This note does not affect controls in USML XV(f), ECCN 9D515, or ECCN 9E515 on software source code or commands that control a ''spacecraft,'' payload, or associated subsystems for purposes of 9A515. This note also does not affect controls in ECCNs 9D001, 9D002, 9E001, or 9E002 on software source code or commands that control a ''spacecraft,'' payload, or associated subsystems for purposes of 9A004.

9E001 "Technology" according to the General Technology Note for the "development" of equipment or "software", controlled by 9A004, 9A012, 9B (except for ECCNs 9B604, 9B610, 9B619, 9B990 and 9B991), or ECCN 9D001 to 9D004, 9D101, or 9D104.

LICENSE REQUIREMENTS

Reason for Control: NS, MT, AT

Control(s)	Country chart (see supp. No. 1 to part 738)
NS applies to ''technology'' for items controlled by 9A004, 9A012, 9B001 to 9B010, 9D001 to 9D004 for NS reasons.	NS Column 1
MT applies to ''technology'' for items controlled by 9A012, 9B001, 9B002, 9B003, 9B004, 9B005, 9B007, 9B104, 9B105, 9B106, 9B115, 9B116, 9B117, 9D001, 9D002, 9D003, or 9D004 for MT reasons.	MT Column 1
AT applies to entire entry	AT Column 1

REPORTING REQUIREMENTS

See §743.1 of the EAR for reporting requirements for exports under License Exceptions, and Validated End-User authorizations.

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

TSR: N/A

SPECIAL CONDITIONS FOR STA

STA: License Exception STA may not be used to ship or transmit any technology in this entry to any of the destinations listed in Country Group A:6 (See Supplement No. 1 to part 740 of the EAR)

LIST OF ITEMS CONTROLLED

Related Controls: (1) See also 9E101 and 1E002.f (for controls on ''technology'' for the repair of controlled structures, laminates or materials). (2) ''Technology'' required for the ''development'' of equipment described in ECCNs 9A005 to 9A011 or ''software'' described in ECCNs 9D103 and 9D105 is ''subject to the ITAR.''

Related Definitions: N/A

Items:

The list of items controlled is contained in the ECCN heading.

9E002 "Technology" according to the General Technology Note for the "production" of "equipment" controlled by ECCN 9A004 or 9B (except for ECCNs 9B117, 9B604, 9B610, 9B619, 9B990, and 9B991).

LICENSE REQUIREMENTS

Reason for Control: NS, MT, AT

Control(s)	Country chart (see supp. No. 1 to part 738)
NS applies to entire entry	NS Column 1
MT applies to ''technology'' for equipment controlled by 9B001, 9B002, 9B003, 9B004, 9B005, 9B007, 9B104, 9B105, 9B106, 9B115 or 9B116 for MT reasons.	MT Column 1
AT applies to entire entry	AT Column 1

REPORTING REQUIREMENTS

See §743.1 of the EAR for reporting requirements for exports under License Exceptions, and Validated End-User authorizations.

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

TSR: N/A

SPECIAL CONDITIONS FOR STA

STA: License Exception STA may not be used to ship or transmit any technology in this entry to any of the destinations listed in Country Group A:6 (See Supplement No.1 to part 740 of the EAR).

LIST OF ITEMS CONTROLLED

Related Controls: (1) See also 9E102. (2) See also 1E002.f for 'technology'' for the repair of controlled structures, laminates, or materials. (3) ''Technology'' that is required for the ''production'' of equipment described in ECCNs 9A005 to 9A011 is ''subject to the ITAR.''

Related Definitions: N/A

Items:

The list of items controlled is contained in the ECCN heading.

9E003 Other "technology" as follows (see List of Items Controlled).

LICENSE REQUIREMENTS

Reason for Control: NS, SI, AT

Control(s)	Country chart (see supp. No. 1 to part 738)
NS applies to entire entry	NS Column 1.
SI applies to 9E003.a.1 through a.8, .h, .i, and .l.	See §742.14 of the EAR for additional information.
AT applies to entire entry	AT Column 1.

REPORTING REQUIREMENTS

See §743.1 of the EAR for reporting requirements for exports under License Exceptions, and Validated End-User authorizations.

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

TSR: N/A

SPECIAL CONDITIONS FOR STA

STA: License Exception STA may not be used to ship or transmit any technology in 9E003.a.1 to a.5, 9E003.c., 9E003.h, or 9E003.i (other than technology for fan or power turbines) to any of the destinations listed in Country Group A:5 or A:6 (See Supplement No.1 to part 740 of the EAR).

License Exception STA may not be used to ship or transmit any technology in 9E003.k to any of the destinations listed in Country Group A:6 (See Supplement No.1 to part 740 of the EAR).

LIST OF ITEMS CONTROLLED

Related Controls: (1) Hot section ''technology'' specifically designed, modified, or equipped for military uses or purposes, or developed principally with U.S. Department of Defense funding, is ''subject to the ITAR'' (see 22 CFR parts 120 through 130). (2) ''Technology'' is subject to the EAR when actually applied to a commercial ''aircraft'' engine program. Exporters may seek to establish commercial application either on a case-by-case basis through submission of documentation demonstrating application to a commercial program in requesting an export license from the Department of Commerce in respect to a specific export, or in the case of use for broad categories of ''aircraft,'' engines, ''parts'' or ''components,'' a commodity jurisdiction determination from the Department of State.

Related Definitions: N/A

Items:

a. ''Technology'' ''required'' for the ''development'' or ''production'' of any of the following gas turbine engine ''parts,'' ''components'' or systems:

a.1. Gas turbine blades, vanes or ''tip shrouds'', made from Directionally Solidified (DS) or Single Crystal (SC) alloys and having (in the 001 Miller Index Direction) a stress-rupture life exceeding 400 hours at 1,273 K (1,000 °C) at a stress of 200 MPa, based on the average property values;

Technical Note: For the purposes of 9E003.a.1, stress-rupture life testing is typically conducted on a test specimen.

a.2. Combustors having any of the following:

a.2.a. 'Thermally decoupled liners' designed to operate at 'combustor exit temperature' exceeding 1,883 K (1,610 °C);

a.2.b. Non-metallic liners;

a.2.c. Non-metallic shells; *or*

a.2.d. Liners designed to operate at 'combustor exit temperature' exceeding 1,883 K (1,610 °C) and having holes that meet the parameters specified by 9E003.c;

a.2.e. Utilizing 'pressure gain combustion';

Technical Note: For the purposes of 9E003.a.2.e, in 'pressure gain combustion' the bulk average stagnation pressure at the combustor outlet is greater than the bulk average stagnation pressure at the combustor inlet due primarily to the combustion process, when the engine is running in a ''steady state mode'' of operation.

Note: The ''required'' ''technology'' for holes in 9E003.a.2 is limited to the derivation of the geometry and location of the holes.

Technical Notes: 1. For the purposes of 9E003.a.2.a, 'thermally decoupled liners' are liners that feature at least a support structure designed to carry mechanical loads and a combustion facing structure designed to protect the support structure from the heat of combustion. The combustion facing structure and support structure have independent thermal displacement (mechanical displacement due to thermal load) with respect to one another, i.e., they are thermally decoupled.

2. For the purposes of 9E003.a.2.d, 'combustor exit temperature' is the bulk average gas path total (stagnation) temperature between the combustor exit plane and the leading edge of the turbine inlet guide vane (i.e., measured at engine station T40 as defined in SAE ARP 755A) when the engine is running in a ''steady state mode'' of operation at the certificated maximum continuous operating temperature.

N.B.: See 9E003.c for ''technology'' ''required'' for manufacturing cooling holes.

a.3. ''Parts'' or ''components,'' that are any of the following:

a.3.a. Manufactured from organic ''composite'' materials designed to operate above 588 K (315 °C);

a.3.b. Manufactured from any of the following:

a.3.b.1. Metal ''matrix'' ''composites'' reinforced by any of the following:

a.3.b.1.a. Materials controlled by 1C007;

a.3.b.1.b. ''Fibrous or filamentary materials'' specified by 1C010; *or*

a.3.b.1.c. Aluminides specified by 1C002.a; *or*

a.3.b.2. Ceramic ''matrix'' ''composites'' specified by 1C007; *or*

a.3.c. Stators, vanes, blades, tip seals (shrouds), rotating blings, rotating blisks or 'splitter ducts', that are all of the following:

a.3.c.1. Not specified in 9E003.a.3.a;

a.3.c.2. Designed for compressors or fans; *and*

a.3.c.3. Manufactured from material controlled by 1C010.e with resins controlled by 1C008;

Technical Note: For the purposes of 9E003.a.3.c, a 'splitter duct' performs the initial separation of the air-mass flow between the bypass and core sections of the engine.

a.4. Uncooled turbine blades, vanes or ''tip shrouds'' designed to operate at a 'gas path temperature' of 1,373 K (1,100 °C) or more;

a.5. Cooled turbine blades, vanes or ''tip shrouds'', other than those described in 9E003.a.1, designed to operate at a 'gas path temperature' of 1,693 K (1,420 °C) or more;

Technical Note: For the purposes of 9E003.a.5, 'gas path temperature' is the bulk average gas path total (stagnation) temperature at the leading-edge plane of the turbine component when the engine is running in a ''steady state mode'' of operation at the certificated or specified maximum continuous operating temperature.

a.6. Airfoil-to-disk blade combinations using solid state joining;

a.7. [Reserved]

a.8. 'Damage tolerant' gas turbine engine rotor ''parts'' or ''components'' using powder metallurgy materials controlled by 1C002.b; *or*

Technical Note: For the purposes of 9E003.a.8, 'damage tolerant' ''parts'' and ''components'' are designed using methodology and substantiation to predict and limit crack growth.

a.9. [Reserved]

N.B.: For ''FADEC systems'', see 9E003.h.

a.10. [Reserved]

N.B.: For adjustable flow path geometry, see 9E003.i.

a.11. 'Fan blades' having all of the following:

a.11.a. 20% or more of the total volume being one or more closed cavities containing vacuum or gas only; *and*

a.11.b. One or more closed cavities having a volume of 5 cm^3 or larger;

Technical Note: For the purposes of 9E003.a.11, a 'fan blade' is the aerofoil portion of the rotating stage or stages, which provide both compressor and bypass flow in a gas turbine engine.

b. ''Technology'' ''required'' for the ''development'' or ''production'' of any of the following:

b.1. Wind tunnel aero-models equipped with non-intrusive sensors capable of transmitting data from the sensors to the data acquisition system; *or*

b.2. ''Composite'' propeller blades or propfans, capable of absorbing more than 2,000 kW at flight speeds exceeding Mach 0.55;

c. ''Technology'' ''required'' for manufacturing cooling holes in gas turbine engine ''parts'' or ''components'' incorporating any of the ''technologies'' specified by 9E003.a.1, 9E003.a.2, or 9E003.a.5, and having any of the following:

c.1. Having all of the following:

c.1.a. Minimum 'cross-sectional area' less than 0.45 mm^2;

c.1.b. 'Hole shape ratio' greater than 4.52; *and*

c.1.c. 'Incidence angle' equal to or less than 25°; *or*

c.2. Having all of the following:

c.2.a. Minimum 'cross-sectional area' less than 0.12 mm^2;

c.2.b. 'Hole shape ratio' greater than 5.65; *and*

c.2.c. 'Incidence angle' more than 25°;

Note: 9E003.c does not apply to ''technology'' for manufacturing constant radius cylindrical holes that are straight through and enter and exit on the external surfaces of the component.

Technical Notes: 1. For the purposes of 9E003.c, the 'cross-sectional area' is the area of the hole in the plane perpendicular to the hole axis.

2. For the purposes of 9E003.c, 'hole shape ratio' is the nominal length of the axis of the hole divided by the square root of its minimum 'cross-sectional area'.

3. For the purposes of 9E003.c, 'incidence angle' is the acute angle measured between the plane tangential to the airfoil surface and the hole axis at the point where the hole axis enters the airfoil surface.

4. For the purposes of 9E003.c, methods for manufacturing holes include ''laser'' beam machining, water jet machining, Electro-Chemical Machining (ECM) or Electrical Discharge Machining (EDM).

d. ''Technology'' ''required'' for the ''development'' or ''production'' of helicopter power transfer systems or tilt rotor or tilt wing ''aircraft'' power transfer systems;

e. ''Technology'' for the ''development'' or ''production'' of reciprocating diesel engine ground vehicle propulsion systems having all of the following:

e.1. 'Box volume' of 1.2 m^3 or less;

e.2. An overall power output of more than 750 kW based on 80/1269/EEC, ISO 2534 or national equivalents; *and*

e.3. Power density of more than 700 kW/m^3 of 'box volume';

Technical Note: For the purposes of 9E003.e.1., 'box volume' is the product of three perpendicular dimensions measured in the following way:

Length: The length of the crankshaft from front flange to flywheel face;

Width: The widest of any of the following:

a. The outside dimension from valve cover to valve cover;

b. The dimensions of the outside edges of the cylinder heads; or

c. The diameter of the flywheel housing;

Height: The largest of any of the following:

a. The dimension of the crankshaft center-line to the top plane of the valve cover (or cylinder head) plus twice the stroke; or

b. The diameter of the flywheel housing.

f. ''Technology'' ''required'' for the ''production'' of ''specially designed'' ''parts'' or ''components'' for high output diesel engines, as follows:

f.1. ''Technology'' ''required'' for the ''production'' of engine systems having all of the following ''parts'' and ''components'' employing ceramics materials controlled by 1C007:

f.1.a Cylinder liners;

f.1.b. Pistons;

f.1.c. Cylinder heads; *and*

f.1.d. One or more other ''part'' or ''component'' (including exhaust ports, turbochargers, valve guides, valve assemblies or insulated fuel injectors);

f.2. ''Technology'' ''required'' for the ''production'' of turbocharger systems with single-stage compressors and having all of the following:

f.2.a. Operating at pressure ratios of 4:1 or higher;

f.2.b. Mass flow in the range from 30 to 130 kg per minute; *and*

f.2.c. Variable flow area capability within the compressor or turbine sections;

f.3. ''Technology'' ''required'' for the ''production'' of fuel injection systems with a ''specially designed'' multifuel (*e.g.,* diesel or jet fuel) capability covering a viscosity range from diesel fuel (2.5 cSt at 310.8 K (37.8 °C)) down to gasoline fuel (0.5 cSt at 310.8 K (37.8 °C)) and having all of the following:

f.3.a. Injection amount in excess of 230 mm^3 per injection per cylinder; *and*

f.3.b. Electronic control features ''specially designed'' for switching governor characteristics automatically depending on fuel property to provide the same torque characteristics by using the appropriate sensors;

g. ''Technology'' ''required'' for the ''development'' or ''production'' of 'high output diesel engines' for solid, gas phase or liquid film (or combinations thereof) cylinder wall lubrication and permitting operation to temperatures exceeding 723 K (450 °C), measured on the cylinder wall at the top limit of travel of the top ring of the piston;

Technical Note: For the purposes of 9E003.g, 'high output diesel engines' are diesel engines with a specified brake mean effective pressure of 1.8 MPa or more at a speed of 2,300 r.p.m., provided the rated speed is 2,300 r.p.m. or more.

h. ''Technology'' for gas turbine engine ''FADEC systems'' as follows:

h.1. ''Development'' ''technology'' for deriving the functional requirements for the ''parts'' or ''components'' necessary for the ''FADEC system'' to regulate engine thrust or shaft power (*e.g.,* feedback sensor time constants and accuracies, fuel valve slew rate);

h.2. ''Development'' or ''production'' ''technology'' for control and diagnostic ''parts'' or ''components'' unique to the ''FADEC system'' and used to regulate engine thrust or shaft power;

h.3. ''Development'' ''technology'' for the control law algorithms, including ''source code'', unique to the ''FADEC system'' and used to regulate engine thrust or shaft power;

Note: 9E003.h does not apply to technology related to engine-''aircraft'' integration required by civil aviation authorities of one or more Wassenaar Arrangement Participating States (See Supplement No. 1 to part 743 of the EAR) to be published for general airline use (e.g., installation manuals, operating instructions, instructions for continued airworthiness) or interface functions (e.g., input/output processing, airframe thrust or shaft power demand).

i. ''Technology'' for adjustable flow path systems designed to maintain engine stability for gas generator turbines, fan or power turbines, or propelling nozzles, as follows:

i.1. ''Development'' ''technology'' for deriving the functional requirements for the ''parts'' or ''components'' that maintain engine stability;

i.2. ''Development'' or ''production'' ''technology'' for ''parts'' or ''components'' unique to the adjustable flow path system and that maintain engine stability;

i.3. ''Development'' ''technology'' for the control law algorithms, including ''source code'', unique to the adjustable flow path system and that maintain engine stability;

Note: 9E003.i does not apply to ''technology'' for any of the following:

a. Inlet guide vanes;

b. Variable pitch fans or prop-fans;

c. Variable compressor vanes;

d. Compressor bleed valves; or

e. Adjustable flow path geometry for reverse thrust.

j. ''Technology'' ''required'' for the ''development'' of wing-folding systems designed for fixed-wing ''aircraft'' powered by gas turbine engines.

N.B.: For ''technology'' ''required'' for the ''development'' of wing-folding systems designed for fixed-wing ''aircraft'' specified in USML Category VIII (a), see USML Category VIII (i).

k. ''Technology'', not specified in 9E003.a, 9E003.h, or 9E003.i, ''required'' for the ''development'' of any of the following components or systems, ''specially designed'' for aero gas turbine engines to enable ''aircraft'' to cruise at Mach 1 or greater for more than 30 minutes:

k.1. Propulsion inlet systems;

k.2. Propulsion exhaust systems;

k.3. 'Reheat systems';

k.4. 'Active thermal management systems' to condition fluids used to lubricate or cool 'engine rotor supports';

k.5. Oil-free 'engine rotor supports'; or

k.6. Systems to remove heat from 'compression system' core gas path flow.

Technical Notes: For the purposes of 9E003.k:

1. Propulsion inlet systems include core flow pre-coolers.

2. 'Reheat systems' provide additional thrust by combusting fuel in exhaust and/or bypass flow downstream of the last turbomachinery stage. 'Reheat systems' are also referred to as afterburners.

3. 'Active thermal management systems' employ methods other than passive oil-to-air cooling or oil-to-fuel cooling, such as vapor cycle systems.

4. 'Compression system' is any stage or combination of stages between the engine inlet face and the combustor that increases gas path pressure through mechanical work.

5. An 'engine rotor support' is the bearing supporting the main engine shaft that drives the compression system or turbine rotors.

N.B. 1 See 9E003.h, for engine control technology.

N.B. 2 See 9E003.i, for adjustable flow path systems technology.

l. ''Technology'' not otherwise controlled in 9E003.a.1 through a.8, a.10, and .h and used in the ''development'', ''production'', or overhaul of hot section ''parts'' or ''components'' of civil derivatives of military engines controlled on the U.S. Munitions List.

9E018 "Technology" for the "development," "production," or "use" of equipment controlled by 9A018.

(a) See ECCN 9E610 for ''technology'' related to aircraft, refuelers, ground equipment, parachutes, harnesses, instrument flight trainers and ''parts'', ''accessories'' and ''attachments'' for the forgoing that, immediately prior to October 15, 2013, were classified under 9A018.a.1, .a.3, .c, .d, .e, or .f.

(b) See ECCN 9E619 for ''technology'' related to military trainer aircraft turbo prop engines and ''parts'' and ''components'' therefor that, immediately prior to October 15, 2013, were classified under ECCN 9A018.a.2 or .a.3.

(c) Technology related to certain armored ground transport vehicles that prior to January 6, 2014 were classified under ECCN 9A018.b is EAR99 (See 0E606).

9E101 "Technology" according to the General Technology Note for the "development" or "production" of commodities or "software" controlled by ECCN 9A012 (applies only to "production" "technology" for MT-controlled items in 9A012), 9A101 (except for items in 9A101.b that are "subject to the ITAR," see 22 CFR part 121), 9A106.d or .e, 9A110 (for items that are "specially designed" for non-military unmanned aerial vehicles controlled by 9A012), 9C110, 9D101, or 9D104.

LICENSE REQUIREMENTS

Reason for Control: MT, AT

Control(s)	Country Chart (See Supp. No. 1 to part 738)
MT applies to entire entry	MT Column 1
AT applies to entire entry	AT Column 1

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

TSR: N/A

LIST OF ITEMS CONTROLLED

Related Controls: ''Technology'' that is required for items specified in ECCNs 9A101.b (except for items that are subject to the EAR), 9A104, 9A105, 9A106.a, .b, and .c, 9A107 to 9A109, 9A110 (for items that are ''specially designed'' for use in missile systems and subsystems), 9A111, 9A115 to 9A119, 9D103, and 9D105 is ''subject to the ITAR'' (see 22 CFR parts 120 through 130).

Related Definitions: N/A

Items: The list of items controlled is contained in the ECCN heading.

9E102 "Technology" according to the General Technology Note for the "use" of commodities or "software" controlled by ECCN 9A004 (except for items in 9A004 that are "subject to the ITAR," see 22 CFR part 121), 9A012, 9A101 (except for items in 9A101.b that are "subject to the ITAR," see 22 CFR part 121), 9A106.d or .e, 9A110 (for items that are "specially designed" for non-military unmanned aerial vehicles controlled by 9A012), 9B105, 9B106, 9B115, 9B116, 9D101, or 9D104.

LICENSE REQUIREMENTS

Reason for Control: MT, AT

Control(s)	Country Chart (See Supp. No. 1 to part 738)
MT applies to entire entry	MT Column 1
AT applies to entire entry	AT Column 1

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

TSR: N/A

LIST OF ITEMS CONTROLLED

Related Controls: (1) For the purpose of this entry, ''use'' ''technology'' is limited to items controlled for MT and their subsystems. (2) ''Technology'' for items specified in ECCNs 9A004 (except for items that are subject to the EAR), 9A005 to 9A011, 9A101.b (except for items that are subject to the EAR), 9A104, 9A105, 9A106.a, .b and .c, 9A107 to 9A109, 9A110 (for items that are ''specially designed'' for use in missile systems and subsystems), 9A111, 9A115 to 9A119, 9D103, and 9D105 is ''subject to the ITAR'' (see 22 CFR part 121).

Related Definitions: N/A

Items: The list of items controlled is contained in the ECCN heading.

9E515 "Technology" "required" for the "development," "production," operation, installation, repair, overhaul, or refurbishing of "spacecraft" and related commodities, as follows (see List of Items Controlled).

LICENSE REQUIREMENTS

Reason for Control: NS, MT, RS, AT

Control(s)	Country chart (see Supp. No. 1 to part 738)
NS applies to entire entry except 9E515.x and .y.	NS Column 1.
RS applies to entire entry except 9E515.x and .y.	RS Column 1.
MT applies to technology for items in 9A515.d, .e.2, .h, and 9B515.a controlled for MT reasons.	MT Column 1.
NS applies to 9E515.x	NS Column 2.
RS applies to 9E515.x	RS Column 2.
RS applies to 9E515.y, except to Russia for use in, with, or for the International Space Station (ISS), including launch to the ISS.	China, Russia, or Venezuela (see §742.6(a)(7)).
AT applies to entire entry	AT Column 1.

License Requirement Note: The Commerce Country Chart is not used for determining license requirements for ''technology'' classified ECCN 9E515.f. See §742.6(a)(9), which specifies that such ''technology'' is subject to a worldwide license requirement, except to Australia, Canada, and the United Kingdom.

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

TSR: N/A

SPECIAL CONDITIONS FOR STA

STA: (1) Paragraph (c)(1) of License Exception STA (§740.20(c)(1) of the EAR) may not be used for ECCN 9E515.b, .d, .e, or .f unless determined by BIS to be eligible for License Exception STA in accordance with §740.20(g) (License Exception STA eligibility requests for certain 9x515 and ''600 series'' items). (2) Paragraph (c)(2) of License Exception STA (§740.20(c)(2) of the EAR) may not be used for any ''technology'' in 9E515.

LIST OF ITEMS CONTROLLED

Related Controls: Technical data directly related to articles described in USML Category XV are subject to the ITAR. See also ECCNs 3E001, 3E003, 6E001, and 6E002 for specific ''space-qualified'' items. See ECCNs 9E001 and 9E002 for technology for the International Space Station, the James Webb Space Telescope (JWST) and ''parts,'' ''components,'' ''accessories,'' and ''attachments'' ''specially designed'' therefor. See USML Category XV for controls on technical data and defense services related to launch vehicle integration.

Related Definitions: N/A

Items:

a. ''Technology'' ''required'' for the ''development,'' ''production,'' installation, repair (including on-orbit anomaly resolution and analysis beyond established procedures), overhaul, or refurbishing of commodities controlled by ECCN 9A515 (except 9A515.a.1, a.2, a.3, a.4, .b, .d, .e, or .g), ECCN 9B515, or ''software'' controlled by ECCN 9D515.a.

b. ''Technology'' ''required'' for the ''development,'' ''production,'' failure analysis or anomaly resolution of software controlled by ECCN 9D515.b.

c. [Reserved]

d. ''Technology'' ''required'' for the ''development,'' ''production,'' operation, failure analysis or anomaly resolution of commodities controlled by ECCN 9A515.d.

e. ''Technology'' ''required'' for the ''development,'' ''production,'' failure analysis or anomaly resolution of commodities controlled by ECCN 9A515.e.

f. ''Technology'' ''required'' for the ''development,'' ''production,'' installation, repair (including on-orbit anomaly resolution and analysis beyond established procedures), overhaul, or refurbishing of commodities controlled by ECCN 9A515.a.1, a.2, a.3, a.4, or .g.

g. through w. [Reserved]

x. ''Technology'' ''required'' for the ''development,'' ''production,'' operation, failure analysis or anomaly resolution of commodities controlled by ECCN 9A515.x.

y. Specific ''technology'' ''required'' for the ''production,'' ''development,'' operation, installation, maintenance, repair, overhaul, or refurbishing of commodities or software enumerated in ECCN 9A515.y or 9D515.y.

Note 1: [Reserved]

Note 2: Activities and technology/technical data directly related to or required for the spaceflight (e.g., sub-orbital, orbital, lunar, interplanetary, or otherwise beyond Earth orbit) passenger or participant experience, regardless of whether the passenger or participant experience is for space tourism, scientific or commercial research, commercial manufacturing/production activities, educational, media, or commercial transportation purposes, are not subject to the ITAR or the EAR. Such activities and technology/technical data include those directly related to or required for:

(i) ''Spacecraft'' access, ingress, and egress, including the operation of all ''spacecraft'' doors, hatches, and airlocks;

(ii) Physiological training (e.g., human-rated centrifuge training or parabolic flights, pressure suit or spacesuit training/operation);

(iii) Medical evaluation or assessment of the spaceflight passenger or participant;

(iv) Training for and operation by the passenger or participant of health and safety related hardware (e.g., seating, environmental

control and life support, hygiene facilities, food preparation, exercise equipment, fire suppression, communications equipment, safety-related clothing or headgear) or emergency procedures;

(v) Viewing of the interior and exterior of the spacecraft or terrestrial mock-ups;

(vi) Observing ''spacecraft'' operations (e.g., pre-flight checks, landing, in-flight status);

(vii) Training in ''spacecraft'' or terrestrial mock-ups for connecting to or operating passenger or participant equipment used for purposes other than operating the ''spacecraft''; or

(viii) Donning, wearing or utilizing the passenger's or participant's flight suit, pressure suit or spacesuit, and personal equipment.

9E604 "Technology" "required" for the "development," "production," operation, installation, maintenance, repair, overhaul, or refurbishing of commodities controlled by ECCN 9A604 or 9B604, or "software" controlled by ECCN 9D604 (see List of Items Controlled).

LICENSE REQUIREMENTS

Reason for Control: NS, RS, MT, AT, UN

Control(s)	Country chart (See Supp. No. 1 to part 738)
NS applies to entire entry	NS Column 1
RS applies to entire entry	RS Column 1
MT applies to "technology," as described in paragraph .a of this entry, for commodities and "software" controlled for MT reasons in ECCN 9A604, 9B604 or 9D604.	MT Column 1
AT applies to entire entry	AT Column 1
UN applies to entire entry	See §746.1(b) for UN controls

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

TSR: N/A

SPECIAL CONDITIONS FOR STA

STA: Paragraph (c)(2) of License Exception STA (§740.20(c)(2) of the EAR) may not be used for any item in this ECCN 9E604.

LIST OF ITEMS CONTROLLED

Related Controls: (1) Technical data directly related to articles enumerated or otherwise described in USML Category IV is controlled under USML Category IV(i). (2) See also ECCNs 9E002, 9E101, and 9E102 for controls on ''technology'' for the ''development,'' ''production,'' and ''use'' of missiles and related items controlled on the CCL.

Related Definitions: N/A

Items: a. ''Technology'' ''required'' for the ''development,'' ''production,'' operation, installation, maintenance, repair, overhaul, or refurbishing of commodities controlled by ECCN 9A604 or 9B604, or ''software'' controlled by ECCN 9D604.

b. [Reserved]

9E610 Technology "required" for the "development," "production," operation, installation, maintenance, repair, overhaul, or refurbishing of military aircraft and related commodities controlled by 9A610, equipment controlled by 9B610, materials controlled by 9C610, or software controlled by 9D610 (see List of Items Controlled).

LICENSE REQUIREMENTS

Reason for Control: NS, RS, MT, AT, UN

Control(s)	Country chart (see Supp. No. 1 to part 738)
NS applies to entire entry except 9E610.y.	NS Column 1.
RS applies to entire entry except 9E610.y.	RS Column 1.
RS applies to 9E610.y	China, Russia, or Venezuela (see §742.6(a)(7)).
MT applies to "technology" "required" for the "development," "production," operation, installation, maintenance, repair, overhaul, or refurbishing of commodities or software controlled for MT reasons in 9A610, 9B610, or 9D610 for MT reasons.	MT Column 1.
AT applies to entire entry	AT Column 1.
UN applies to entire entry except 9E610.y.	See §746.1(b) for UN controls.

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

TSR: N/A

SPECIAL CONDITIONS FOR STA

STA: (1) Paragraph (c)(1) of License Exception STA (§740.20(c)(1) of the EAR) may not be used for 9E610.b. (2) Paragraph (c)(2) of License Exception STA (§740.20(c)(2) of the EAR) may not be used for any technology in 9E610.

LIST OF ITEMS CONTROLLED

Related Controls: Technical data directly related to articles enumerated or otherwise described in USML Category VIII are subject to the control of USML paragraph VIII(i).

Related Definitions: N/A

Items:

a. ''Technology'' (other than technology controlled by paragraphs .b or .y of this entry) ''required'' for the ''development,'' ''production,'' operation, installation, maintenance, repair, overhaul, or refurbishing of commodities or software controlled by ECCN 9A610, 9B610, 9C610, or 9D610.

Note: ''Build-to-print technology'' ''required'' for the ''production'' of items described in paragraphs b.1 through b.15 of this entry is classified under 9E610.a.

b. ''Technology'' (other than ''build-to-print technology'') ''required'' for the ''development'' or ''production'' of any of the following:

b.1. Static structural members;

b.2. Exterior skins, removable fairings, non-removable fairings, radomes, access doors and panels, and in-flight opening doors;

b.3. Control surfaces, leading edges, trailing edges, and leading edge flap seals;

b.4. Leading edge flap actuation system commodities (*i.e.,* power drive units, rotary geared actuators, torque tubes, asymmetry brakes, position sensors, and angle gearboxes) ''specially designed'' for fighter, attack, or bomber aircraft controlled in USML Category VIII;

b.5. Engine inlets and ducting;

b.6. Fatigue life monitoring systems ''specially designed'' to relate actual usage to the analytical or design spectrum and to compute amount of fatigue life ''specially designed'' for aircraft controlled by either USML subcategory VIII(a) or ECCN 9A610.a, except for Military Commercial Derivative Aircraft;

b.7. Landing gear, and ''parts'' and ''components'' ''specially designed'' therefor, ''specially designed'' for use in aircraft weighing more than 21,000 pounds controlled by either USML subcategory VIII(a) or ECCN 9A610.a, except for Military Commercial Derivative Aircraft;

b.8. Conformal fuel tanks and ''parts'' and ''components'' ''specially designed'' therefor;

b.9. Electrical ''equipment,'' ''parts,'' and ''components'' ''specially designed'' for electro-magnetic interference (EMI)—*i.e.,* conducted emissions, radiated emissions, conducted susceptibility and radiated susceptibility—protection of aircraft that conform to the requirements of MIL–STD–461;

b.10. HOTAS (Hand-on Throttle and Stick) controls, HOCAS (Hands on Collective and Stick), Active Inceptor Systems (*i.e.,* a combination of Active Side Stick Control Assembly, Active Throttle Quadrant Assembly, and Inceptor Control Unit), rudder pedal assemblies for digital flight control systems, and parts and components ''specially designed'' therefor;

b.11. Integrated Vehicle Health Management Systems (IVHMS), Condition Based Maintenance (CBM) Systems, and Flight Data Monitoring (FDM) systems;

b.12. Equipment ''specially designed'' for system prognostic and health management of aircraft;

b.13. Active Vibration Control Systems;

b.14. Self-sealing fuel bladders ''specially designed'' to pass a .50 caliber or larger gunfire test (MIL–DTL–5578, MIL–DTL–27422); or

b.15. Technology ''required'' for the ''development'' or ''production'' of ''parts'' or ''components'' controlled in 9A610.x and ''specially designed'' for damage or failure-adaptive flight control systems controlled in Category VIII(h)(7) of the USML.

c. through x. [Reserved]

y. Specific ''technology'' ''required'' for the ''production,'' ''development,'' operation, installation, maintenance, repair, overhaul, or refurbishing of commodities or software enumerated in ECCN 9A610.y or 9D610.y.

9E619 "Technology" "required" for the "development," "production," operation, installation, maintenance, repair, overhaul, or refurbishing of military gas turbine engines and related commodities controlled by 9A619, equipment controlled by 9B619, materials controlled by 9C619, or software controlled by 9D619 (see List of Items Controlled).

LICENSE REQUIREMENTS

Reason for Control: NS, RS, AT, UN

Control(s)	Country chart (see Supp. No. 1 to part 738)
NS applies to entire entry except 9E619.y.	NS Column 1.
RS applies to entire entry except 9E619.y.	RS Column 1.
RS applies to 9E619.y	China, Russia, or Venezuela (see §742.6(a)(7)).
AT applies to entire entry	AT Column 1.
UN applies to entire entry except 9E619.y.	See §746.1(b) for UN controls.

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

TSR: N/A

SPECIAL CONDITIONS FOR STA

STA: (1) Paragraph (c)(1) of License Exception STA (§740.20(c)(1) of the EAR) may not be used for 9E619.b. or .c. (2) Paragraph (c)(2) of License Exception STA (§740.20(c)(2) of the EAR) may not be used for any technology in ECCN 9E619.

LIST OF ITEMS CONTROLLED

Related Controls: Technical data directly related to articles enumerated or otherwise described in USML Category XIX are subject to the control of USML Category XIX(g).

Related Definitions: N/A

Items:

a. ''Technology'' (other than ''technology'' controlled by paragraphs .b and .c of this entry) ''required'' for the ''development,'' ''production,'' operation, installation, maintenance, repair, overhaul, or refurbishment of items controlled by ECCN 9A619 (except 9A619.y), ECCN 9B619 (except 9B619.y), ECCN 9C619, or ECCN 9D619 (except 9D619.y).

Note: ''Build-to-print technology'' ''required'' for the ''production'' of items described in paragraphs b.1 through b.10 of this entry is classified under 9E619.a.

b. ''Technology'' (other than ''build-to-print technology'') ''required'' for the ''development'' or ''production'' of any of the following:

b.1. Front, turbine center, and exhaust frames;

b.2. Low pressure compressor (*i.e.*, fan) ''components'' and ''parts'' as follows: Nose cones and casings;

b.3. High pressure compressor ''components'' and ''parts'' as follows: Casings;

b.4. Combustor ''components'' and ''parts'' as follows: Casings, fuel nozzles, swirlers, swirler cups, deswirlers, valve injectors, and igniters;

b.5. High pressure turbine ''components'' and ''parts'' as follows: Casings

b.6. Low pressure turbine ''components'' and ''parts'' as follows: Casings;

b.7. Augmentor ''components'' and ''parts'' as follows: Casings, flame holders, spray bars, pilot burners, augmentor fuel controls, flaps (external, convergent, and divergent), guide and syncronization rings, and flame detectors and sensors;

b.8. Mechanical ''components'' and ''parts'' as follows: Fuel metering units and fuel pump metering units, valves (fuel throttle, main metering, oil flow management), heat exchangers (air/air, fuel/air, fuel/oil), debris monitoring (inlet and exhaust), seals (carbon, labyrinth, brush, balance piston, and ''knife-edge''), permanent magnetic alternator and generator, eddy current sensors;

b.9. Torquemeter assembly (*i.e.*, housing, shaft, reference shaft, and sleeve); or

b.10. Materials controlled by ECCN 9C619.b.

c. ''Technology'' ''required'' for the ''development'' or ''production'' of any of the following:

c.1. Low pressure compressor (*i.e.*, fan) ''components'' and ''parts'' as follows: blades, vanes, spools, shrouds, blisks, shafts and disks;

c.2. High pressure compressor ''components'' and ''parts'' as follows: blades, vanes, spools, shrouds, blisks, shafts, disks, and impellers;

c.3. Combustor ''components'' and ''parts'' as follows: diffusers, liners, chambers, cowlings, domes and shells;

c.4. High pressure turbine ''components'' and ''parts'' as follows: shafts and disks, blades, vanes, nozzles, tip shrouds;

c.5. Low pressure turbine ''components'' and ''parts'' as follows: shafts and disks, blades, vanes, nozzles, tip shrouds;

c.6. Digital engine control systems (*e.g.*, Full Authority Digital Engine Controls (FADEC) and Digital Electronic Engine Controls (DEEC)) ''specially designed'' for gas turbine engines controlled in this ECCN; or

c.7. Engine monitoring systems (*i.e.*, prognostics, diagnostics, and health) ''specially designed'' for gas turbine engines and components controlled in this ECCN.

d. through x. [Reserved]

y. Specific ''technology'' ''required'' for the ''development,'' ''production,'' operation, installation, maintenance, repair, overhaul, or refurbishment of commodities controlled by 9A619.y or 9B619.y, or ''software'' controlled by ECCN 9D619.y.

9E620 Technology "required" for cryogenic and "superconductive" equipment, as follows (see List of Items Controlled).

LICENSE REQUIREMENTS

Reason for Control: NS, RS, AT, UN

Control(s)	Country chart (see Supp. No. 1 to part 738)
NS applies to entire entry	NS Column 1
RS applies to entire entry	RS Column 1
AT applies to entire entry	AT Column 1
UN applies to entire entry	See §746.1(b) for UN controls

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

TSR: N/A

SPECIAL CONDITIONS FOR STA

STA: Paragraph (c)(2) of License Exception STA (§740.20(c)(2) of the EAR) may not be used for any technology in 9E620.

LIST OF ITEMS CONTROLLED

Related Controls: Technical data directly related to articles enumerated on USML are subject to the control of that USML category.

Related Definitions: N/A

Items: ''Technology'' ''required'' for the ''development,'' ''production,'' operation, installation, maintenance, repair, overhaul, or refurbishing of commodities or software controlled by ECCN 9A620, 9B620 or 9D620.

9E990 "Technology", n.e.s., for the "development" or "production" or "use" of equipment controlled by 9A990 or 9B990.

LICENSE REQUIREMENTS

Reason for Control: AT

Control(s)	Country Chart (See Supp. No. 1 to part 738)
AT applies to "technology" for equipment under 9A990 and 9B990 except 9A990.a.	AT Column 1
AT applies to "technology" for equipment under 9A990.a only.	AT Column 2

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)

TSR: N/A

LIST OF ITEMS CONTROLLED

Related Controls: N/A

Related Definitions: N/A

Items: The list of items controlled is contained in the ECCN heading.

9E991 "Technology", for the "development", "production" or "use" of equipment controlled by 9A991 or 9B991.

LICENSE REQUIREMENTS

Reason for Control: AT

Control(s)	Country Chart (See Supp. No. 1 to part 738)
AT applies to entire entry	AT Column 1

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)
TSR: N/A
LIST OF ITEMS CONTROLLED
Related Controls: N/A
Related Definitions: N/A
Items: The list of items controlled is contained in the ECCN heading.

9E993 Other "technology", not described by 9E003, as follows (see List of Items Controlled).
LICENSE REQUIREMENTS
Reason for Control: AT

Control(s)	Country Chart (See Supp. No. 1 to part 738)
AT applies to entire entry	AT Column 1.

LIST BASED LICENSE EXCEPTIONS (SEE PART 740 FOR A DESCRIPTION OF ALL LICENSE EXCEPTIONS)
TSR: N/A
LIST OF ITEMS CONTROLLED
Related Controls: N/A
Related Definitions: N/A
Items: a. Rotor blade tip clearance control systems employing active compensating casing ''technology'' limited to a design and development data base; *or*

b. Gas bearing for turbine engine rotor assemblies.

EAR99 Items subject to the EAR that are not elsewhere specified in this CCL Category or in any other category in the CCL are designated by the number EAR99.

[63 FR 2459, Jan. 15, 1998]

EDITORIAL NOTES: 1. For FEDERAL REGISTER citations affecting supplement no. 1 to part 774, see the List of CFR Sections Affected, which appears in the Finding Aids section of the printed volume and at *www.govinfo.gov*.

EDITORIAL NOTES: 2. At 88 FR 71936, Oct. 18, 2023, §supplement no. 1 to part 774 was amended by revising 9A005; however, the amendment could not be incorporated due to missing text.

SUPPLEMENT NO. 2 TO PART 774—GENERAL TECHNOLOGY AND SOFTWARE NOTES

1. *General Technology Note.* The export of ''technology'' that is ''required'' for the ''development'', ''production'', or ''use'' of items on the Commerce Control List is controlled according to the provisions in each Category.

''Technology'' ''required'' for the ''development'', ''production'', or ''use'' of a controlled product remains controlled even when applicable to a product controlled at a lower level.

License Exception TSU is available for ''technology'' that is the minimum necessary for the installation, operation, maintenance (checking), or repair of those products that are eligible for License Exceptions or that are exported under a license.

N.B.: This does not allow release under a License Exception of the repair ''technology'' controlled by 1E002.e, 1E002.f, 8E002.a, or 8E002.b.

N.B.: The ''minimum necessary'' excludes ''development'' or ''production'' technology and permits ''use'' technology only to the extent ''required'' to ensure safe and efficient use of the product. Individual ECCNs may further restrict export of ''minimum necessary'' information.

2. *General Software Note.* License Exception TSU (mass market software) (see §740.13 of the EAR) is available to all destinations, except countries in Country Group E:1 of Supplement No. 1 to part 740 of the EAR, for release of ''software'' which is any of the following:

1. Generally available to the public by being:

a. Sold from stock at retail selling points, without restriction, by means of:

1. Over the counter transactions;

2. Mail order transactions;

3. Electronic transactions; *or*

4. Telephone call transactions; *and*

b. Designed for installation by the user without further substantial support by the supplier.

2. [Reserved] See §734.3(b)(3) for ''publicly available technology and software.''

3. The minimum necessary ''object code'' for the installation, operation, maintenance (checking) or repair of those items whose export has been authorized.

3. *General ''Information Security'' Note.* ''Information security'' items or functions should be considered against the provisions in Category 5–Part 2, even if they are components, ''software'' or functions of other items.

NOTE: Minimum necessary ''object code'' does not enhance or improve the performance of an item or provide new features or functionality.

NOTE: The General Software Note does not apply to ''software'' controlled by Category 5, part 2 ''Information Security''). For ''software'' controlled by Category 5, part 2, see Supplement No. 1 to part 774, Category 5, part 2, Note 3—Cryptography Note.

[69 FR 46087, July 30, 2004, as amended at 78 FR 37394, June 20, 2013; 79 FR 45307, Aug. 4, 2014; 81 FR 64691, Sept. 20, 2016]

SUPPLEMENT NO. 3 TO PART 774—STATEMENTS OF UNDERSTANDING

(a) *Statement of Understanding—medical equipment.* Commodities that are ''''specially designed'' for medical end-use'' that ''incorporate'' commodities or software on the Commerce Control List (Supplement No. 1 to part 774 of the EAR) that do not have a reason for control of Nuclear Nonproliferation (NP), Missile Technology (MT), or Chemical & Biological Weapons (CB) are designated by the number EAR99 (*i.e.*, are not elsewhere specified on the Commerce Control List).

NOTES TO PARAGRAPH (a): (1) ''Specially designed for medical end-use'' means designed for medical treatment or the practice of medicine (does not include medical research).

(2) Commodities or software are considered ''incorporated'' if the commodity or software is: Essential to the functioning of the medical equipment; customarily included in the sale of the medical equipment; and exported or reexported with the medical equipment.

(3) Except for such software that is made publicly available consistent with §734.3(b)(3) of the EAR, commodities and software ''specially designed for medical end-use'' remain subject to the EAR.

(4) *See also* §770.2(b) interpretation 2, for other types of equipment that incorporate items on the Commerce Control List that are subject to the EAR.

(5) For computers used with medical equipment, *see also* ECCN 4A003 note 2 regarding the ''principal element'' rule.

(6) For commodities and software ''specially designed'' for medical end-use that incorporate an encryption or other ''information security'' item subject to the EAR, see also section 3 (General ''Information Security'' Note (GISN)) to Supplement No. 2 to this part.

(b) *Statement of Understanding—Source Code.* For the purpose of national security controlled items, ''source code'' items are controlled either by ''software'' or by ''software'' and ''technology'' controls, except when such ''source code'' items are explicitly decontrolled.

(c) *Category 5—Part 2—Note 4 Statement of Understanding.* All items previously described by Notes (b), (c) and (h) to 5A002 are now described by Note 4 to Category 5—Part 2. Note (h) to 5A002 prior to June 25, 2010 stated that the following was not controlled by 5A002:

Equipment ''specially designed'' for the servicing of portable or mobile radiotelephones and similar client wireless devices that meet all the provisions of the Cryptography Note (Note 3 in Category 5, Part 2), where the servicing equipment meets all of the following:

(1) The cryptographic functionality of the servicing equipment cannot easily be changed by the user of the equipment;

(2) The servicing equipment is designed for installation without further substantial support by the supplier; *and*

(3) The servicing equipment cannot change the cryptographic functionality of the device being serviced.

(d) *Statement of Understanding—Used Goods.* The specifications in the Commerce Control List apply equally to new or used goods. In the case of used goods, an evaluation by the Bureau of Industry and Security may be carried out in order to assess whether the goods are capable of meeting the relevant specifications.

[75 FR 36502, June 25, 2010, as amended at 76 FR 29632, May 20, 2011; 82 FR 27110, June 14, 2017]

SUPPLEMENT NO. 4 TO PART 774—COMMERCE CONTROL LIST ORDER OF REVIEW

(a) As described in EAR §734.3, the EAR govern only items ''subject to the EAR,'' e.g., items not subject to the exclusive jurisdiction of another agency. Thus, for example, if an item is described in the U.S. Munitions List (USML) (22 CFR Part 121) of the International Traffic in Arms Regulations (ITAR) (22 CFR Parts 120–130), including one of its catch-all paragraphs, then the item is a ''defense article'' subject to the ITAR and there is no need to review the CCL with respect to whether it describes the item. See 22 CFR §120.6 (''Defense article means any item or technical data designated in §121.1 of the ITAR. The policy described in §120.3 is applicable to designations of additional items''). If an item is not described on the USML and is otherwise ''subject to the EAR,'' then work through each of the following steps to determine where the item is covered by the CCL or, if it is not covered by the CCL, and is therefore designated as EAR99.

(1) Step 1. To classify an item ''subject to the EAR'' against the CCL, review the general characteristics of the item. This will usually guide you to the appropriate category (0 through 9) on the CCL.

(2) Step 2. Once the potentially applicable CCL categories are identified, determine which product group within the CCL category or categories—i.e., A, B, C, D, or E—is applicable to the item.

(3) Step 3. The ''600 series'' describes military items that were once subject to the ITAR. The 9x515 ECCNs describe ''spacecraft,'' related items, and some radiation-hardened microelectronic circuits that were once subject to the ITAR under USML Category XV. Just as the ITAR effectively trumps the EAR, items described in a 9x515 ECCN or ''600 series'' ECCN trump other

ECCNs on the CCL. Thus, the next step in conducting a classification analysis of an item ''subject to the EAR'' is to determine whether it is described in a 9x515 ECCN or ''600 series'' ECCN paragraph other than a ''catch-all'' paragraph such as a ''.x'' paragraph that controls unspecified ''parts'' and ''components'' ''specially designed'' for items in that ECCN or the corresponding USML paragraph. If so, the item is classified under that 9x515 ECCN or ''600 series'' ECCN paragraph even if it would also be described in another ECCN.

(4) Step 4. If the item is not described in a 9x515 ECCN or ''600 series'' ECCN, then determine whether the item is classified under a 9x515 ECCN or ''600 series'' catch-all paragraph, i.e., one that controls non-specific ''parts,'' ''components,'' ''accessories,'' and ''attachments'' ''specially designed'' for items in that ECCN or the corresponding USML paragraph. Such items are generally in the ''.x'' paragraph of ECCN 9A515 or a ''600 series'' ECCN.

(i) Step 4.a. Determine whether the item would meet the criteria of either paragraphs (a)(1) or (a)(2) of the ''specially designed'' definition in §772.1 of the EAR. (These are informally known as the ''catch'' paragraphs.) If not applicable, then the item is not within the scope of the ECCN paragraph that contains a ''specially designed'' control parameter. Skip to Step 5.

(ii) Step 4.b. If the item meets the criteria of either paragraph (a)(1) or (a)(2) of the ''specially designed'' definition, then determine whether any of the provisions of paragraph (b) of the ''specially designed'' definition would apply. (These are informally known as the ''release'' provisions.) If so, then the item is not within the scope of the ECCN paragraph that contains a ''specially designed'' control parameter.

NOTE TO PARAGRAPH (a)(4): The emphasis on the word ''control'' in Steps 4.a and 4.b is deliberate. Some ECCNs use ''specially designed'' as a de-control parameter. If an item would *not* be classified under a particular ECCN because it falls within the scope of either subparagraph (a)(1) or (a)(2) of the ''specially designed'' definition, then there is no need to analyze whether any element of paragraph (b) of the definition would apply to the item. One needs only review the ''release'' provisions in paragraph (b) of the ''specially designed'' definition if paragraph (a) of the ''specially designed'' definition applies to the item in a ''control'' paragraph of an ECCN that uses the term ''specially designed.''

(5) Step 5. If an item is not classified by a ''600 series'' or in a 9x515 ECCN, then starting from the beginning of the product group analyze each ECCN to determine whether any other ECCN in that product group describes the item. If any ECCN uses the term ''specially designed,'' see Steps 4.a and 4.b above in paragraphs (a)(4)(i) and (a)(4)(ii) respectively. If the item is described in one of these ECCNs, then the item is classified under that ECCN.

(6) Step 6. If the item is not described under any ECCN of any category of the CCL, then the item is designated as EAR99. EAR99 items may require a license if destined for a prohibited or restricted end user, end use or destination. See paragraphs (g) through (n) of §732.3 ''Steps Regarding the Ten General Prohibitions,'' or General Prohibitions Four through Ten of part 736 of the EAR for license requirements other than those imposed by the CCL.

(b) [Reserved]

[78 FR 22735, Apr. 16, 2013, as amended at 79 FR 27443, May 13, 2014; 79 FR 32632, June 5, 2014]

SUPPLEMENT NO. 5 TO PART 774—ITEMS CLASSIFIED UNDER ECCNS 0A521, 0B521, 0C521, 0D521 AND 0E521

The following table lists items subject to the EAR that are not listed elsewhere in the CCL, but which the Department of Commerce, with the concurrence of the Departments of Defense and State, has identified warrant control for export or reexport because the items provide at least a significant military or intelligence advantage to the United States or for foreign policy reasons.

Item descriptor. *Note:* The description must match by model number or a broader descriptor that does not necessarily need to be company specific	Date of initial or subsequent BIS classification (ID = initial date; SD = subsequent date)	Date when the item will be designated EAR99, unless reclassified in another ECCN or the 0Y521 classification is reissued	Item-specific license exception eligibility
0A521. Systems, Equipment and Components			
No. 1 [Reserved]	[Reserved]	[Reserved]	[Reserved]

Item descriptor. *Note:* The description must match by model number or a broader descriptor that does not necessarily need to be company specific	Date of initial or subsequent BIS classification (ID = initial date; SD = subsequent date)	Date when the item will be designated EAR99, unless reclassified in another ECCN or the 0Y521 classification is reissued	Item-specific license exception eligibility
0B521. Test, Inspection and Production Equipment			
[Reserved]			
0C521. Materials			
No. 1 XBS Epoxy system designed to obfuscate critical technology components against x-ray and terahertz microscopy imaging attempts.	November 16, 2015 (ID)	November 16, 2016	License Exception GOV under §740.11(b)(2)(ii) only
No. 2 [Reserved]	[Reserved]	[Reserved]	[Reserved]
0D521. Software			
No. 1 Geospatial imagery ''software'' ''specially designed'' for training a Deep Convolutional Neural Network to automate the analysis of geospatial imagery and point clouds, and having all of the following: 1. Provides a graphical user interface that enables the user to identify objects (*e.g.,* vehicles, houses, etc.) from within geospatial imagery and point clouds in order to extract positive and negative samples of an object of interest;. 2. Reduces pixel variation by performing scale, color, and rotational normalization on the positive samples;. 3. Trains a Deep Convolutional Neural Network to detect the object of interest from the positive and negative samples; and. 4. Identifies objects in geospatial imagery using the trained Deep Convolutional Neural Network by matching the rotational pattern from the positive samples with the rotational pattern of objects in the geospatial imagery.. *Technical Note:* A point cloud is a collection of data points defined by a given coordinate system. A point cloud is also known as a digital surface model..	January 6, 2020 (ID)	January 6, 2023	License Exception GOV under §740.11(b)(2)(ii) only.
0E521. Technology			
No. 1 [Reserved]	[Reserved]	[Reserved]	[Reserved]

[80 FR 70678, Nov. 16, 2015, as amended at 81 FR 52328, Aug. 8, 2016; 83 FR 14583, Apr. 5, 2018; 85 FR 461, Jan. 6, 2020; 86 FR 462, Jan. 6, 2021; 87 FR 730, Jan. 6, 2022]

SUPPLEMENT NO. 6 TO PART 774—SENSITIVE LIST

NOTE TO SUPPLEMENT NO. 6: *While the items on this list are identified by ECCN rather than by Wassenaar Arrangement numbering, the item descriptions are drawn directly from the Wassenaar Arrangement's Sensitive List. If text accompanies an ECCN below, then the Sensitive List is limited to a subset of items classified under the specific ECCN or has differing parameters.*

(1) Category 1

(i) 1A002.a.1—''Composite'' structures or laminates made from an organic ''matrix'' and ''fibrous or filamentary materials'' specified by 1C010.c or 1C010.d.

(ii) 1C001.
(iii) 1C007.c.
(iv) 1C010.c and .d.
(v) 1C012.
(vi) 1D002—''Software'' for the ''development'' of organic ''matrix'', metal ''matrix'', or carbon ''matrix'' laminates or composites controlled under 1A002.a.1, 1C001, 1C007.c, 1C010.c, 1C010.d, or 1C012.
(vii) 1E001—''Technology'' according to the General Technology Note for the ''development'' or ''production'' of equipment and materials controlled under 1A002, 1C001, 1C007.c, 1C010.c, 1C010.d, or 1C012.
(viii) 1E002.e and .f.

(2) Category 2

(i) 2D001—''Software'', other than that controlled by 2D002, ''specially designed'' for the ''development'' or ''production'' of equipment as follows:
(A) Specified by 2B001.a, 2B001.b.1, or 2B001.b.2, and having a ''unidirectional positioning repeatability'' equal to or less (better) than 0.9 μm along one or more linear axis;
(B) Specified by 2B001.b.3, 2B001.d, 2B001.f or 2B003.
(ii) 2E001—''Technology'' according to the General Technology Note for the ''development'' of equipment or ''software'', as follows:
(A) Equipment specified by 2B001.a, 2B001.b.1 or 2B001.b.2, and having a ''unidirectional positioning repeatability'' equal to or less (better) than 0.9 μm along one or more linear axis;
(B) Equipment specified by 2B001.b.3, 2B001.d, 2B001.f or 2B003.
(C) ''Software'' specified by 2D001 of this Supplement;
(iii) 2E002—''Technology'' according to the General Technology Note for the ''production'' of equipment as follows:
(A) Specified by 2B001.a, 2B001.b.1, or 2B001.b.2, and having a ''unidirectional positioning repeatability'' equal to or less (better) than 0.9 μm along one or more linear axis;
(B) Specified by 2B001.b.3, 2B001.d, 2B001.f or 2B003.

(3) Category 3

(i) 3A001.b.2 (including those described under 3A001.b.2 that are controlled by 3A001.z)—''Monolithic Microwave Integrated Circuit'' (''MMIC'') amplifiers that are any of the following:
(A) Rated for operation at frequencies exceeding 2.7 GHz up to and including 6.8 GHz with a ''fractional bandwidth'' greater than 15%, and having any of the following:
(A.1.) A peak saturated power output greater than *300 W (54.8 dBm)* at any frequency exceeding 2.7 GHz up to and including 2.9 GHz;
(A.2.) A peak saturated power output greater than *300 W (54.8 dBm)* at any frequency exceeding 2.9 GHz up to and including 3.2 GHz;
(A.3.) A peak saturated power output greater than *300 W (54.8 dBm)* at any frequency exceeding 3.2 GHz up to and including 3.7 GHz; or
(A.4.) A peak saturated power output greater than *120 W (50.8 dBm)* at any frequency exceeding 3.7 GHz up to and including 6.8 GHz;
(B) Rated for operation at frequencies exceeding 6.8 GHz up to and including *12 GHz* with a ''fractional bandwidth'' greater than 10%, and having any of the following:
(B.1) A peak saturated power output greater than *25 W (44 dBm)* at any frequency exceeding 6.8 GHz up to and including 8.5 GHz; or
(B.2.) A peak saturated power output greater than *25 W (44 dBm)* at any frequency exceeding 8.5 GHz up to and including *12 GHz*.
(ii) 3A001.b.3 (including those described under 3A001.b.3 that are controlled by 3A001.z)—Discrete microwave transistors that are any of the following:
(A) Rated for operation at frequencies exceeding 2.7 GHz up to and including 6.8 GHz and having any of the following:
(A.1.) A peak saturated power output greater than *600 W (57.8 dBm)* at any frequency exceeding 2.7 GHz up to and including 2.9 GHz;
(A.2.) A peak saturated power output greater than *600 W (57.8 dBm)* at any frequency exceeding 2.9 GHz up to and including 3.2 GHz;
(A.3.) A peak saturated power output greater than *600 W (57.8 dBm)* at any frequency exceeding 3.2 GHz up to and including 3.7 GHz; or
(A.4.) A peak saturated power output greater than *130 W (51.2 dBm)* at any frequency exceeding 3.7 GHz up to and including 6.8 GHz;
(B) Rated for operation at frequencies exceeding 6.8 GHz up to and including *12 GHz* and having any of the following:
(B.1.) A peak saturated power output greater than *130 W (51.2 dBm)* at any frequency exceeding 6.8 GHz up to and including 8.5 GHz;
(B.2.) A peak saturated power output greater than *60 W (47.8 dBm)* at any frequency exceeding 8.5 GHz up to and including 12 GHz.
(iii) 3A002.g.1.
(iv) 3D001—''Software'' ''specially designed'' for the ''development'' or ''production'' of equipment controlled under 3A001.b.2, 3A001.b.3, equipment described under 3A001.b.2 or 3A001.b.3 that are controlled under 3A001.z, and 3A002.g.1.

(v) 3E001—''Technology'' according to the General Technology Note for the ''development'' or ''production'' of equipment controlled under 3A001.b.2, 3A001.b.3, equipment described under 3A001.b.2 or 3A001.b.3 that are controlled under 3A001.z, and 3A002.g.1.

(4) Category 4

(i) 4A001.a.2.

(ii) [Reserved]

(5) Category 5—Part 1

(i) 5A001.b.3, .b.5, and .h.

(ii) 5B001.a—Equipment and ''specially designed'' components or ''accessories'' therefor, ''specially designed'' for the ''development'' or ''production'' of equipment, functions or features controlled under 5A001.b.3, b.5, or .h.

(iii) 5D001.a—''Software'' ''specially designed'' for the ''development'' or ''production'' of equipment, functions or features controlled under 5A001.b.3, b.5, or .h.

(iv) [Reserved]

(v) 5E001.a—''Technology'' according to the General Technology Note for the ''development'' or ''production'' of equipment, functions or features controlled under 5A001.b.3, b.5, or .h or ''software'' described in this Supplement's description of 5D001.a.

(6) Category 6

(i) 6A001.a.1.b—Systems or transmitting and receiving arrays, designed for object detection or location, having any of the following:

(A) A transmitting frequency below 5 kHz or a sound pressure level exceeding 224 dB (reference 1 μPa at 1 m) for equipment with an operating frequency in the band from 5 kHz to 10 kHz inclusive;

(B) Sound pressure level exceeding 224 dB (reference 1 μPa at 1 m) for equipment with an operating frequency in the band from 10 kHz to 24 kHz inclusive;

(C) Sound pressure level exceeding 235 dB (reference 1 μPa at 1 m) for equipment with an operating frequency in the band between 24 kHz and 30 kHz;

(D) Forming beams of less than 1° on any axis and having an operating frequency of less than 100 kHz;

(E) Designed to operate with an unambiguous display range exceeding 5,120 m; *or*

(F) Designed to withstand pressure during normal operation at depths exceeding 1,000 m and having transducers with any of the following:

(1) Dynamic compensation for pressure; or

(2) Incorporating other than lead zirconate titanate as the transduction element;

(ii) 6A001.a.1.e.

(iii) 6A001.a.2.a.1, a.2.a.2, a.2.a.3, a.2.a.5, and a.2.a.6.

(iv) 6A001.a.2.b.

(v) 6A001.a.2.c—Processing equipment, ''specially designed'' for real time application with towed acoustic hydrophone arrays, having ''user-accessible programmability'' and time or frequency domain processing and correlation, including spectral analysis, digital filtering and beamforming using Fast Fourier or other transforms or processes.

(vi) 6A001.a.2.d.

(vii) 6A001.a.2.e.

(viii) 6A001.a.2.f—Processing equipment, ''specially designed'' for real time application with bottom or bay cable systems, having ''user-accessible programmability'' and time or frequency domain processing and correlation, including spectral analysis, digital filtering and beamforming using Fast Fourier or other transforms or processes.

(ix) 6A002.a.1.a, a.1.b, and a.1.c.

(x) 6A002.a.1.d.

(xi) 6A002.a.2.a—Image intensifier tubes having all of the following:

(A) A peak response in the wavelength range exceeding 400 nm but not exceeding 1,050 nm;

(B) Electron image amplification using any of the following:

(1) A microchannel plate for electron image amplification with a hole pitch (center-to-center spacing) of 12 μm or less; or

(2) An electron sensing device with a non-binned pixel pitch of 500 μm or less, ''specially designed'' or modified to achieve ' charge multiplication' other than by a microchannel plate; and

(C) Any of the following photocathodes:

(1) Multialkali photocathodes (e.g., S–20 and S–25) having a luminous sensitivity exceeding 700 μA/lm;

(2) GaAs or GaInAs photocathodes; *or*

(3) Other ''III–V compound'' semiconductor photocathodes having a maximum ''radiant sensitivity'' exceeding 10 mA/W.

(xii) 6A002.a.2.b.

(xiii) 6A002.a.3—Subject to the following additional notes:

Note 1: 6A002.a.3 does not apply to the following ''focal plane arrays'' in this Supplement:

a. Platinum Silicide (PtSi) ''focal plane arrays'' having less than 10,000 elements;

b. Iridium Silicide (IrSi) ''focal plane arrays''.

Note 2: 6A002.a.3 does not apply to the following ''focal plane arrays'' in this Supplement:

a. Indium Antimonide (InSb) or Lead Selenide (PbSe) ''focal plane arrays'' having less than 256 elements;

b. Indium Arsenide (InAs) ''focal plane arrays'';

c. Lead Sulphide (PbS) ''focal plane arrays'';

d. Indium Gallium Arsenide (InGaAs) ''focal plane arrays''.

Note 3: 6A002.a.3 does not apply to Mercury Cadmium Telluride (HgCdTe) ''focal plane arrays'' as follows in this Supplement:

a. 'Scanning Arrays' having any of the following:

1. 30 elements or less; or

2. Incorporating time delay-and-integration within the element and having 2 elements or less;

b. 'Staring Arrays' having less than 256 elements.

Technical Notes: a. 'Scanning Arrays' are defined as ''focal plane arrays'' designed for use with a scanning optical system that images a scene in a sequential manner to produce an image;

b. 'Staring Arrays' are defined as ''focal plane arrays'' designed for use with a nonscanning optical system that images a scene.

Note 6: 6A002.a.3 does not apply to the following ''focal plane arrays'' in this List:

a. Gallium Arsenide (GaAs) or Gallium Aluminum Arsenide (GaAlAs) quantum well ''focal plane arrays'' having less than 256 elements;

b. Microbolometer ''focal plane arrays'' having less than 8,000 elements.

Note 7: 6A002.a.3.g does not apply to ''focal plane arrays'', ''specially designed'' or modified to achieve 'charge multiplication', as follows:

a. Linear (1-dimensional) arrays having 4,096 elements or less.

b. Non-linear (2-dimensional) arrays having all of the following;

b.1. A total of 250,000 elements or less; and

b.2. A maximum of 4,096 elements in each dimension.

(xiv) 6A002.b.

(xv) 6A002.c—' Direct view' imaging equipment incorporating any of the following:

(A) Image intensifier tubes having the characteristics listed in this Supplement's description of 6A002.a.2.a or 6A002.a.2.b;

(B) ''Focal plane arrays'' having the characteristics listed in this Supplement's description of 6A002.a.3; or

(C) Solid-state detectors having the characteristics listed in 6A002.a.1.

(xvi) 6A003.b.3—Imaging cameras incorporating image intensifier tubes having the characteristics listed in this Supplement's description of 6A002.a.2.a or 6A002.a.2.b

NOTE: 6A003.b.3 does not apply to imaging cameras ''specially designed'' or modified for underwater use.

(xvii) 6A003.b.4—Imaging cameras incorporating ''focal plane arrays'' having any of the following:

(A) Incorporating ''focal plane arrays'' specified by this Supplement's description of 6A002.a.3.a to 6A002.a.3.e;

(B) Incorporating ''focal plane arrays'' specified by this Supplement's description of 6A002.a.3.f; or

(C) Incorporating ''focal plane arrays'' specified by this Supplement's description of 6A002.a.3.g.

NOTE 1: ' Imaging cameras' described in 6A003.b.4 include ''focal plane arrays'' combined with sufficient ''signal processing'' electronics, beyond the read out integrated circuit, to enable as a minimum the output of an analog or digital signal once power is supplied.

NOTE 2: 6A003.b.4.a does not control imaging cameras incorporating linear ''focal plane arrays'' with twelve 12 elements or fewer, not employing time-delay-and-integration within the element, and designed for any of the following:

a. Industrial or civilian intrusion alarm, traffic or industrial movement control or counting systems;

b. Industrial equipment used for inspection or monitoring of heat flows in buildings, equipment or industrial processes;

c. Industrial equipment used for inspection, sorting or analysis of the properties of materials;

d. Equipment ''specially designed'' for laboratory use; or

e. Medical equipment.

NOTE 3: 6A003.b.4.b does not control imaging cameras having any of the following characteristics:

a. A maximum frame rate equal to or less than 9 Hz;

b. Having all of the following:

1. Having a minimum horizontal or vertical ' Instantaneous-Field-of-View (IFOV)' of at least 10 mrad/pixel (milliradians/pixel);

2. Incorporating a fixed focal-length lens that is not designed to be removed;

3. Not incorporating a ' direct view' display; and

TECHNICAL NOTE: ' Direct view' refers to an imaging camera operating in the infrared spectrum that presents a visual image to a human observer using a near-to-eye micro display incorporating any light-security mechanism.

4. Having any of the following:

a. No facility to obtain a viewable image of the detected field-of-view; or

b. The camera is designed for a single kind of application and designed not to be user modified; or

TECHNICAL NOTE: ' Instantaneous Field of View (IFOV)' specified in Note 3.b is the lesser figure of the ' Horizontal FOV' or the ' Vertical FOV'.

' Horizontal IFOV' = horizontal Field of View (FOV)/number of horizontal detector elements

' Vertical IFOV'= vertical Field of View (FOV)/number of vertical detector elements.

c. Where the camera is ''specially designed'' for installation into a civilian passenger land vehicle of less than 3 tonnes three tons (gross vehicle weight) and having all of the following:

1. Is operable only when installed in any of the following:

a. The civilian passenger land vehicle for which it was intended; or

b. A ''specially designed'', authorized maintenance test facility; and

2. Incorporates an active mechanism that forces the camera not to function when it is removed from the vehicle for which it was intended.

NOTE: When necessary, details of the items will be provided, upon request, to the Bureau of Industry and Security in order to ascertain compliance with the conditions described in Note 3.b.4 and Note 3.c in this Note to 6A003.b.4.b.

NOTE 4: 6A003.b.4.c does not apply to ' imaging cameras' having any of the following characteristics:

a. Having all of the following:

1. Where the camera is ''specially designed'' for installation as an integrated component into indoor and wall-plug-operated systems or equipment, limited by design for a single kind of application, as follows:

a. Industrial process monitoring, quality control, or analysis of the properties of materials;

b. Laboratory equipment ''specially designed'' for scientific research;

c. Medical equipment;

d. Financial fraud detection equipment; and

2. Is only operable when installed in any of the following:

a. The system(s) or equipment for which it was intended; or

b. A ''specially designed'', authorized maintenance facility; and

3. Incorporates an active mechanism that forces the camera not to function when it is removed from the system(s) or equipment for which it was intended;

b. Where the camera is ''specially designed'' for installation into a civilian passenger land vehicle of less than 3 tonnes (gross vehicle weight), or passenger and vehicle ferries having a length overall (LOA) 65 m or greater, and having all of the following:

1. Is only operable when installed in any of the following:

a. The civilian passenger land vehicle or passenger and vehicle ferry for which it was intended; or

b. A ''specially designed'', authorized maintenance test facility; and

2. Incorporates an active mechanism that forces the camera not to function when it is removed from the vehicle for which it was intended;

c. Limited by design to have a maximum ''radiant sensitivity'' of 10 mA/W or less for wavelengths exceeding 760 nm, having all of the following:

1. Incorporating a response limiting mechanism designed not to be removed or modified; and

2. Incorporates an active mechanism that forces the camera not to function when the response limiting mechanism is removed; and

3. Not ''specially designed'' or modified for underwater use; or

d. Having all of the following:

1. Not incorporating a ' direct view' or electronic image display;

2. Has no facility to output a viewable image of the detected field of view;

3. The ''focal plane array'' is only operable when installed in the camera for which it was intended; and

4. The ''focal plane array'' incorporates an active mechanism that forces it to be permanently inoperable when removed from the camera for which it was intended.

NOTE: When necessary, details of the item will be provided, upon request, to the Bureau of Industry and Security in order to ascertain compliance with the conditions described in Note 4 above.

NOTE 5: 6A003.b.4.c does not apply to imaging cameras ''specially designed'' or modified for underwater use.

(xviii) 6A003.b.5.

(xix) 6A004.c.

(xx) 6A004.d.

(xxi) 6A006.a.1.

(xxii) 6A006.a.2—''Magnetometers'' using optically pumped or nuclear precession (proton/Overhauser) ''technology'' having a ' sensitivity' lower (better) than 2 pT (rms) per square root Hz.

(xxiii) 6A006.c.1—''Magnetic gradiometers'' using multiple ''magnetometers'' specified by 6A006.a.1 or this Supplement's description of 6A006.a.2.

(xxiv) 6A006.d—''Compensation systems'' for the following:

(A) Magnetic sensors specified by 6A006.a.2 and using optically pumped or nuclear precession (proton/Overhauser) ''technology'' that will permit these sensors to realize a ' sensitivity' lower (better) than 2 pT rms per square root Hz.

(B) Underwater electric field sensors specified by 6A006.b.

(C) ''Magnetic gradiometers'' specified by 6A006.c. that will permit these sensors to realize a ' sensitivity' lower (better) than 3 pT/m rms per square root Hz.

(xxv) 6A006.e—Underwater electromagnetic receivers incorporating ''magnetometers'' specified by 6A006.a.1 or this Supplement's description of 6A006.a.2.

(xxvi) 6A008.d, .h, and .k.

(xxvii) 6B008.

(xxviii) 6D001—''Software'' ''specially designed'' for the ''development'' or ''production'' of equipment specified by 6A004.c, 6A004.d, 6A008.d, 6A008.h, 6A008.k, or 6B008.

(xxix) 6D003.a.

(xxx) 6E001.

(xxxi) 6E002—''Technology'' according to the General Technology Note for the ''production'' of equipment specified by the 6A or 6B provisions described in this Supplement.

(7) Category 7

(i) 7D002.
(ii) 7D003.a.
(iii) 7D003.b.
(iv) [Reserved]
(v) 7D004.a to .d and .g.
(vi) 7E001.
(vii) 7E002.

(8) Category 8

(i) 8A001.b to .c.
(ii) 8A002.b—Systems specially designed or modified for the automated control of the motion of submersible vehicles specified by 8A001.b through .c using navigation data having closed loop servo-controls and having any of the following:
(A) Enabling a vehicle to move within 10 m of a predetermined point in the water column;
(B) Maintaining the position of the vehicle within 10 m of a predetermined point in the water column; or
(C) Maintaining the position of the vehicle within 10 m while following a cable on or under the seabed.
(iii) 8A002.h and .j.
(iv) 8A002.o.3.
(v) 8A002.p.
(vi) 8D001—''Software'' specially designed for the ''development'' or ''production'' of equipment in 8A001.b to .c, 8A002.b (as described in this Supplement), 8A002.h, 8A002.j, 8A002.o.3, or 8A002.p.
(vii) 8D002.
(viii) 8E001—''Technology'' according to the General Technology Note for the ''development'' or ''production'' of equipment specified by 8A001.b to .c, 8A002.b (as described in this Supplement), 8A002.h, 8A002.j, 8A002.o.3, or 8A002.p.
(ix) 8E002.a.

(9) Category 9

(i) 9A011.
(ii) 9B001.
(iii) 9D001—''Software'' ''specially designed'' or modified for the ''development'' of equipment or ''technology,'' specified by 9A011, 9B001.b. 9E003.a.1, 9E003.a.2 to a.5 or 9E003.a.8 or 9E003.h.
(iv) 9D002—''Software'' ''specially designed'' or modified for the ''production'' of equipment specified by 9A011 or 9B001.b.
(v) 9D004.a and .c.
(vi) 9E001.
(vii) 9E002.
(viii) [Reserved]
(ix) 9E003.a.1 to a.5, a.8.
(x) 9E003.h.

[78 FR 22736, Apr. 16, 2013, as amended at 79 FR 45307, Aug. 4, 2014; 80 FR 29455, May 21, 2015; 81 FR 64691, Sept. 20, 2016; 82 FR 38819, Aug. 15, 2017; 83 FR 53793, Oct. 24, 2018; 85 FR 56334, Sept. 11, 2020; 86 FR 16506, Mar. 29, 2021; 88 FR 71985, Oct. 18, 2023; 88 FR 73517, Oct. 25, 2023; 89 FR 23905, Apr. 4, 2024]

SUPPLEMENT NO. 7 TO PART 774—VERY SENSITIVE LIST

NOTE TO SUPPLEMENT NO. 7: *While the items on this list are identified by ECCN rather than by Wassenaar Arrangement numbering, the item descriptions are drawn directly from the Wassenaar Arrangement's Very Sensitive List, which is a subset of the Wassenaar Arrangement's Sensitive List. If text accompanies an ECCN below, then the Very Sensitive List is limited to a subset of items classified under the specific ECCN or has differing parameters.*

(1) Category 1

(i) 1A002.a.1.
(ii) 1C001.
(iii) 1C012.
(iv) 1E001—''Technology'' according to the General Technology Note for the ''development'' or ''production'' of equipment and materials specified by 1A002.a, 1C001, or 1C012.

(2) Category 5—Part 1

(i) 5A001.b.5.
(ii) 5A001.h.
(iii) 5D001.a—''Software'' ''specially designed'' for the ''development'' or ''production'' of equipment, functions or features specified by 5A001.b.5 or 5A001.h.
(iv) 5E001.a—''Technology'' according to the General Technology Note for the ''development'' or ''production'' of equipment, functions, features or ''software'' specified by 5A001.b.5, 5A001.h, or 5D001.a.

(3) Category 6

(i) 6A001.a.1.b.1—Systems or transmitting and receiving arrays, designed for object detection or location, having a sound pressure level exceeding 210 dB (reference 1 μPa at 1 m) and an operating frequency in the band from 30 Hz to 2 kHz.
(ii) 6A001.a.2.a.1 to a.2.a.3, a.2.a.5, or a.2.a.6.
(iii) 6A001.a.2.b.
(iv) 6A001.a.2.c—Processing equipment, ''specially designed'' for real time application with towed acoustic hydrophone arrays, having ''user-accessible programmability'' and time or frequency domain processing and correlation, including spectral analysis, digital filtering and beamforming using Fast Fourier or other transforms or processes.
(v) 6A001.a.2.e.

(vi) 6A001.a.2.f—Processing equipment, ''specially designed'' for real time application with bottom or bay cable systems, having ''user-accessible programmability'' and time or frequency domain processing and correlation, including spectral analysis, digital filtering and beamforming using Fast Fourier or other transforms or processes.

(vii) 6A002.a.1.c.

(viii) 6B008.

(ix) 6D001—''Software'' ''specially designed'' for the ''development'' or ''production'' of equipment specified by 6B008.

(x) 6D003.a.

(xi) 6E001—''Technology'' according to the General Technology Note for the ''development'' of equipment or ''software'' specified by the 6A, 6B, or 6D provisions described in this Supplement.

(xii) 6E002—''Technology'' according to the General Technology Note for the ''production'' of equipment specified by the 6A or 6B provisions described in this Supplement.

(4) Category 7

(i) 7D003.a.

(ii) 7D003.b.

(5) Category 8

(i) 8A001.b.

(ii) 8A001.c.1.

(iii) 8A002.o.3.b.

(iv) 8D001—''Software'' specially designed for the ''development'' or ''production'' of equipment specified by 8A001.b, 8A001.c.1, or 8A002.o.3.b.

(v) 8E001—''Technology'' according to the General Technology Note for the ''development'' or ''production'' of equipment specified by 8A001.b, 8A001.c.1, or 8A002.o.3.b.

(6) Category 9

(i) 9A011.

(ii) 9D001—''Software'' ''specially designed'' or modified for the ''development'' of equipment or ''technology'' specified by 9A011, 9E003.a.1, or 9E003.a.3.a.

(iii) 9D002—''Software'' ''specially designed'' or modified for the ''production'' of equipment specified by 9A011.

(iv) 9E001—''Technology'' according to the General Technology note for the ''development'' of equipment or ''software'' specified by 9A011 or this Supplement's description of 9D001 or 9D002.

(v) 9E002—''Technology'' according to the General Technology Note for the ''production'' of equipment specified by 9A011.

(vi) 9E003.a.1.

(vii) 9E003.a.3.a.

[78 FR 22736, Apr. 16, 2013, as amended at 83 FR 53793, Oct. 24, 2018; 85 FR 56334, Sept. 11, 2020]

PARTS 775–780 [RESERVED]

SUBCHAPTER D—ADDITIONAL PROTOCOL REGULATIONS

PART 781—GENERAL INFORMATION AND OVERVIEW OF THE ADDITIONAL PROTOCOL REGULATIONS (APR)

Sec.
781.1 Definitions of terms used in the Additional Protocol Regulations (APR).
781.2 Purposes of the Additional Protocol and APR.
781.3 Scope of the APR.
781.4 U.S. Government requests for information needed to satisfy the requirements of the APR or the Act.
781.5 Authority.

AUTHORITY: United States Additional Protocol Implementation Act of 2006, Pub. Law No. 109–401, 120 Stat. 2726 (December 18, 2006) (to be codified at 22 U.S.C. 8101–8181); Executive Order 13458 (February 4, 2008).

SOURCE: 73 FR 65128, Oct. 31, 2008, unless otherwise noted.

§ 781.1 Definitions of terms used in the Additional Protocol Regulations (APR).

The following are definitions of terms used in parts 781 through 786 of this subchapter (collectively known as the APR), unless otherwise noted:

Access Point of Contact (A–POC). The individual at a location who will be notified by BIS immediately upon receipt of an IAEA request for complementary access to a location. BIS must be able to contact either the A–POC or alternate A–POC on a 24-hour basis. All interactions with the location for permitting and planning an IAEA complementary access will be conducted through the A–POC or the alternate A–POC, if the A–POC is unavailable.

Act (The). The United States Additional Protocol Implementation Act of 2006 (Pub. L. 109–401).

Additional Protocol. The Protocol Additional to the Agreement between the United States of America and the International Atomic Energy Agency for the Application of Safeguards in the United States of America, with Annexes, signed at Vienna on June 12, 1998 (T. Doc. 107–097), known as the Additional Protocol.

Additional Protocol Regulations (APR). Those regulations contained in 15 CFR parts 781 to 786 that were promulgated by the Department of Commerce to implement and enforce the Additional Protocol.

Agreement State. Any State of the United States with which the U.S. Nuclear Regulatory Commission (NRC) has entered into an effective agreement under Subsection 274b of the Atomic Energy Act of 1954, as amended (42 U.S.C. 2011 *et seq.*).

Beneficiation. The concentration of nuclear ores through physical or any other non-chemical methods.

Bureau of Industry and Security (BIS). The Bureau of Industry and Security of the United States Department of Commerce, including Export Administration and Export Enforcement.

Complementary Access. The exercise of the IAEA's access rights as set forth in Articles 4 to 6 of the Additional Protocol (see part 784 of the APR for requirements concerning the scope and conduct of complementary access).

Complementary Access Notification. A written announcement issued by BIS to a person who is subject to the APR (e.g., the owner, operator, occupant, or agent in charge of a location that is subject to the APR as specified in § 781.3(a) of the APR) that informs this person about an impending complementary access in accordance with the requirements of part 784 of the APR.

Host Team. The U.S. Government team that accompanies the International Atomic Energy Agency (IAEA) inspectors during complementary access, as provided for in the Additional Protocol and conducted in accordance with the provisions of the APR.

Host Team Leader. The representative from the Department of Commerce who leads the Host Team during complementary access.

International Atomic Energy Agency (IAEA). The United Nations organization, headquartered in Vienna, Austria, that serves as the official international verification authority for the implementation of safeguards agreements concluded pursuant to the Treaty on

the Non-Proliferation of Nuclear Weapons (NPT).

ITAR. The International Traffic in Arms Regulations (22 CFR Parts 120–130), which are administered by the Directorate of Defense Trade Controls, U.S. Department of State.

Location. Any geographical point or area declared or identified by the United States or specified by the IAEA (see ''*location specified by the IAEA*,'' as defined in this section).

Location-specific environmental sampling. The collection of environmental samples (e.g., air, water, vegetation, soil, smears) at, and in the immediate vicinity of, a location specified by the IAEA for the purpose of assisting the IAEA to draw conclusions about the absence of undeclared nuclear material or nuclear activities at the specified location.

Location-specific subsidiary arrangement. An agreement that sets forth procedures, which have been mutually agreed upon by the United States and the IAEA, for conducting complementary access at a specific reportable location. (Also see definition of ''*subsidiary arrangement*'' in this section.)

Location specified by the IAEA. A location that is selected by the IAEA to:

(1) Verify the absence of undeclared nuclear material or nuclear activities; or

(2) Obtain information that the IAEA needs to amplify or clarify information contained in the U.S. declaration.

Managed access. Procedures implemented by the Host Team during complementary access to prevent the dissemination of proliferation sensitive information, to meet safety or physical protection requirements, to protect proprietary or commercially sensitive information, or to protect activities of direct national security significance to the United States, including information associated with such activities, in accordance with the Additional Protocol.

National Security Exclusion (NSE). The right of the United States, as specified under Article 1.b of the Additional Protocol, to exclude the application of the Additional Protocol when the United States Government determines that its application would result in access by the IAEA to activities of direct national security significance to the United States or to locations or information associated with such activities.

NRC. The U.S. Nuclear Regulatory Commission.

Nuclear fuel cycle-related research and development. Those activities that are specifically related to any process or system development aspect of any of the following:

(1) Conversion of nuclear material;

(2) Enrichment of nuclear material;

(3) Nuclear fuel fabrication;

(4) Reactors;

(5) Critical facilities;

(6) Reprocessing of nuclear fuel; or

(7) Processing (not including repackaging or conditioning not involving the separation of elements, for storage or disposal) of intermediate or high-level waste containing plutonium, high enriched uranium or uranium-233.

Nuclear Material. Any source material or special fissionable material, as follows.

(1) *Source material* means uranium containing the mixture of isotopes occurring in nature; uranium depleted in the isotope 235; thorium; any of the foregoing in the form of metal, alloy, chemical, or concentrate. The term source material shall not be interpreted as applying to ore or ore residue.

(2) *Special fissionable material* means plutonium 239; uranium 233; uranium enriched in the isotopes 235 or 233; any material containing one or more of the foregoing, but the term special fissionable material does not include source material.

Person. Any individual, corporation, partnership, firm, association, trust, estate, public or private institution, any State or any political subdivision thereof, or any political entity within a State, any foreign government or nation or any agency, instrumentality or political subdivision of any such government or nation, or other entity located in the United States.

Report Point of Contact (R–POC). A person whom BIS may contact for the purposes of clarification of information provided in report(s) and for general information. The R–POC need not be the person who prepares the forms or certifies the report(s) for submission to

BIS, but should be familiar with the content of the reports.

Reportable Location. A location that must submit an *Initial Report, Annual Update Report,* or *No Changes Report* to BIS, in accordance with the provisions of the APR, is considered to be a ''reportable location'' with reportable activities (see §783.1(a) and (b) of the APR for nuclear fuel cycle-related activities subject to these reporting requirements).

Reporting Code. A unique identification used for identifying a location where one or more nuclear fuel cycle-related activities subject to the reporting requirements of the APR are located.

Subsidiary Arrangement (or General Subsidiary Arrangement). An agreement that sets forth procedures, which have been mutually agreed upon by the United States and the IAEA, for implementing the Additional Protocol, irrespective of the location. (Also see the definition of ''*location-specific subsidiary arrangement*'' in this section.)

United States. Means the several States of the United States, the District of Columbia, and the commonwealths, territories, and possessions of the United States, and includes all places under the jurisdiction or control of the United States, including any of the places within the provisions of paragraph (41) of section 40102 of Title 49 of the United States Code, any civil aircraft of the United States or public aircraft, as such terms are defined in paragraphs (1) and (37), respectively, of section 40102 of Title 49 of the United States Code, and any vessel of the United States, as such term is defined in section 3(b) of the Maritime Drug Enforcement Act, as amended (section 1903(b) of Title 46 App. of the United States Code).

Uranium Hard-Rock Mine. Means any of the following:

(1) An area of land from which uranium is extracted in non-liquid form;

(2) Private ways and roads appurtenant to such an area; and

(3) Lands, excavations, underground passageways, shafts, slopes, tunnels and workings, structures, facilities, equipment, machines, tools, or other property including impoundments, retention dams, and tailings ponds, on the surface or underground, used in, or to be used in, or resulting from, the work of extracting such uranium ore from its natural deposits in non-liquid form, or if in liquid form, with workers underground, or used in, or to be used in, the concentration of such uranium ore, or the work of the uranium ore.

Uranium Hard-Rock Mine (Closed-down). A uranium hard-rock mine where ore production has ceased and the mine or its infrastructure is not capable of further operation.

Uranium Hard-Rock Mine (Operating). A uranium hard-rock mine where ore is produced on a routine basis.

Uranium Hard-Rock Mine (Suspended). A uranium hard-rock mine where ore production has ceased, but the mine and its infrastructure are capable of further operation.

U.S. declaration. The information submitted by the United States to the IAEA in fulfillment of U.S. obligations under the Additional Protocol.

United States Government locations. Those locations owned and operated by a U.S. Government agency (including those operated by contractors to the agency), and those locations leased to and operated by a U.S. Government agency (including those operated by contractors to the agency). United States Government locations do not include locations owned by a U.S. Government agency and leased to a private organization or other entity such that the private organization or entity may independently decide the purposes for which the locations will be used.

Wide-area environmental sampling. The collection of environmental samples (e.g., air, water, vegetation, soil, smears) at a set of locations specified by the IAEA for the purpose of assisting the IAEA to draw conclusions about the absence of undeclared nuclear material or nuclear activities over a wide area.

You. The term ''you'' or ''your'' means any person. With regard to the reporting requirements of the APR, ''you'' refers to persons that have an obligation to report certain activities under the provisions of the APR. (Also see the definition of ''*person*'' in this section.)

§ 781.2 Purposes of the Additional Protocol and APR.

(a) *General.* The Additional Protocol is a supplement to the existing U.S.–IAEA Safeguards Agreement, which entered into force in 1980. It provides the IAEA with access to additional information about civil nuclear and nuclear-related items, materials, and activities and with physical access to reportable locations where nuclear facilities, materials, or ores are located (to ensure the absence of undeclared nuclear material and activities) and to other reportable locations and locations specified by the IAEA (to resolve questions or inconsistencies related to the U.S. Declaration). The Additional Protocol is based upon and is virtually identical to the IAEA Model Additional Protocol (see IAEA Information Circular, INFCIRC/540, at *http://www.iaea.org/Publications/Documents/Infcircs/index.html*), except that it excludes IAEA access to activities with direct national security significance to the United States, or to locations or information associated with such activities, and provides for managed access in connection with those same activities and to locations or information associated with those activities.

(b) *Purposes of the Additional Protocol.* The Additional Protocol is designed to enhance the effectiveness of the U.S.–IAEA Safeguards Agreement by providing the IAEA with information about aspects of the U.S. civil nuclear fuel cycle, including: Mining and concentration of nuclear ores; nuclear-related equipment manufacturing, assembly, or construction; imports, exports, and other activities involving certain source material (i.e., source material that has not reached the composition and purity suitable for fuel fabrication or for being isotopically enriched); imports and exports of specified nuclear equipment and non-nuclear material; nuclear fuel cycle-related research and development activities not involving nuclear material; and other activities involving nuclear material not currently subject to the U.S.–IAEA Safeguards Agreement (e.g., nuclear material that has been exempted from safeguards pursuant to paragraph 37 of INFCIRC/153 (Corrected) June 1972).

(c) *Purposes of the Additional Protocol Regulations.* To fulfill certain obligations of the United States under the Additional Protocol, BIS has established the APR, which require the reporting of information to BIS (as described in parts 783 and 784 of the APR) from all persons and locations in the United States (as described in § 781.3(a) of the APR) with reportable activities. This information, together with information reported to other U.S. Government agencies and less any information to which the U.S. Government applies the national security exclusion, is aggregated into a U.S. declaration, which is submitted annually to the IAEA. The APR also provide for complementary access at such locations in accordance with the provisions in part 784 of the APR.

§ 781.3 Scope of the APR.

The Additional Protocol Regulations or APR implement certain obligations of the United States under the Protocol Additional to the Agreement Between the United States of America and the International Atomic Energy Agency Concerning the Application of Safeguards in the United States of America, known as the Additional Protocol.

(a) *Persons and locations subject to the APR.* The APR, promulgated by the Department of Commerce, shall apply to all persons and locations in the United States, *except*:

(1) Locations that are subject to the regulatory authority of the Nuclear Regulatory Commission (NRC), pursuant to the NRC's regulatory jurisdiction under the Atomic Energy Act of 1954, as amended (42 U.S.C. 2011 *et seq.*); and

(2) The following *United States Government locations* (see definition in § 781.1 of the APR):

(i) Department of Energy locations;

(ii) Department of Defense locations;

(iii) Central Intelligence Agency locations; and

(iv) Department of State locations.

(b) *Activities subject to the APR.* The activities that are subject to the recordkeeping and reporting requirements described in the APR are found in parts 783 and 784 of this subchapter (APR).

§ 781.4 U.S. Government requests for information needed to satisfy the requirements of the APR or the Act.

From time-to-time, one or more U.S. Government agencies (i.e., the Department of Defense, the Department of Energy, the NRC, or BIS) may contact a location to request information that the U.S. Government has determined to be necessary to satisfy certain requirements of the APR or the Act (e.g., clarification requests or vulnerability assessments). If the manner of providing such information is not specified in the APR, the agency in question will provide the location with appropriate instructions.

§ 781.5 Authority.

The APR implement certain provisions of the Additional Protocol under the authority of the Additional Protocol Implementation Act of 2006 (Pub. L. 109–401, 120 Stat. 2726 (December 18, 2006)). In Executive Order 13458 of February 4, 2008, the President delegated authority to the Department of Commerce to promulgate regulations to implement the Act, and consistent with the Act, to carry out appropriate functions not otherwise assigned in the Act, but necessary to implement certain declaration and complementary access requirements of the Additional Protocol and the Act.

PART 782—GENERAL INFORMATION REGARDING REPORTING REQUIREMENTS AND PROCEDURES

Sec.

782.1 Overview of reporting requirements under the APR.
782.2 Persons responsible for submitting reports required under the APR.
782.3 Compliance review.
782.4 Assistance in determining your obligations.
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AUTHORITY: United States Additional Protocol Implementation Act of 2006, Pub. Law No. 109–401, 120 Stat. 2726 (December 18, 2006) (to be codified at 22 U.S.C. 8101–8181); Executive Order 13458 (February 4, 2008).

SOURCE: 73 FR 65128, Oct. 31, 2008, unless otherwise noted.

§ 782.1 Overview of reporting requirements under the APR.

Part 783 of the APR describes the reporting requirements for certain activities specified in the APR. For each activity specified in part 783, BIS may require that an *Initial Report*, an *Annual Update Report*, a *No Changes Report*, an *Import Confirmation Report*, a *Supplemental Information Report*, or an *Amended Report* be submitted to BIS. In addition, persons subject to the APR may be required to provide BIS with information needed to assist the IAEA in clarifying or verifying information specified in the U.S. declaration or in clarifying or amplifying information concerning the nature of the activities conducted at a location (see §§ 783.1(d) and 784.1(b)(2) of the APR for requirements concerning a *Supplemental Information Report*). If, after reviewing part 783 of the APR, you determine that you are subject to one or more APR reporting requirements, you may obtain the appropriate forms by contacting BIS (see § 782.5 of the APR). In addition, forms may be downloaded from the Internet at *http://www.ap.gov*.

§ 782.2 Persons responsible for submitting reports required under the APR.

The owner, operator, or senior management official of a location subject to the reporting requirements in part 783 of the APR is responsible for the submission of all required reports and documents in accordance with all applicable provisions of the APR.

§ 782.3 Compliance review.

Periodically, BIS will request information from persons and locations subject to the APR to determine compliance with the reporting and recordkeeping requirements set forth herein. Information requested may relate to nuclear fuel cycle research and development activities not involving nuclear material, nuclear-related manufacturing, assembly or construction activities, or uranium hard-rock mining activities as described in part 783 of the APR. Any person or location subject to the APR and receiving such a request for information must submit a response to BIS within 30 calendar days

of receipt of the request. If the requested information cannot be provided to BIS, the response must fully explain the reason why such information cannot be provided. If additional time is needed to collect the requested information, the person or location should request an extension of the submission deadline, before the expiration of the 30-day time period set by BIS, and include an explanation for why an extension is needed. BIS will grant only one extension of the submission deadline. The maximum period of time for which BIS will grant an extension will be 30 days. Failure to respond to this request could lead to an investigation of the person's or location's reporting and recordkeeping procedures under the APR.

§ 782.4 Assistance in determining your obligations.

(a) *Determining if your activity is subject to reporting requirements.* (1) If you need assistance in determining whether or not your activity is subject to the APR's reporting requirements, submit your written request for an activity determination to BIS. Such requests may be sent to BIS via facsimile to (202) 482–1731, e-mailed to *apdr@bis.doc.gov*, or hand delivered, submitted by courier, or mailed to BIS, in hard copy, to the following address: Treaty Compliance Division, Bureau of Industry and Security, U.S. Department of Commerce, Attn: AP Activity Determination, 14th Street and Pennsylvania Avenue, NW., Room 4515, Washington, DC 20230. Your activity determination request should include the information indicated in paragraph (a)(2) of this section to ensure an accurate determination. Also include any additional information that would be relevant to the activity described in your request. If you are unable to provide all of the information required in paragraph (a)(2) of this section, you should include an explanation identifying the reasons or deficiencies that preclude you from supplying the information. If BIS cannot make a determination based upon the information submitted, BIS will return the request to you and identify the additional information that is necessary to complete an activity determination. BIS will provide a written response to your activity determination request within 10 business days of receipt of the request.

(2) You must include the following information when submitting an activity determination request to BIS:

(i) Date of your request;

(ii) Name of your organization and complete street address;

(iii) Point of contact for your organization;

(iv) Phone and facsimile number for your point of contact;

(v) E-mail address for your point of contact, if you want BIS to provide an acknowledgment of receipt via e-mail; and

(vi) Description of your activity in sufficient detail as to allow BIS to make an accurate determination.

(b) *Other inquiries.* If you need assistance in interpreting the provisions of the APR or need assistance with APR report forms or complementary access issues, contact BIS's Treaty Compliance Division by phone at (202) 482–1001. If you require a written response from BIS, submit a detailed request to BIS that explains your question, issue, or request. Send the request to the address or facsimile included in paragraph (a) of this section, or e-mail the request to *apqa@bis.doc.gov*. To ensure that your request is properly routed, include the notation, ''ATTENTION: APR Advisory Request,'' on your submission to BIS.

§ 782.5 Where to obtain APR report forms.

Report forms required by the APR may be downloaded from the Internet at *http://www.ap.gov*. You also may obtain these forms by contacting: Treaty Compliance Division, Bureau of Industry and Security, U.S. Department of Commerce, Attn: Forms Request, 14th Street and Pennsylvania Avenue, NW., Room 4515, Washington, DC 20230, Telephone: (202) 482–1001.

§ 782.6 Where to submit reports.

Reports required by the APR must be sent to BIS via facsimile to (202) 482–1731 or hand delivered , submitted by courier, or mailed to BIS, in hard copy, to the following address: Treaty Compliance Division, Bureau of Industry

and Security, U.S. Department of Commerce, Attn: AP Reports, 14th Street and Pennsylvania Avenue, NW., Room 4515, Washington, DC 20230, Telephone: (202) 482–1001. Specific types of reports and due dates are outlined in supplement no. 1 to part 783 of the APR.

PART 783—CIVIL NUCLEAR FUEL CYCLE-RELATED ACTIVITIES NOT INVOLVING NUCLEAR MATERIALS

Sec.

783.1 Reporting requirements.
783.2 Amended reports.
783.3 Reports containing information determined by BIS not to be required by the APR.
783.4 Deadlines for submission of reports and amendments.
SUPPLEMENT NO. 1 TO PART 783—DEADLINES FOR SUBMISSION OF REPORTS AND AMENDMENTS
SUPPLEMENT NO. 2 TO PART 783—MANUFACTURING ACTIVITIES
SUPPLEMENT NO. 3 TO PART 783—LIST OF SPECIFIED EQUIPMENT AND NON-NUCLEAR MATERIAL FOR THE REPORTING OF IMPORTS

AUTHORITY: United States Additional Protocol Implementation Act of 2006, Pub. Law No. 109–401, 120 Stat. 2726 (December 18, 2006) (to be codified at 22 U.S.C. 8101–8181); Executive Order 13458 (February 4, 2008).

SOURCE: 73 FR 65128, Oct. 31, 2008, unless otherwise noted.

§ 783.1 Reporting requirements.

(a) *Initial report.* You must submit an *Initial Report* to BIS, no later than December 1, 2008 (see supplement no. 1 to this part), if you were engaged in any of the civil nuclear fuel cycle-related activities described in this paragraph (a) on October 31, 2008 or you were engaged in any such activities involving uranium hard-rock mines, including those that were closed down during calendar year 2008, (up to and including October 31, 2008). If you commenced any of the civil nuclear fuel cycle-related activities described in this paragraph (a) after October 31, 2008, you must submit an *Initial Report* on these activities to BIS no later than January 31 of the year following the calendar year in which the activities commenced (see supplement no. 1 to this part). You may report these activities as part of your *Annual Update Report*, in lieu of submitting a separate *Initial Report*, if you also have an *Annual Update Report* requirement that applies to the same location and covers the same reporting period (see paragraph (b) of this section). In order to satisfy the *Initial Report* requirements under this paragraph (a), you must complete and submit to BIS Form AP–1, Form AP–2, and other appropriate Forms, as provided in this paragraph (a).

(1) *Research and development activities not involving nuclear material.* You must report to BIS any of the civil nuclear fuel cycle-related research and development activities identified in paragraphs (a)(1)(i) and (a)(1)(ii) of this section. Activities subject to these APR reporting requirements include research and development activities related to safe equipment operations for a nuclear fuel cycle-related activity, but do not include activities related to theoretical or basic scientific research or to research and development on industrial radioisotope applications, medical, hydrological and agricultural applications, health and environmental effects and improved maintenance.

(i) You must complete Form AP–3 and submit it to BIS, as provided in § 782.6 of the APR, if you conducted any civil nuclear fuel cycle-related research and development activities defined in § 781.1 of the APR that:

(A) Did not involve nuclear material; and

(B) Were funded, specifically authorized or controlled by, or conducted on behalf of, the United States.

(ii) You must complete Form AP–4 and submit it to BIS, as provided in § 782.6 of the APR, if you conducted any civil nuclear fuel cycle-related research and development activities defined in § 781.1 of the APR that:

(A) Did not involve nuclear material;

(B) Were specifically related to enrichment, reprocessing of nuclear fuel, or the processing of intermediate or high-level waste containing plutonium, high enriched uranium or uranium-233 (where ''processing'' involves the separation of elements); and

(C) Were not funded, specifically authorized or controlled by, or conducted on behalf of, the United States.

(2) *Civil nuclear-related manufacturing, assembly or construction activities.* You must complete Form AP–5 and submit it to BIS, as provided in §782.6 of the APR, if you engaged in any of the activities specified in supplement no. 2 to this part.

(3) *Uranium hard-rock mining and ore beneficiation activities.* You must complete Form AP–6 and submit it to BIS, as provided in §782.6 of the APR, if your location is either a uranium hard-rock mine or an ore beneficiation plant that was in operating or suspended status (see §781.1 of the APR for the definitions of ''uranium hard-rock mine'' and uranium hard-rock mines in ''operating,'' ''suspended,'' or ''closed-down'' status).

(i) The *Initial Report* requirement for calendar year 2008 applies to:

(A) Uranium hard-rock mines or ore beneficiation plants that were in operating or suspended status on October 31, 2008; and

(B) Uranium hard-rock mines that have changed from operating or suspended status to closed-down status during calendar year 2008 (up to and including October 31, 2008). Mines that were closed down prior to calendar year 2008 and that remain in closed-down status do not have a reporting requirement.

(ii) You are required to submit an *Initial Report* to BIS, for any calendar year that follows calendar year 2008, only if you commenced operations at a uranium hard-rock mine or an ore beneficiation plant during the previous calendar year (e.g., the commencement of operations would include, but not be limited to, the resumption of operations at a mine that was previously in ''closed-down'' status). Otherwise, see the *Annual Update Report and No Changes Report* requirements in paragraphs (b)(1) or (b)(2) of this section. For example, you must submit an *Annual Update Report* to indicate the closed-down status of any uranium hard-rock mine that was indicated in your most recent report to be in either operating or suspended status, but at which you ceased operations during the previous calendar year.

(b) *Annual reporting requirements.* You must submit either an *Annual Update Report* or a *No Changes Report* to BIS, as provided in §782.6 of the APR, if, during the previous calendar year, you continued to engage in civil nuclear fuel cycle-related activities at a location for which you submitted an *Initial Report* to BIS in accordance with the APR reporting requirements described in paragraph (a) of this section.

(1) *Annual Update Report.* You must submit an *Annual Update Report* to BIS if you have updates or changes to report concerning your location's activities during the previous calendar year. When preparing your *Annual Update Report*, you must complete the same report forms that you used for submitting your *Initial Report* on these activities. However, additional report forms will be required if your location engaged in any civil nuclear fuel cycle-related activities described in paragraph (a) of this section that you did not previously report to BIS. The appropriate report forms for each type of activity that must be reported under the APR are identified in paragraphs (a)(1) through (a)(3) of this section. You must submit your *Annual Update Report* to BIS no later than January 31 of the year following any calendar year in which the activities took place or there were changes to previously ''reported'' activities (see supplement no. 1 to this part).

(2) *No Changes Report.* You may submit a *No Changes Report*, in lieu of an *Annual Update Report*, if you have no updates or changes concerning your location's activities (except the certifying official and dates signed and submitted) since your most recent report of activities to BIS. In order to satisfy the reporting requirements under this paragraph (b)(2), you must complete Form AP–16 and submit it to BIS, as provided in §782.6 of the APR, no later than January 31 of the year following any calendar year in which there were no changes to previously ''reported'' activities or location information (see supplement no. 1 to this part).

(3) *Additional guidance on annual reporting requirements.* (i) If your *Initial Report* or your most recent *Annual Update Report* for a location indicates that all civil nuclear fuel cycle-related activities described therein have ceased at that location, and no other reportable activities have occurred during

the previous calendar year, then you do not have a reporting requirement for the location under paragraph (b) of this section.

(ii) If your location ceases to engage in activities subject to the APR reporting requirements described in paragraph (a) of this section, and you have not previously reported this to BIS, you must submit an *Annual Update Report* covering the calendar year in which you ceased to engage in such activities.

(iii) Closed-down mines should be reported only once.

(c) *Import Confirmation Report.* You must complete Forms AP–1, AP–2 and AP–14 for each import of equipment or non-nuclear material identified in supplement no. 3 to this part and submit these forms to BIS, as provided in §782.6 of the APR, if BIS sends you written notification requiring that you provide information concerning imports of such equipment and non-nuclear material. These Forms must be submitted within 30 calendar days of the date that you receive written notification of this requirement from BIS (see supplement no. 1 to this part). BIS will provide such notification when it receives a request from the IAEA for information concerning imports of this type of equipment or non-nuclear material. The IAEA may request this information to verify that you received specified equipment or non-nuclear material that was shipped to you by a person, organization, or government from a foreign country.

(d) *Supplemental Information Report.* You must complete Forms AP–1, AP–2 and AP–15 and submit them to BIS, as provided in §782.6 of the APR, if BIS sends you written notification requiring that you provide information about the activities conducted at your location, insofar as relevant for the purpose of safeguards. These Forms must be submitted within 15 calendar days of the date that you receive written notification of this requirement from BIS (see supplement no. 1 to this part). BIS will provide such notification only if the IAEA specifically requests amplification or clarification concerning any information provided in the U.S. Declaration based on your report(s).

(e) *Reportable location.* A location that must submit an *Initial Report, Annual Update Report, or No Changes Report* to BIS, pursuant to the requirements of this section, is considered to be a reportable location with declared activities.

§ 783.2 Amended reports.

In order for BIS to maintain accurate information on previously submitted reports, including information necessary for BIS to facilitate complementary access notifications or to communicate reporting requirements under the APR, *Amended Reports* are required under the circumstances described in paragraphs (a), (b), and (d) of this section. This section applies only to changes affecting *Initial Reports* and *Annual Update Reports* that were submitted to BIS in accordance with the requirements of §783.1(a) and (b) of the APR. The specific report forms that you must use to prepare and submit an *Amended Report* will depend upon the type of information that you are required to provide, pursuant to this section.

(a) *Changes to activity information.* You must submit an *Amended Report* to BIS within 30 calendar days of the time that you discover an error or omission in your most recent *Initial Report* or *Annual Update Report* that involves information concerning an activity subject to the reporting requirements described in §783.1(a) or (b) of the APR. Use Form AP–1, and any applicable report forms indicated for the activities identified in §783.1(a) of the APR, to prepare your *Amended Report.* Submit your *Amended Report* to BIS, as provided in §782.6 of the APR.

(b) *Changes to organization and location information that must be maintained by BIS*—(1) *Internal organization changes.* You must submit an *Amended Report* to BIS within 30 calendar days of any change in the following information (use Form AP–1 to prepare your *Amended Report* and submit it to BIS, as provided in §782.6 of the APR):

(i) Name of report point of contact (R–POC), including telephone number, facsimile number, and e-mail address;

(ii) Name(s) of complementary access point(s) of contact (A–POC), including

telephone number(s), facsimile number(s) and e-mail address(es);

(iii) Organization name;

(iv) Organization mailing address;

(v) Location owner, including telephone number, and facsimile number; or

(vi) Location operator, including telephone number, and facsimile number.

(2) *Change in ownership of organization.* You must submit an *Amended Report* to BIS if you sold a reportable location or if your reportable location went out of business since submitting your most recent *Initial Report*, *Annual Update Report*, or *No Changes Report* to BIS. You must also submit an *Amended Report* to BIS if you purchased a reportable location that submitted an *Initial Report*, *Annual Update Report*, or *No Changes Report* to BIS for the most recent reporting period, as specified in § 783.1(a) and (b) of the APR. Submit your *Amended Report* to BIS, as provided in § 782.6 of the APR, either before the effective date of the change in ownership or within 30 calendar days after the effective date of the change.

(i) The following information must be included in an *Amended Report* submitted to BIS by an organization that is selling or that has sold a reportable location (use Forms AP–1 and AP–16 to prepare your *Amended Report*—address specific details regarding the sale of a reportable location in Form AP–16):

(A) Name of seller (i.e., name of the organization selling a reportable location);

(B) Reporting Code (this code will be assigned to your location and reported to you by BIS after receipt of your *Initial Report*);

(C) Name of purchaser (i.e., name of the new organization/owner purchasing a reportable location) and name and address of contact person for the purchaser, if known;

(D) Date of ownership transfer or change;

(E) Additional details on the sale of the reportable location relevant to ownership or operational control over any portion of the reportable location (e.g., whether the entire location or only a portion of the reportable location has been sold to a new owner); and

(F) Details regarding whether the new owner of a reportable location will submit the next report for the entire calendar year in which the ownership change occurred, or whether the previous owner and new owner will submit separate reports for the periods of the calendar year during which each owned the reportable location.

(ii) The following information must be included in an *Amended Report* submitted to BIS by an organization that is purchasing or that has purchased a reportable location (use Forms AP–1 and AP–2 to prepare your *Amended Report*):

(A) Name of purchaser (i.e., name of the new organization/owner purchasing a reportable location) and name and address of contact person for the purchaser;

(B) Details on the purchase of the reportable location relevant to ownership or operational control over any portion of the reportable location (e.g., whether the purchaser intends to purchase and to maintain operational control over the entire location or only a portion of the reportable location); and

(C) Details on whether the purchaser intends to continue existing civil nuclear fuel cycle-related activities at the reportable location or to cease such activities during the current reporting period.

(iii) If the new owner of a reportable location is responsible for submitting a report that covers the entire calendar year in which the ownership change occurred, the new owner must obtain and maintain possession of the location's records covering the entire year, including those records for the period of the year during which the previous owner still owned the property.

NOTE 1 TO § 783.2(b): *Amended Reports* that are submitted to identify changes involving internal organization information or changes in ownership are used only for internal U.S. Government purposes and are not forwarded to the IAEA. BIS uses the information it obtains from *Amended Reports* to update contact information for internal oversight purposes and for IAEA complementary access notifications.

NOTE 2 TO § 783.2(b): For ownership changes, the reportable location will maintain its original Reporting Code, unless the location is sold to multiple owners, at which time BIS will assign a new Reporting Code.

(c) *Non-substantive changes.* If you discover one or more non-substantive typographical errors in your *Initial Report* or *Annual Update Report,* after submitting the report to BIS, you are not required to submit an *Amended Report* to BIS. Instead, you may correct these errors when you submit your next *Annual Update Report* to BIS.

(d) *Amendments related to complementary access.* If you are required to submit an *Amended Report* to BIS following the completion of complementary access (see Part 784 of the APR), BIS will notify you, in writing, of the information that must be amended pursuant to §784.6 of the APR. Complete and submit Form AP–1 (organization information) and/or the specific report forms required by section 783.1(a) or (b) of the APR, according to the type(s) of activities for which information is being requested. You must submit your *Amended Report* to BIS, as provided in §782.6 of the APR, no later than 30 calendar days following your receipt of BIS's post complementary access letter.

(e) *Option for submitting amended reports in letter form.* If you are required to submit an *Amended Report* to BIS, pursuant to paragraph (a), (b), or (d) of this section, BIS may permit you to submit your report in the form of a letter that contains all of the corrected information required under this section. Your letter must be submitted to BIS, at the address indicated in §782.6 of the APR, no later than the applicable due date(s) indicated in this section (also see supplement no. 1 to this part).

§783.3 Reports containing information determined by BIS not to be required by the APR.

If you submit a report and BIS determines that none of the information contained therein is required by the APR, BIS will not process the report and will notify you, either electronically or in writing, explaining the basis for its decision. BIS will not maintain any record of the report. However, BIS will maintain a copy of the notification.

§783.4 Deadlines for submission of reports and amendments.

Reports and amendments required under this part must be postmarked by the appropriate date identified in supplement no. 1 to this part 783. Required reports and amendments include those identified in paragraphs (a) through (g) of this section.

(a) *Initial Report:* Submitted by a location that commenced one or more of the civil nuclear fuel cycle-related activities described in §783.1(a) of the APR during the previous calendar year, but that has not yet reported such activities to BIS. However, *Initial Reports* that are submitted to BIS during calendar year 2008 must describe only those activities in which you are engaged as of October 31, 2008, *except that* the description of activities involving uranium hard-rock mines must include any such mines that were closed down during calendar year 2008 (up to and including October 31, 2008), as well as mines that were in either operating or suspended status on October 31, 2008 (see §783.1(a)(3)(i) of the APR).

(b) *Annual Update Report:* Submitted by a reportable location—this report describes changes to previously reported (i.e., declared) activities and any other reportable civil nuclear fuel cycle-related activities that took place at the location during the previous calendar year.

(c) *No Changes Report:* Submitted by a reportable location, in lieu of an *Annual Update Report,* when there are no updates or changes to any information, excluding the certifying official and dates signed and submitted, since the previous report submitted by that location.

(d) *Import Confirmation Report:* Submitted in response to a written notification from BIS, following a specific request by the IAEA.

(e) *Supplemental Information Report:* Submitted in response to a written notification from BIS, following a specific request by the IAEA.

(f) *Amended Report:* Submitted by a reportable location to report certain changes affecting the location's most recent *Initial Report* or *Annual Update Report.*

SUPPLEMENT NO. 1 TO PART 783—DEADLINES FOR SUBMISSION OF REPORTS AND AMENDMENTS

Reports	Applicable forms	Due dates
Initial Report	Forms AP–1 and AP–2 and: —AP–3 or AP–4 for R&D activities; —AP–5 for civil nuclear-related manufacturing, assembly or construction; and. —AP–6 for mining and ore beneficiation	December 1, 2008 for: (1) Any activities in which you were engaged on October 31, 2008 and (2) uranium hard-rock mines that have changed from operating or suspended status to closed-down status during calendar year 2008 (up to and including October 31, 2008). For activities commencing after October 31, 2008, *Initial Reports* must be submitted no later than January 31 of the year following any calendar year in which the activities began, *unless* you are required to submit an *Annual Update Report* because of on-going previously "reported" activities at the same location—in that case, you may include the new activities in your *Annual Update Report,* instead of submitting a separate *Initial Report.*
Annual Update Report	Forms AP–1 and AP–2 and: —AP–3 or AP–4 for R&D activities; —AP–5 for civil nuclear-related manufacturing, assembly or construction; and. —AP–6 for mining and ore beneficiation.	January 31 of the year following any calendar year in which the activities took place or there were changes to previously "reported" activities.
No Changes Report	Form AP–17	January 31 of the year following any calendar year in which there were no changes to previously "reported" activities or location information.
Import Confirmation Report.	Forms AP–1, AP–2, and AP–14	Within 30 calendar days of receiving notification from BIS.
Supplemental Information Report.	Forms AP–1, AP–2, and AP–15	Within 15 calendar days of receiving notification from BIS.
Amended Report: —Report information —Organization and location information. —Complementary access letter.	Form AP–1 and appropriate forms, as specified in §783.1 of the APR, for the type of report being amended.	Amended report due: —30 calendar days after you discover an error or omission in activity information contained in your most recent report. —30 calendar days after a change in company information or ownership of a location. —30 calendar days after receipt of a post-complementary access letter from BIS.

SUPPLEMENT NO. 2 TO PART 783—MANUFACTURING ACTIVITIES

The following constitute manufacturing activities that require the submission of a report to BIS, pursuant to §783.1(a)(2) of the APR.

(1) The manufacture of *centrifuge rotor tubes* or the assembly of *gas centrifuges. Centrifuge rotor tubes* means thin-walled cylinders as described in section 5.1.1(b) of supplement no. 3 to this part. *Gas centrifuges* means centrifuges as described in the Introductory Note to section 5.1 of supplement no. 3 to this part.

(2) The manufacture of *diffusion barriers. Diffusion barriers* means thin, porous filters as described in section 5.3.1(a) of supplement no. 3 to this part.

(3) The manufacture or assembly of *laser-based systems. Laser-based systems* means systems incorporating those items as described in section 5.7 of supplement no. 3 to this part.

(4) The manufacture or assembly of *electromagnetic isotope separators. Electromagnetic isotope separators* means those items referred to in Section 5.9.1 of supplement no. 3 to this part containing ion sources as described in section 5.9.1(a) of supplement no. 3 to this part.

(5) The manufacture or assembly of *columns* or *extraction equipment. Columns* or *extraction equipment* means those items as described in sections 5.6.1, 5.6.2, 5.6.3, 5.6.5, 5.6.6, 5.6.7, and 5.6.8 of supplement no. 3 to this part.

(6) The manufacture of *aerodynamic separation nozzles* or *vortex tubes. Aerodynamic separation nozzles* or *vortex tubes* means separation nozzles and vortex tubes as described, respectively, in sections 5.5.1 and 5.5.2 of supplement no. 3 to this part.

(7) The manufacture or assembly of *uranium plasma generation systems. Uranium plasma generation systems* means systems for the generation of uranium plasma as described in section 5.8.3 of supplement no. 3 to this part.

(8) The manufacture of *zirconium tubes*. *zirconium tubes* means tubes as described in section 1.6 of supplement no. 3 to this part.

(9) The manufacture or upgrading of *heavy water or deuterium*. *Heavy water or deuterium* means deuterium, heavy water (deuterium oxide) and any other deuterium compound in which the ratio of deuterium to hydrogen atoms exceeds 1:5000.

(10) The manufacture of *nuclear grade graphite*. *Nuclear grade graphite* means graphite having a purity level better than 5 parts per million boron equivalent and with a density greater than 1.50 g/cm^3;

(11) The manufacture of *flasks for irradiated fuel*. A *flask for irradiated fuel* means a vessel for the transportation and/or storage of irradiated fuel that provides chemical, thermal and radiological protection, and dissipates decay heat during handling, transportation and storage.

(12) The manufacture of *reactor control rods*. *Reactor control rods* means rods as described in section 1.4 of supplement no. 3 to this part.

(13) The manufacture of *critically safe tanks and vessels*. *Critically safe tanks and vessels* means those items as described in sections 3.2 and 3.4 of supplement no. 3 to this part.

(14) The manufacture of *irradiated fuel element chopping machines*. *Irradiated fuel element chopping machines* means equipment as described in section 3.1 of supplement no. 3 to this part.

(15) The construction of *hot cells*. *Hot cells* means a cell or interconnected cells totaling at least 6 cubic meters in volume with shielding equal to or greater than the equivalent of 0.5 meters of concrete, with a density of 3.2 g/cm^3 or greater, outfitted with equipment for remote operations.

SUPPLEMENT NO. 3 TO PART 783—LIST OF SPECIFIED EQUIPMENT AND NON-NUCLEAR MATERIAL FOR THE REPORTING OF IMPORTS

1. REACTORS AND EQUIPMENT THEREFOR

1.1. COMPLETE NUCLEAR REACTORS

Nuclear reactors capable of operation so as to maintain a controlled self-sustaining fission chain reaction, excluding zero energy reactors, the latter being defined as reactors with a designed maximum rate of production of plutonium not exceeding 100 grams per year.

EXPLANATORY NOTE: A ''nuclear reactor'' basically includes the items within or attached directly to the reactor vessel, the equipment which controls the level of power in the core, and the components which normally contain or come in direct contact with or control the primary coolant of the reactor core. It is not intended to exclude reactors which could reasonably be capable of modification to produce significantly more than 100 grams of plutonium per year. Reactors designed for sustained operation at significant power levels, regardless of their capacity for plutonium production, are not considered as ''zero energy reactors.''

1.2. REACTOR PRESSURE VESSELS

Metal vessels, as complete units or as major shop-fabricated parts therefor, which are specially designed or prepared to contain the core of a nuclear reactor, as defined in section 1.1, and are capable of withstanding the operating pressure of the primary coolant.

EXPLANATORY NOTE: This is the list that the IAEA Board of Governors agreed at its meeting on 24 February 1993 would be used for the purpose of the voluntary reporting scheme, as subsequently amended by the Board. A top plate for a reactor pressure vessel is covered by this section 1.2 as a major shop-fabricated part of a pressure vessel. Reactor internals (e.g., support columns and plates for the core and other vessel internals, control rod guide tubes, thermal shields, baffles, core grid plates, diffuser plates, etc.) are normally supplied by the reactor supplier. In some cases, certain internal support components are included in the fabrication of the pressure vessel. These items are sufficiently critical to the safety and reliability of the operation of the reactor (and, therefore, to the guarantees and liability of the reactor supplier), so that their supply, outside the basic supply arrangement for the reactor itself, would not be common practice. Therefore, although the separate supply of these unique, specially designed and prepared, critical, large and expensive items would not necessarily be considered as falling outside the area of concern, such a mode of supply is considered unlikely.

1.3. REACTOR FUEL CHARGING AND DISCHARGING MACHINES

Manipulative equipment specially designed or prepared for inserting or removing fuel in a nuclear reactor, as defined in section 1.1 of this Supplement, capable of on-load operation or employing technically sophisticated positioning or alignment features to allow complex off-load fueling operations such as those in which direct viewing of or access to the fuel is not normally available.

1.4. REACTOR CONTROL RODS

Rods specially designed or prepared for the control of the reaction rate in a nuclear reactor as defined in section 1.1 of this Supplement.

EXPLANATORY NOTE: This item includes, in addition to the neutron absorbing part, the support or suspension structures therefor if supplied separately.

1.5. REACTOR PRESSURE TUBES

Tubes which are specially designed or prepared to contain fuel elements and the primary coolant in a reactor, as defined in section 1.1 of this supplement, at an operating pressure in excess of 5.1 MPa (740 psi).

1.6. ZIRCONIUM TUBES

Zirconium metal and alloys in the form of tubes or assemblies of tubes, and in quantities exceeding 500 kg in any period of 12 months, specially designed or prepared for use in a reactor, as defined in section 1.1 of this supplement, and in which the relation of hafnium to zirconium is less than 1:500 parts by weight.

1.7. PRIMARY COOLANT PUMPS

Pumps specially designed or prepared for circulating the primary coolant for nuclear reactors, as defined in section 1.1 of this Supplement.

EXPLANATORY NOTE: Specially designed or prepared pumps may include elaborate sealed or multi-sealed systems to prevent leakage of primary coolant, canned-driven pumps, and pumps with inertial mass systems. This definition encompasses pumps certified to NC–1 or equivalent standards.

2. NON-NUCLEAR MATERIALS FOR REACTORS

2.1. DEUTERIUM AND HEAVY WATER

Deuterium, heavy water (deuterium oxide) and any other deuterium compound in which the ratio of deuterium to hydrogen atoms exceeds 1:5000 for use in a nuclear reactor, as defined in section 1.1 of this supplement, in quantities exceeding 200 kg of deuterium atoms for any one recipient country in any period of 12 months.

2.2. NUCLEAR GRADE GRAPHITE

Graphite having a purity level better than 5 parts per million boron equivalent and with a density greater than 1.50 g/cm^3 for use in a nuclear reactor, as defined in section 1.1 of this Supplement, in quantities exceeding 3×10^4 kg (30 metric tons) for any one recipient country in any period of 12 months.

NOTE: For the purpose of reporting, the Government will determine whether or not the exports of graphite meeting the specifications of this section 2.2 are for nuclear reactor use.

3. PLANTS FOR THE REPROCESSING OF IRRADIATED FUEL ELEMENTS, AND EQUIPMENT SPECIALLY DESIGNED OR PREPARED THEREFOR

INTRODUCTORY NOTE: Reprocessing irradiated nuclear fuel separates plutonium and uranium from intensely radioactive fission products and other transuranic elements. Different technical processes can accomplish this separation. However, over the years Purex has become the most commonly used and accepted process. Purex involves the dissolution of irradiated nuclear fuel in nitric acid, followed by separation of the uranium, plutonium, and fission products by solvent extraction using a mixture of tributyl phosphate in an organic diluent. Purex facilities have process functions similar to each other, including: Irradiated fuel element chopping, fuel dissolution, solvent extraction, and process liquor storage. There may also be equipment for thermal denitration of uranium nitrate, conversion of plutonium nitrate to oxide or metal, and treatment of fission product waste liquor to a form suitable for long term storage or disposal. However, the specific type and configuration of the equipment performing these functions may differ between Purex facilities for several reasons, including the type and quantity of irradiated nuclear fuel to be reprocessed and the intended disposition of the recovered materials, and the safety and maintenance philosophy incorporated into the design of the facility. A ''plant for the reprocessing of irradiated fuel elements'' includes the equipment and components which normally come in direct contact with and directly control the irradiated fuel and the major nuclear material and fission product processing streams. These processes, including the complete systems for plutonium conversion and plutonium metal production, may be identified by the measures taken to avoid criticality (e.g., by geometry), radiation exposure (e.g., by shielding), and toxicity hazards (e.g., by containment). Items of equipment that are considered to fall within the meaning of the phrase ''and equipment specially designed or prepared'' for the reprocessing of irradiated fuel elements include:

3.1. IRRADIATED FUEL ELEMENT CHOPPING MACHINES

INTRODUCTORY NOTE: This equipment breaches the cladding of the fuel to expose the irradiated nuclear material to dissolution. Specially designed metal cutting shears are the most commonly employed, although advanced equipment, such as lasers, may be used. Remotely operated equipment specially designed or prepared for use in a reprocessing plant, as identified in the introductory paragraph of this section, and intended to cut, chop or shear irradiated nuclear fuel assemblies, bundles or rods.

3.2. DISSOLVERS

INTRODUCTORY NOTE: Dissolvers normally receive the chopped-up spent fuel. In these critically safe vessels, the irradiated nuclear material is dissolved in nitric acid and the remaining hulls removed from the process stream. Critically safe tanks (*e.g.*, small diameter, annular or slab tanks) specially designed or prepared for use in a reprocessing

plant, as identified in the introductory paragraph of this section, intended for dissolution of irradiated nuclear fuel and which are capable of withstanding hot, highly corrosive liquid, and which can be remotely loaded and maintained.

3.3. SOLVENT EXTRACTORS AND SOLVENT EXTRACTION EQUIPMENT

INTRODUCTORY NOTE: Solvent extractors both receive the solution of irradiated fuel from the dissolvers and the organic solution which separates the uranium, plutonium, and fission products. Solvent extraction equipment is normally designed to meet strict operating parameters, such as long operating lifetimes with no maintenance requirements or adaptability to easy replacement, simplicity of operation and control, and flexibility for variations in process conditions. Specially designed or prepared solvent extractors such as packed or pulse columns, mixer settlers or centrifugal contactors for use in a plant for the reprocessing of irradiated fuel. Solvent extractors must be resistant to the corrosive effect of nitric acid. Solvent extractors are normally fabricated to extremely high standards (including special welding and inspection and quality assurance and quality control techniques) out of low carbon stainless steels, titanium, zirconium, or other high quality materials.

3.4. CHEMICAL HOLDING OR STORAGE VESSELS

INTRODUCTORY NOTE: Three main process liquor streams result from the solvent extraction step. Holding or storage vessels are used in the further processing of all three streams, as follows:

(a) The pure uranium nitrate solution is concentrated by evaporation and passed to a denitration process where it is converted to uranium oxide. This oxide is re-used in the nuclear fuel cycle.

(b) The intensely radioactive fission products solution is normally concentrated by evaporation and stored as a liquor concentrate. This concentrate may be subsequently evaporated and converted to a form suitable for storage or disposal.

(c) The pure plutonium nitrate solution is concentrated and stored pending its transfer to further process steps. In particular, holding or storage vessels for plutonium solutions are designed to avoid criticality problems resulting from changes in concentration and form of this stream. Specially designed or prepared holding or storage vessels for use in a plant for the reprocessing of irradiated fuel. The holding or storage vessels must be resistant to the corrosive effect of nitric acid. The holding or storage vessels are normally fabricated of materials such as low carbon stainless steels, titanium or zirconium, or other high quality materials. Holding or storage vessels may be designed for remote operation and maintenance and may have the following features for control of nuclear criticality: (1) Walls or internal structures with a boron equivalent of at least two percent; (2) a maximum diameter of 175 mm (7 in) for cylindrical vessels; or (3) a maximum width of 75 mm (3 in) for either a slab or annular vessel.

3.5. PLUTONIUM NITRATE TO OXIDE CONVERSION SYSTEM

INTRODUCTORY NOTE: In most reprocessing facilities, this final process involves the conversion of the plutonium nitrate solution to plutonium dioxide. The main functions involved in this process are: process feed storage and adjustment, precipitation and solid/liquor separation, calcination, product handling, ventilation, waste management, and process control. Complete systems specially designed or prepared for the conversion of plutonium nitrate to plutonium oxide, in particular adapted so as to avoid criticality and radiation effects and to minimize toxicity hazards.

3.6. PLUTONIUM OXIDE TO METAL PRODUCTION SYSTEM

INTRODUCTORY NOTE: This process, which could be related to a reprocessing facility, involves the fluorination of plutonium dioxide, normally with highly corrosive hydrogen fluoride, to produce plutonium fluoride which is subsequently reduced using high purity calcium metal to produce metallic plutonium and a calcium fluoride slag. The main functions involved in this process are: fluorination (e.g., involving equipment fabricated or lined with a precious metal), metal reduction (e.g., employing ceramic crucibles), slag recovery, product handling, ventilation, waste management and process control. Complete systems specially designed or prepared for the production of plutonium metal, in particular adapted so as to avoid criticality and radiation effects and to minimize toxicity hazards.

4. PLANTS FOR THE FABRICATION OF FUEL ELEMENTS

A ''plant for the fabrication of fuel elements'' includes the equipment:

(a) Which normally comes in direct contact with, or directly processes, or controls, the production flow of nuclear material, or

(b) Which seals the nuclear material within the cladding.

5. PLANTS FOR THE SEPARATION OF ISOTOPES OF URANIUM AND EQUIPMENT, OTHER THAN ANALYTICAL INSTRUMENTS, SPECIALLY DESIGNED OR PREPARED THEREFOR

Items of equipment that are considered to fall within the meaning of the phrase

''equipment, other than analytical instruments, specially designed or prepared'' for the separation of isotopes of uranium include:

5.1. GAS CENTRIFUGES AND ASSEMBLIES AND COMPONENTS SPECIALLY DESIGNED OR PREPARED FOR USE IN GAS CENTRIFUGES

INTRODUCTORY NOTE: The gas centrifuge normally consists of a thin-walled cylinder(s) of between 75 mm (3 in) and 400 mm (16 in) diameter contained in a vacuum environment and spun at high peripheral speed of the order of 300 m/s or more with its central axis vertical. In order to achieve high speed the materials of construction for the rotating components have to be of a high strength to density ratio and the rotor assembly, and hence its individual components, have to be manufactured to very close tolerances in order to minimize the unbalance. In contrast to other centrifuges, the gas centrifuge for uranium enrichment is characterized by having within the rotor chamber a rotating disc-shaped baffle(s) and a stationary tube arrangement for feeding and extracting the UF_6 gas and featuring at least 3 separate channels, of which 2 are connected to scoops extending from the rotor axis towards the periphery of the rotor chamber. Also contained within the vacuum environment are a number of critical items which do not rotate and which although they are specially designed are not difficult to fabricate nor are they fabricated out of unique materials. A centrifuge facility however requires a large number of these components, so that quantities can provide an important indication of end use.

5.1.1. ROTATING COMPONENTS

(a) *Complete rotor assemblies:* Thin-walled cylinders, or a number of interconnected thin-walled cylinders, manufactured from one or more of the high strength to density ratio materials described in the *Explanatory Note* to section 5.1.1 of this supplement. If interconnected, the cylinders are joined together by flexible bellows or rings as described in section 5.1.1(c) of this supplement. The rotor is fitted with an internal baffle(s) and end caps, as described in section 5.1.1(d) and (e) of this supplement, if in final form. However the complete assembly may be delivered only partly assembled.

(b) *Rotor tubes:* Specially designed or prepared thin-walled cylinders with thickness of 12 mm (0.5 in) or less, a diameter of between 75 mm (3 in) and 400 mm (16 in), and manufactured from one or more of the high strength to density ratio materials described in the *Explanatory Note* to section 5.1.1 of this supplement.

(c) *Rings or Bellows:* Components specially designed or prepared to give localized support to the rotor tube or to join together a number of rotor tubes. The bellows is a short cylinder of wall thickness 3 mm (0.12 in) or less, a diameter of between 75 mm (3 in) and 400 mm (16 in), having a convolute, and manufactured from one of the high strength to density ratio materials described in the *Explanatory Note* to section 5.1.1 of this supplement.

(d) *Baffles:* Disc-shaped components of between 75 mm (3 in) and 400 mm (16 in) diameter specially designed or prepared to be mounted inside the centrifuge rotor tube, in order to isolate the take-off chamber from the main separation chamber and, in some cases, to assist the UF_6 gas circulation within the main separation chamber of the rotor tube, and manufactured from one of the high strength to density ratio materials described in the *Explanatory Note* to section 5.1.1 of this supplement.

(e) *Top caps/Bottom caps:* Disc-shaped components of between 75 mm (3 in) and 400 mm (16 in) diameter specially designed or prepared to fit to the ends of the rotor tube, and so contain the UF_6 within the rotor tube, and in some cases to support, retain or contain as an integrated part an element of the upper bearing (top cap) or to carry the rotating elements of the motor and lower bearing (bottom cap), and manufactured from one of the high strength to density ratio materials described in the *Explanatory Note* to section 5.1.1 of this supplement.

EXPLANATORY NOTE: The materials used for centrifuge rotating components are:

(a) Maraging steel capable of an ultimate tensile strength of 2.05×10^9 N/m^2 (300,000 psi) or more;

(b) Aluminum alloys capable of an ultimate tensile strength of 0.46×10^9 N/m^2 (67,000 psi) or more;

(c) Filamentary materials suitable for use in composite structures and having a specific modulus of 12.3×10^6 m or greater and a specific ultimate tensile strength of 0.3×10^6 m or greater (''Specific Modulus'' is the Young's Modulus in N/m^2 divided by the specific weight in N/m^3; ''Specific Ultimate Tensile Strength'' is the ultimate tensile strength in N/m^2 divided by the specific weight in N/m^3).

5.1.2. STATIC COMPONENTS

(a) *Magnetic suspension bearings:* Specially designed or prepared bearing assemblies consisting of an annular magnet suspended within a housing containing a damping medium. The housing will be manufactured from a UF_6-resistant material (see *Explanatory Note* to section 5.2 of this supplement). The magnet couples with a pole piece or a second magnet fitted to the top cap described in section 5.1.1(e) of this Supplement. The magnet may be ring-shaped with a relation between outer and inner diameter smaller or equal to 1.6:1. The magnet may be in a form having an initial permeability of

0.15 H/m (120,000 in CGS units) or more, or a remanence of 98.5% or more, or an energy product of greater than 80 kJ/m^3 (10^7 gauss-oersteds). In addition to the usual material properties, it is a prerequisite that the deviation of the magnetic axes from the geometrical axes is limited to very small tolerances (lower than 0.1 mm or 0.004 in) or that homogeneity of the material of the magnet is specially called for.

(b) *Bearings/Dampers:* Specially designed or prepared bearings comprising a pivot/cup assembly mounted on a damper. The pivot is normally a hardened steel shaft with a hemisphere at one end with a means of attachment to the bottom cap, described in section 5.1.1(e) of this Supplement, at the other. The shaft may however have a hydrodynamic bearing attached. The cup is pellet-shaped with a hemispherical indentation in one surface. These components are often supplied separately to the damper.

(c) *Molecular pumps:* Specially designed or prepared cylinders having internally machined or extruded helical grooves and internally machined bores. Typical dimensions are as follows: 75 mm (3 in) to 400 mm (16 in) internal diameter, 10 mm (0.4 in) or more wall thickness, with the length equal to or greater than the diameter. The grooves are typically rectangular in cross-section and 2 mm (0.08 in) or more in depth.

(d) *Motor stators:* Specially designed or prepared ring-shaped stators for high speed multiphase AC hysteresis (or reluctance) motors for synchronous operation within a vacuum in the frequency range of 600–2000 Hz and a power range of 50–1000 VA. The stators consist of multi-phase windings on a laminated low loss iron core comprised of thin layers typically 2.0 mm (0.08 in) thick or less.

(e) *Centrifuge housing/recipients:* Components specially designed or prepared to contain the rotor tube assembly of a gas centrifuge. The housing consists of a rigid cylinder of wall thickness up to 30 mm (1.2 in) with precision machined ends to locate the bearings and with one or more flanges for mounting. The machined ends are parallel to each other and perpendicular to the cylinder's longitudinal axis to within 0.05 degrees or less. The housing may also be a honeycomb type structure to accommodate several rotor tubes. The housings are made of or protected by materials resistant to corrosion by UF6.

(f) *Scoops:* Specially designed or prepared tubes of up to 12 mm (0.5 in) internal diameter for the extraction of UF6 gas from within the rotor tube by a Pitot tube action (that is, with an aperture facing into the circumferential gas flow within the rotor tube, for example by bending the end of a radially disposed tube) and capable of being fixed to the central gas extraction system. The tubes are made of or protected by materials resistant to corrosion by UF6.

5.2. SPECIALLY DESIGNED OR PREPARED AUXILIARY SYSTEMS, EQUIPMENT AND COMPONENTS FOR GAS CENTRIFUGE ENRICHMENT PLANTS

INTRODUCTORY NOTE: The auxiliary systems, equipment and components for a gas centrifuge enrichment plant are the systems of plant needed to feed UF6 to the centrifuges, to link the individual centrifuges to each other to form cascades (or stages) to allow for progressively higher enrichments and to extract the ''product'' and ''tails'' UF6 from the centrifuges, together with the equipment required to drive the centrifuges or to control the plant. Normally UF_6 is evaporated from the solid using heated autoclaves and is distributed in gaseous form to the centrifuges by way of cascade header pipework. The ''product'' and ''tails'' UF_6 gaseous streams flowing from the centrifuges are also passed by way of cascade header pipework to cold traps (operating at about 203 K (−70 °C)) where they are condensed prior to onward transfer into suitable containers for transportation or storage. Because an enrichment plant consists of many thousands of centrifuges arranged in cascades there are many kilometers of cascade header pipework, incorporating thousands of welds with a substantial amount of repetition of layout. The equipment, components and piping systems are fabricated to very high vacuum and cleanliness standards.

5.2.1. FEED SYSTEMS/PRODUCT AND TAILS WITHDRAWAL SYSTEMS

Specially designed or prepared process systems including: Feed autoclaves (or stations), used for passing UF_6 to the centrifuge cascades at up to 100 kPa (15 psi) and at a rate of 1 kg/h or more; desublimers (or cold traps) used to remove UF_6 from the cascades at up to 3 kPa (0.5 psi) pressure. The desublimers are capable of being chilled to 203 K (−70 °C) and heated to 343 K (70 °C); ''Product'' and ''Tails'' stations used for trapping UF6 into containers. This plant, equipment and pipework is wholly made of or lined with UF_6-resistant materials (see *Explanatory Note* to section 5.2 of this Supplement) and is fabricated to very high vacuum and cleanliness standards.

5.2.2. MACHINE HEADER PIPING SYSTEMS

Specially designed or prepared piping systems and header systems for handling UF_6 within the centrifuge cascades. The piping network is normally of the ''triple'' header system with each centrifuge connected to each of the headers. There is thus a substantial amount of repetition in its form. It is wholly made of UF_6-resistant materials (see *Explanatory Note* to section 5.2 of this supplement) and is fabricated to very high vacuum and cleanliness standards.

5.2.3. UF_6 MASS SPECTROMETERS/ION SOURCES

Specially designed or prepared magnetic or quadrupole mass spectrometers capable of taking ''on-line'' samples of feed, product or tails, from UF_6 gas streams and having all of the following characteristics:

(a) Unit resolution for atomic mass unit greater than 320;

(b) Ion sources constructed of or lined with nichrome or monel or nickel plated;

(c) Electron bombardment ionization sources;

(d) Having a collector system suitable for isotopic analysis.

5.2.4. FREQUENCY CHANGERS

Frequency changers (also known as converters or invertors) specially designed or prepared to supply motor stators (as defined under section 5.1.2(d) of this supplement), or parts, components and sub-assemblies of such frequency changers having all of the following characteristics:

(a) A multiphase output of 600 to 2000 Hz;

(b) High stability (with frequency control better than 0.1%);

(c) Low harmonic distortion (less than 2%); and

(d) An efficiency of greater than 80%.

EXPLANATORY NOTE: The items listed in this section 5.2 either come into direct contact with the UF_6 process gas or directly control the centrifuges and the passage of the gas from centrifuge to centrifuge and cascade to cascade. Materials resistant to corrosion by UF_6 include stainless steel, aluminum, aluminum alloys, nickel or alloys containing 60% or more nickel.

5.3. SPECIALLY DESIGNED OR PREPARED ASSEMBLIES AND COMPONENTS FOR USE IN GASEOUS DIFFUSION ENRICHMENT

INTRODUCTORY NOTE: In the gaseous diffusion method of uranium isotope separation, the main technological assembly is a special porous gaseous diffusion barrier, heat exchanger for cooling the gas (which is heated by the process of compression), seal valves and control valves, and pipelines. Inasmuch as gaseous diffusion technology uses uranium hexafluoride (UF_6), all equipment, pipeline and instrumentation surfaces (that come in contact with the gas) must be made of materials that remain stable in contact with UF_6. A gaseous diffusion facility requires a number of these assemblies, so that quantities can provide an important indication of end use.

5.3.1. GASEOUS DIFFUSION BARRIERS

(a) Specially designed or prepared thin, porous filters, with a pore size of 100–1,000 Å (angstroms), a thickness of 5 mm (0.2 in) or less, and for tubular forms, a diameter of 25 mm (1 in) or less, made of metallic, polymer or ceramic materials resistant to corrosion by UF_6, and

(b) Specially prepared compounds or powders for the manufacture of such filters. Such compounds and powders include nickel or alloys containing 60 percent or more nickel, aluminum oxide, or UF_6-resistant fully fluorinated hydrocarbon polymers having a purity of 99.9 percent or more, a particle size less than 10 microns, and a high degree of particle size uniformity, which are specially prepared for the manufacture of gaseous diffusion barriers.

5.3.2. DIFFUSER HOUSINGS

Specially designed or prepared hermetically sealed cylindrical vessels greater than 300 mm (12 in) in diameter and greater than 900 mm (35 in) in length, or rectangular vessels of comparable dimensions, which have an inlet connection and two outlet connections all of which are greater than 50 mm (2 in) in diameter, for containing the gaseous diffusion barrier, made of or lined with UF_6-resistant materials and designed for horizontal or vertical installation.

5.3.3. COMPRESSORS AND GAS BLOWERS

Specially designed or prepared axial, centrifugal, or positive displacement compressors, or gas blowers with a suction volume capacity of 1 m^3/min or more of UF_6, and with a discharge pressure of up to several hundred kPa (100 psi), designed for long-term operation in the UF_6 environment with or without an electrical motor of appropriate power, as well as separate assemblies of such compressors and gas blowers. These compressors and gas blowers have a pressure ratio between 2:1 and 6:1 and are made of, or lined with, materials resistant to UF_6.

5.3.4. ROTARY SHAFT SEALS

Specially designed or prepared vacuum seals, with seal feed and seal exhaust connections, for sealing the shaft connecting the compressor or the gas blower rotor with the driver motor so as to ensure a reliable seal against in-leaking of air into the inner chamber of the compressor or gas blower which is filled with UF_6. Such seals are normally designed for a buffer gas in-leakage rate of less than 1000 cm^3/min (60 in^3/min).

5.3.5. HEAT EXCHANGERS FOR COOLING UF_6

Specially designed or prepared heat exchangers made of or lined with UF_6-resistant materials (except stainless steel) or with copper or any combination of those metals, and intended for a leakage pressure change rate of less than 10 Pa (0.0015 psi) per hour under a pressure difference of 100 kPa (15 psi).

5.4. SPECIALLY DESIGNED OR PREPARED AUXILIARY SYSTEMS, EQUIPMENT AND COMPONENTS FOR USE IN GASEOUS DIFFUSION ENRICHMENT

INTRODUCTORY NOTE: The auxiliary systems, equipment and components for gaseous diffusion enrichment plants are the systems of plant needed to feed UF_6 to the gaseous diffusion assembly, to link the individual assemblies to each other to form cascades (or stages) to allow for progressively higher enrichments and to extract the ''product'' and ''tails'' UF_6 from the diffusion cascades. Because of the high inertial properties of diffusion cascades, any interruption in their operation, and especially their shut-down, leads to serious consequences. Therefore, a strict and constant maintenance of vacuum in all technological systems, automatic protection from accidents, and precise automated regulation of the gas flow is of importance in a gaseous diffusion plant. All this leads to a need to equip the plant with a large number of special measuring, regulating and controlling systems. Normally UF_6 is evaporated from cylinders placed within autoclaves and is distributed in gaseous form to the entry point by way of cascade header pipework. The ''product'' and ''tails'' UF_6 gaseous streams flowing from exit points are passed by way of cascade header pipework to either cold traps or to compression stations where the UF_6 gas is liquefied prior to onward transfer into suitable containers for transportation or storage. Because a gaseous diffusion enrichment plant consists of a large number of gaseous diffusion assemblies arranged in cascades, there are many kilometers of cascade header pipework, incorporating thousands of welds with substantial amounts of repetition of layout. The equipment, components and piping systems are fabricated to very high vacuum and cleanliness standards.

5.4.1. FEED SYSTEMS/PRODUCT AND TAILS WITHDRAWAL SYSTEMS

Specially designed or prepared process systems, capable of operating at pressures of 300 kPa (45 psi) or less, including:

(a) Feed autoclaves (or systems), used for passing UF_6 to the gaseous diffusion cascades;

(b) Desublimers (or cold traps) used to remove UF_6 from diffusion cascades;

(c) Liquefaction stations where UF_6 gas from the cascade is compressed and cooled to form liquid UF_6;

(d) ''Product'' or ''tails'' stations used for transferring UF_6 into containers.

5.4.2. HEADER PIPING SYSTEMS

Specially designed or prepared piping systems and header systems for handling UF_6 within the gaseous diffusion cascades. This piping network is normally of the ''double'' header system with each cell connected to each of the headers.

5.4.3. VACUUM SYSTEMS

(a) Specially designed or prepared large vacuum manifolds, vacuum headers and vacuum pumps having a suction capacity of 5 m^3/min (175 ft^3/min) or more.

(b) Vacuum pumps specially designed for service in UF_6-bearing atmospheres made of, or lined with, aluminum, nickel, or alloys bearing more than 60% nickel. These pumps may be either rotary or positive, may have displacement and fluorocarbon seals, and may have special working fluids present.

5.4.4. SPECIAL SHUT-OFF AND CONTROL VALVES

Specially designed or prepared manual or automated shut-off and control bellows valves made of UF_6-resistant materials with a diameter of 40 to 1500 mm (1.5 to 59 in) for installation in main and auxiliary systems of gaseous diffusion enrichment plants.

5.4.5. UF_6 MASS SPECTROMETERS/ION SOURCES

Specially designed or prepared magnetic or quadrupole mass spectrometers capable of taking ''on-line'' samples of feed, product or tails, from UF_6 gas streams and having all of the following characteristics:

(a) Unit resolution for atomic mass unit greater than 320;

(b) Ion sources constructed of or lined with nichrome or monel or nickel plated;

(c) Electron bombardment ionization sources;

(d) Collector system suitable for isotopic analysis.

EXPLANATORY NOTE: The items listed in this section 5.4 either come into direct contact with the UF_6 process gas or directly control the flow within the cascade. All surfaces which come into contact with the process gas are wholly made of, or lined with, UF_6-resistant materials. For the purposes of the sections in this supplement relating to gaseous diffusion items, the materials resistant to corrosion by UF_6 include stainless steel, aluminum, aluminum alloys, aluminum oxide, nickel or alloys containing 60% or more nickel and UF_6-resistant fully fluorinated hydrocarbon polymers.

5.5. SPECIALLY DESIGNED OR PREPARED SYSTEMS, EQUIPMENT AND COMPONENTS FOR USE IN AERODYNAMIC ENRICHMENT PLANTS

INTRODUCTORY NOTE: In aerodynamic enrichment processes, a mixture of gaseous UF_6 and light gas (hydrogen or helium) is compressed and then passed through separating elements wherein isotopic separation is accomplished by the generation of high centrifugal forces over a curved-wall geometry. Two processes of this type have been successfully developed: The separation nozzle process and the vortex tube process. For

both processes the main components of a separation stage include cylindrical vessels housing the special separation elements (nozzles or vortex tubes), gas compressors and heat exchangers to remove the heat of compression. An aerodynamic plant requires a number of these stages, so that quantities can provide an important indication of end use. Since aerodynamic processes use UF_6, all equipment, pipeline and instrumentation surfaces (that come in contact with the gas) must be made of materials that remain stable in contact with UF_6.

EXPLANATORY NOTE: The items listed in section 5.5 of this Supplement either come into direct contact with the UF_6 process gas or directly control the flow within the cascade. All surfaces which come into contact with the process gas are wholly made of or protected by UF_6-resistant materials. For the purposes of the provisions of section 5.5 of this supplement that relate to aerodynamic enrichment items, the materials resistant to corrosion by UF_6 include copper, stainless steel, aluminum, aluminum alloys, nickel or alloys containing 60% or more nickel and UF_6-resistant fully fluorinated hydrocarbon polymers.

5.5.1. SEPARATION NOZZLES

Specially designed or prepared separation nozzles and assemblies thereof. The separation nozzles consist of slit-shaped, curved channels having a radius of curvature less than 1 mm (typically 0.1 to 0.05 mm), resistant to corrosion by UF_6 and having a knife-edge within the nozzle that separates the gas flowing through the nozzle into two fractions.

5.5.2. VORTEX TUBES

Specially designed or prepared vortex tubes and assemblies thereof. The vortex tubes are cylindrical or tapered, made of or protected by materials resistant to corrosion by UF_6, having a diameter of between 0.5 cm and 4 cm, a length to diameter ratio of 20:1 or less and with one or more tangential inlets. The tubes may be equipped with nozzle-type appendages at either or both ends.

EXPLANATORY NOTE: The feed gas enters the vortex tube tangentially at one end or through swirl vanes or at numerous tangential positions along the periphery of the tube.

5.5.3. COMPRESSORS AND GAS BLOWERS

Specially designed or prepared axial, centrifugal or positive displacement compressors or gas blowers made of or protected by materials resistant to corrosion by UF_6 and with a suction volume capacity of 2 m^3/min or more of UF_6/carrier gas (hydrogen or helium) mixture.

EXPLANATORY NOTE: These compressors and gas blowers typically have a pressure ratio between 1.2:1 and 6:1.

5.5.4. ROTARY SHAFT SEALS

Specially designed or prepared rotary shaft seals, with seal feed and seal exhaust connections, for sealing the shaft connecting the compressor rotor or the gas blower rotor with the driver motor so as to ensure a reliable seal against out-leakage of process gas or in-leakage of air or seal gas into the inner chamber of the compressor or gas blower which is filled with a UF_6/carrier gas mixture.

5.5.5. HEAT EXCHANGERS FOR GAS COOLING

Specially designed or prepared heat exchangers made of or protected by materials resistant to corrosion by UF_6.

5.5.6. SEPARATION ELEMENT HOUSINGS

Specially designed or prepared separation element housings, made of or protected by materials resistant to corrosion by UF_6, for containing vortex tubes or separation nozzles.

EXPLANATORY NOTE: These housings may be cylindrical vessels greater than 300 mm in diameter and greater than 900 mm in length, or may be rectangular vessels of comparable dimensions, and may be designed for horizontal or vertical installation.

5.5.7. FEED SYSTEMS/PRODUCT AND TAILS WITHDRAWAL SYSTEMS

Specially designed or prepared process systems or equipment for enrichment plants made of or protected by materials resistant to corrosion by UF_6, including:

(a) Feed autoclaves, ovens, or systems used for passing UF_6 to the enrichment process;

(b) Desublimers (or cold traps) used to remove UF_6 from the enrichment process for subsequent transfer upon heating;

(c) Solidification or liquefaction stations used to remove UF_6 from the enrichment process by compressing and converting UF_6 to a liquid or solid form;

(d) ''Product'' or ''tails'' stations used for transferring UF_6 into containers.

5.5.8. HEADER PIPING SYSTEMS

Specially designed or prepared header piping systems, made of or protected by materials resistant to corrosion by UF_6, for handling UF_6 within the aerodynamic cascades. This piping network is normally of the ''double'' header design with each stage or group of stages connected to each of the headers.

5.5.9. VACUUM SYSTEMS AND PUMPS

(a) Specially designed or prepared vacuum systems having a suction capacity of 5 m^3/

min or more, consisting of vacuum manifolds, vacuum headers and vacuum pumps, and designed for service in UF_6-bearing atmospheres;

(b) Vacuum pumps specially designed or prepared for service in UF_6-bearing atmospheres and made of or protected by materials resistant to corrosion by UF_6. These pumps may use fluorocarbon seals and special working fluids.

5.5.10. SPECIAL SHUT-OFF AND CONTROL VALVES

Specially designed or prepared manual or automated shut-off and control bellows valves made of or protected by materials resistant to corrosion by UF_6 with a diameter of 40 to 1500 mm for installation in main and auxiliary systems of aerodynamic enrichment plants.

5.5.11. UF_6 MASS SPECTROMETERS/ION SOURCES

Specially designed or prepared magnetic or quadrupole mass spectrometers capable of taking ''on-line'' samples of feed, ''product'' or ''tails,'' from UF_6 gas streams and having all of the following characteristics:

(a) Unit resolution for mass greater than 320;

(b) Ion sources constructed of or lined with nichrome or monel or nickel plated;

(c) Electron bombardment ionization sources;

(d) Collector system suitable for isotopic analysis.

5.5.12. UF_6/CARRIER GAS SEPARATION SYSTEMS

Specially designed or prepared process systems for separating UF_6 from carrier gas (hydrogen or helium).

EXPLANATORY NOTE: These systems are designed to reduce the UF_6 content in the carrier gas to 1 ppm or less and may incorporate equipment such as:

(a) Cryogenic heat exchangers and cryoseparators capable of temperatures of −120 °C or less, or

(b) Cryogenic refrigeration units capable of temperatures of −120 °C or less, or

(c) Separation nozzle or vortex tube units for the separation of UF_6 from carrier gas, or

(d) UF_6 cold traps capable of temperatures of −20 °C or less.

5.6. SPECIALLY DESIGNED OR PREPARED SYSTEMS, EQUIPMENT AND COMPONENTS FOR USE IN CHEMICAL EXCHANGE OR ION EXCHANGE ENRICHMENT PLANTS

INTRODUCTORY NOTE: The slight difference in mass between the isotopes of uranium causes small changes in chemical reaction equilibria that can be used as a basis for separation of the isotopes. Two processes have been successfully developed: Liquid-liquid chemical exchange and solid-liquid ion exchange. In the liquid-liquid chemical exchange process, immiscible liquid phases (aqueous and organic) are countercurrently contacted to give the cascading effect of thousands of separation stages. The aqueous phase consists of uranium chloride in hydrochloric acid solution; the organic phase consists of an extractant containing uranium chloride in an organic solvent. The contactors employed in the separation cascade can be liquid-liquid exchange columns (such as pulsed columns with sieve plates) or liquid centrifugal contactors. Chemical conversions (oxidation and reduction) are required at both ends of the separation cascade in order to provide for the reflux requirements at each end. A major design concern is to avoid contamination of the process streams with certain metal ions. Plastic, plastic-lined (including use of fluorocarbon polymers) and/or glass-lined columns and piping are therefore used. In the solid-liquid ion-exchange process, enrichment is accomplished by uranium adsorption/desorption on a special, very fast-acting, ion-exchange resin or adsorbent. A solution of uranium in hydrochloric acid and other chemical agents is passed through cylindrical enrichment columns containing packed beds of the adsorbent. For a continuous process, a reflux system is necessary to release the uranium from the adsorbent back into the liquid flow so that ''product'' and ''tails'' can be collected. This is accomplished with the use of suitable reduction/oxidation chemical agents that are fully regenerated in separate external circuits and that may be partially regenerated within the isotopic separation columns themselves. The presence of hot concentrated hydrochloric acid solutions in the process requires that the equipment be made of or protected by special corrosion-resistant materials.

5.6.1. LIQUID-LIQUID EXCHANGE COLUMNS (CHEMICAL EXCHANGE)

Countercurrent liquid-liquid exchange columns having mechanical power input (i.e., pulsed columns with sieve plates, reciprocating plate columns, and columns with internal turbine mixers), specially designed or prepared for uranium enrichment using the chemical exchange process. For corrosion resistance to concentrated hydrochloric acid solutions, these columns and their internals are made of or protected by suitable plastic materials (such as fluorocarbon polymers) or glass. The stage residence time of the columns is designed to be short (30 seconds or less).

5.6.2. LIQUID-LIQUID CENTRIFUGAL CONTACTORS (CHEMICAL EXCHANGE)

Liquid-liquid centrifugal contactors specially designed or prepared for uranium enrichment using the chemical exchange process. Such contactors use rotation to achieve dispersion of the organic and aqueous

streams and then centrifugal force to separate the phases. For corrosion resistance to concentrated hydrochloric acid solutions, the contactors are made of or are lined with suitable plastic materials (such as fluorocarbon polymers) or are lined with glass. The stage residence time of the centrifugal contactors is designed to be short (30 seconds or less).

5.6.3. URANIUM REDUCTION SYSTEMS AND EQUIPMENT (CHEMICAL EXCHANGE)

(a) Specially designed or prepared electrochemical reduction cells to reduce uranium from one valence state to another for uranium enrichment using the chemical exchange process. The cell materials in contact with process solutions must be corrosion resistant to concentrated hydrochloric acid solutions.

EXPLANATORY NOTE: The cell cathodic compartment must be designed to prevent re-oxidation of uranium to its higher valence state. To keep the uranium in the cathodic compartment, the cell may have an impervious diaphragm membrane constructed of special cation exchange material. The cathode consists of a suitable solid conductor such as graphite.

(b) Specially designed or prepared systems at the product end of the cascade for taking the U^{4+} out of the organic stream, adjusting the acid concentration and feeding to the electrochemical reduction cells.

EXPLANATORY NOTE: These systems consist of solvent extraction equipment for stripping the U^{4+} from the organic stream into an aqueous solution, evaporation and/or other equipment to accomplish solution pH adjustment and control, and pumps or other transfer devices for feeding to the electrochemical reduction cells. A major design concern is to avoid contamination of the aqueous stream with certain metal ions. Consequently, for those parts in contact with the process stream, the system is constructed of equipment made of or protected by suitable materials (such as glass, fluorocarbon polymers, polyphenyl sulfate, polyether sulfone, and resin-impregnated graphite).

5.6.4. FEED PREPARATION SYSTEMS (CHEMICAL EXCHANGE)

Specially designed or prepared systems for producing high-purity uranium chloride feed solutions for chemical exchange uranium isotope separation plants.

EXPLANATORY NOTE: These systems consist of dissolution, solvent extraction and/or ion exchange equipment for purification and electrolytic cells for reducing the uranium U^{6+} or U^{4+} to U^{3+}. These systems produce uranium chloride solutions having only a few parts per million of metallic impurities such as chromium, iron, vanadium, molybdenum and other bivalent or higher multi-valent cations. Materials of construction for portions of the system processing high-purity U^{3+} include glass, fluorocarbon polymers, polyphenyl sulfate or polyether sulfone plastic-lined and resin-impregnated graphite.

5.6.5. URANIUM OXIDATION SYSTEMS (CHEMICAL EXCHANGE)

Specially designed or prepared systems for oxidation of U^{3+} to U^{4+} for return to the uranium isotope separation cascade in the chemical exchange enrichment process.

EXPLANATORY NOTE: These systems may incorporate equipment such as:

(a) Equipment for contacting chlorine and oxygen with the aqueous effluent from the isotope separation equipment and extracting the resultant U^{4+} into the stripped organic stream returning from the product end of the cascade;

(b) Equipment that separates water from hydrochloric acid so that the water and the concentrated hydrochloric acid may be reintroduced to the process at the proper locations.

5.6.6. FAST-REACTING ION EXCHANGE RESINS/ADSORBENTS (ION EXCHANGE)

Fast-reacting ion-exchange resins or adsorbents specially designed or prepared for uranium enrichment using the ion exchange process, including porous macroreticular resins, and/or pellicular structures in which the active chemical exchange groups are limited to a coating on the surface of an inactive porous support structure, and other composite structures in any suitable form including particles or fibers. These ion exchange resins/adsorbents have diameters of 0.2 mm or less and must be chemically resistant to concentrated hydrochloric acid solutions as well as physically strong enough so as not to degrade in the exchange columns. The resins/adsorbents are specially designed to achieve very fast uranium isotope exchange kinetics (exchange rate half-time of less than 10 seconds) and are capable of operating at a temperature in the range of 100 °C to 200 °C.

5.6.7. ION EXCHANGE COLUMNS (ION EXCHANGE)

Cylindrical columns greater than 1,000 mm in diameter for containing and supporting packed beds of ion exchange resin/adsorbent, specially designed or prepared for uranium enrichment using the ion exchange process. These columns are made of or protected by materials (such as titanium or fluorocarbon plastics) resistant to corrosion by concentrated hydrochloric acid solutions and are capable of operating at a temperature in the range of 100 °C to 200 °C and pressures above 0.7 MPa (102 psia).

5.6.8. ION EXCHANGE REFLUX SYSTEMS (ION EXCHANGE)

(a) Specially designed or prepared chemical or electrochemical reduction systems for regeneration of the chemical reducing agent(s) used in ion exchange uranium enrichment cascades.

(b) Specially designed or prepared chemical or electrochemical oxidation systems for regeneration of the chemical oxidizing agent(s) used in ion exchange uranium enrichment cascades.

EXPLANATORY NOTE: The ion exchange enrichment process may use, for example, trivalent titanium (Ti^{3+}) as a reducing cation in which case the reduction system would regenerate Ti^{3+} by reducing Ti^{4+}. The process may use, for example, trivalent iron (Fe^{3+}) as an oxidant in which case the oxidation system would regenerate Fe^{3+} by oxidizing Fe^{2+}.

5.7. SPECIALLY DESIGNED OR PREPARED SYSTEMS, EQUIPMENT AND COMPONENTS FOR USE IN LASER-BASED ENRICHMENT PLANTS

INTRODUCTORY NOTE: Present systems for enrichment processes using lasers fall into two categories: Those in which the process medium is atomic uranium vapor and those in which the process medium is the vapor of a uranium compound. Common nomenclature for such processes include: *First category*—atomic vapor laser isotope separation (AVLIS or SILVA); *second category*—molecular laser isotope separation (MLIS or MOLIS) and chemical reaction by isotope selective laser activation (CRISLA). The systems, equipment and components for laser enrichment plants embrace:

(a) Devices to feed uranium-metal vapor (for selective photo-ionization) or devices to feed the vapor of a uranium compound (for photo-dissociation or chemical activation);

(b) Devices to collect enriched and depleted uranium metal as ''product'' and ''tails'' in the first category, and devices to collect dissociated or reacted compounds as ''product'' and unaffected material as ''tails'' in the second category;

(c) Process laser systems to selectively excite the uranium-235 species; and

(d) Feed preparation and product conversion equipment. The complexity of the spectroscopy of uranium atoms and compounds may require incorporation of any of a number of available laser technologies.

EXPLANATORY NOTE: Many of the items listed in section 5.7 of this supplement come into direct contact with uranium metal vapor or liquid or with process gas consisting of UF_6 or a mixture of UF_6 and other gases. All surfaces that come into contact with the uranium or UF_6 are wholly made of or protected by corrosion-resistant materials. For the purposes of the provisions in section 5.7 of this supplement that relate to laser-based enrichment items, the materials resistant to corrosion by the vapor or liquid of uranium metal or uranium alloys include yttria-coated graphite and tantalum; and the materials resistant to corrosion by UF_6 include copper, stainless steel, aluminum, aluminum alloys, nickel or alloys containing 60% or more nickel and UF_6-resistant fully fluorinated hydrocarbon polymers.

5.7.1. URANIUM VAPORIZATION SYSTEMS (AVLIS)

Specially designed or prepared uranium vaporization systems which contain high-power strip or scanning electron beam guns with a delivered power on the target of more than 2.5 kW/cm.

5.7.2. LIQUID URANIUM METAL HANDLING SYSTEMS (AVLIS)

Specially designed or prepared liquid metal handling systems for molten uranium or uranium alloys, consisting of crucibles and cooling equipment for the crucibles.

EXPLANATORY NOTE: The crucibles and other parts of this system that come into contact with molten uranium or uranium alloys are made of or protected by materials of suitable corrosion and heat resistance. Suitable materials include tantalum, yttria-coated graphite, graphite coated with other rare earth oxides or mixtures thereof.

5.7.3. URANIUM METAL 'PRODUCT' AND 'TAILS' COLLECTOR ASSEMBLIES (AVLIS)

Specially designed or prepared ''product'' and ''tails'' collector assemblies for uranium metal in liquid or solid form.

EXPLANATORY NOTE: Components for these assemblies are made of or protected by materials resistant to the heat and corrosion of uranium metal vapor or liquid (such as yttria-coated graphite or tantalum) and may include pipes, valves, fittings, ''gutters,'' feed-throughs, heat exchangers and collector plates for magnetic, electrostatic or other separation methods.

5.7.4. SEPARATOR MODULE HOUSINGS (AVLIS)

Specially designed or prepared cylindrical or rectangular vessels for containing the uranium metal vapor source, the electron beam gun, and the ''product'' and ''tails'' collectors.

EXPLANATORY NOTE: These housings have multiplicity of ports for electrical and water feed-throughs, laser beam windows, vacuum pump connections and instrumentation diagnostics and monitoring. They have provisions for opening and closure to allow refurbishment of internal components.

5.7.5. SUPERSONIC EXPANSION NOZZLES (MLIS)

Specially designed or prepared supersonic expansion nozzles for cooling mixtures of

UF_6 and carrier gas to 150 K or less and which are corrosion resistant to UF_6.

5.7.6. URANIUM PENTAFLUORIDE PRODUCT COLLECTORS (MLIS)

Specially designed or prepared uranium pentafluoride (UF_5) solid product collectors consisting of filter, impact, or cyclone-type collectors, or combinations thereof, and which are corrosion resistant to the UF_5/UF_6 environment.

5.7.7. UF_6/CARRIER GAS COMPRESSORS (MLIS)

Specially designed or prepared compressors for UF_6/carrier gas mixtures, designed for long term operation in a UF_6 environment. The components of these compressors that come into contact with process gas are made of or protected by materials resistant to corrosion by UF_6.

5.7.8. ROTARY SHAFT SEALS (MLIS)

Specially designed or prepared rotary shaft seals, with seal feed and seal exhaust connections, for sealing the shaft connecting the compressor rotor with the driver motor so as to ensure a reliable seal against out-leakage of process gas or in-leakage of air or seal gas into the inner chamber of the compressor which is filled with a UF_6/carrier gas mixture.

5.7.9. FLUORINATION SYSTEMS (MLIS)

Specially designed or prepared systems for fluorinating UF_5 (solid) to UF_6 (gas).

EXPLANATORY NOTE: These systems are designed to fluorinate the collected UF_5 powder to UF_6 for subsequent collection in product containers or for transfer as feed to MLIS units for additional enrichment. In one approach, the fluorination reaction may be accomplished within the isotope separation system to react and recover directly off the ''product'' collectors. In another approach, the UF_5 powder may be removed/transferred from the ''product'' collectors into a suitable reaction vessel (e.g., fluidized-bed reactor, screw reactor or flame tower) for fluorination. In both approaches, equipment for storage and transfer of fluorine (or other suitable fluorinating agents) and for collection and transfer of UF_6 are used.

5.7.10. UF_6 MASS SPECTROMETERS/ION SOURCES (MLIS)

Specially designed or prepared magnetic or quadrupole mass spectrometers capable of taking ''on-line'' samples of feed, ''product,'' or ''tails'' from UF_6 gas streams and having all of the following characteristics:

(a) Unit resolution for mass greater than 320;

(b) Ion sources constructed of or lined with nichrome or monel or nickel plated;

(c) Electron bombardment ionization sources; and

(d) Collector system suitable for isotopic analysis.

5.7.11. FEED SYSTEMS/PRODUCT AND TAILS WITHDRAWAL SYSTEMS (MLIS)

Specially designed or prepared process systems or equipment for enrichment plants made of or protected by materials resistant to corrosion by UF_6, including:

(a) Feed autoclaves, ovens, or systems used for passing UF_6 to the enrichment process;

(b) Desublimers (or cold traps) used to remove UF_6 from the enrichment process for subsequent transfer upon heating;

(c) Solidification or liquefaction stations used to remove UF_6 from the enrichment process by compressing and converting UF_6 to a liquid or solid form;

(d) ''Product'' or ''tails'' stations used for transferring UF_6 into containers.

5.7.12. UF_6/CARRIER GAS SEPARATION SYSTEMS (MLIS)

Specially designed or prepared process systems for separating UF_6 from carrier gas. The carrier gas may be nitrogen, argon, or other gas.

EXPLANATORY NOTE: These systems may incorporate equipment such as:

(a) Cryogenic heat exchangers or cryoseparators capable of temperatures of -120 °C or less, or

(b) Cryogenic refrigeration units capable of temperatures of -120 °C or less, or

(c) UF_6 cold traps capable of temperatures of -20 °C or less.

5.7.13. LASER SYSTEMS (AVLIS, MLIS AND CRISLA)

Lasers or laser systems specially designed or prepared for the separation of uranium isotopes.

EXPLANATORY NOTE: The laser system for the AVLIS process usually consists of two lasers: A copper vapor laser and a dye laser. The laser system for MLIS usually consists of a CO_2 or excimer laser and a multi-pass optical cell with revolving mirrors at both ends. Lasers or laser systems for both processes require a spectrum frequency stabilizer for operation over extended periods of time.

5.8. SPECIALLY DESIGNED OR PREPARED SYSTEMS, EQUIPMENT AND COMPONENTS FOR USE IN PLASMA SEPARATION ENRICHMENT PLANTS

INTRODUCTORY NOTE: In the plasma separation process, a plasma of uranium ions passes through an electric field tuned to the U–235 ion resonance frequency so that they preferentially absorb energy and increase the diameter of their corkscrew-like orbits. Ions with a large-diameter path are trapped to produce a product enriched in U–235. The plasma, which is made by ionizing uranium vapor, is contained in a vacuum chamber

with a high-strength magnetic field produced by a superconducting magnet. The main technological systems of the process include the uranium plasma generation system, the separator module with superconducting magnet and metal removal systems for the collection of ''product'' and ''tails.''

5.8.1. MICROWAVE POWER SOURCES AND ANTENNAE

Specially designed or prepared microwave power sources and antennae for producing or accelerating ions and having the following characteristics: Greater than 30 GHz frequency and greater than 50 kW mean power output for ion production.

5.8.2. ION EXCITATION COILS

Specially designed or prepared radio frequency ion excitation coils for frequencies of more than 100 kHz and capable of handling more than 40 kW mean power.

5.8.3. URANIUM PLASMA GENERATION SYSTEMS

Specially designed or prepared systems for the generation of uranium plasma, which may contain high-power strip or scanning electron beam guns with a delivered power on the target of more than 2.5 kW/cm.

5.8.4. LIQUID URANIUM METAL HANDLING SYSTEMS

Specially designed or prepared liquid metal handling systems for molten uranium or uranium alloys, consisting of crucibles and cooling equipment for the crucibles, power supply system, the ion source high-voltage power supply system, the vacuum system, and extensive chemical handling systems for recovery of product and cleaning/recycling of components.

5.9.1. ELECTROMAGNETIC ISOTOPE SEPARATORS

Electromagnetic isotope separators specially designed or prepared for the separation of uranium isotopes, and equipment and components therefor, including:

(a) *Ion sources:* Specially designed or prepared single or multiple uranium ion sources consisting of a vapor source, ionizer, and beam accelerator, constructed of suitable materials such as graphite, stainless steel, or copper, and capable of providing a total ion beam current of 50 mA or greater;

(b) *Ion collectors:* Collector plates consisting of two or more slits and pockets specially designed or prepared for collection of enriched and depleted uranium ion beams and constructed of suitable materials such as graphite or stainless steel;

(c) *Vacuum housings:* Specially designed or prepared vacuum housings for uranium electromagnetic separators, constructed of suitable non-magnetic materials such as stainless steel and designed for operation at pressures of 0.1 Pa or lower;

EXPLANATORY NOTE: The housings are specially designed to contain the ion sources, collector plates and water-cooled liners and have provision for diffusion pump connections and opening and closure for removal and reinstallation of these components.

(d) *Magnet pole pieces:* Specially designed or prepared magnet pole pieces having a diameter greater than 2 m used to maintain a constant magnetic field within an electromagnetic isotope separator and to transfer the magnetic field between adjoining separators.

5.9.2. HIGH VOLTAGE POWER SUPPLIES

Specially designed or prepared high-voltage power supplies for ion sources, having all of the following characteristics: capable of continuous operation, output voltage of 20,000 V or greater, output current of 1 A or greater, and voltage regulation of better than 0.01% over a time period of 8 hours.

5.9.3. MAGNET POWER SUPPLIES

Specially designed or prepared high-power, direct current magnet power supplies having all of the following characteristics: capable of continuously producing a current output of 500 A or greater at a voltage of 100 V or greater and with a current or voltage regulation better than 0.01% over a period of 8 hours.

6. PLANTS FOR THE PRODUCTION OF HEAVY WATER, DEUTERIUM AND DEUTERIUM COMPOUNDS AND EQUIPMENT SPECIALLY DESIGNED OR PREPARED THEREFOR

INTRODUCTORY NOTE: Heavy water can be produced by a variety of processes. However, the two processes that have proven to be commercially viable are the water-hydrogen sulfide exchange process (GS process) and the ammonia-hydrogen exchange process. The GS process is based upon the exchange of hydrogen and deuterium between water and hydrogen sulfide within a series of towers which are operated with the top section cold and the bottom section hot. Water flows down the towers while the hydrogen sulfide gas circulates from the bottom to the top of the towers. A series of perforated trays are used to promote mixing between the gas and the water. Deuterium migrates to the water at low temperatures and to the hydrogen sulfide at high temperatures. Gas or water, enriched in deuterium, is removed from the first stage towers at the junction of the hot and cold sections and the process is repeated in subsequent stage towers. The product of the last stage, water enriched up to 30% in deuterium, is sent to a distillation unit to produce reactor grade heavy water, i.e., 99.75% deuterium oxide. The ammonia-hydrogen exchange process can extract deuterium from synthesis gas through contact with liquid ammonia in the presence of a

catalyst. The synthesis gas is fed into exchange towers and to an ammonia converter. Inside the towers the gas flows from the bottom to the top while the liquid ammonia flows from the top to the bottom. The deuterium is stripped from the hydrogen in the synthesis gas and concentrated in the ammonia. The ammonia then flows into an ammonia cracker at the bottom of the tower while the gas flows into an ammonia converter at the top. Further enrichment takes place in subsequent stages and reactor grade heavy water is produced through final distillation. The synthesis gas feed can be provided by an ammonia plant that, in turn, can be constructed in association with a heavy water ammonia-hydrogen exchange plant. The ammonia-hydrogen exchange process can also use ordinary water as a feed source of deuterium.

Many of the key equipment items for heavy water production plants using GS or the ammonia-hydrogen exchange processes are common to several segments of the chemical and petroleum industries. This is particularly so for small plants using the GS process. However, few of the items are available ''off-the-shelf.'' The GS and ammonia-hydrogen processes require the handling of large quantities of flammable, corrosive and toxic fluids at elevated pressures. Accordingly, in establishing the design and operating standards for plants and equipment using these processes, careful attention to the materials selection and specifications is required to ensure long service life with high safety and reliability factors. The choice of scale is primarily a function of economics and need. Thus, most of the equipment items would be prepared according to the requirements of the customer. Finally, it should be noted that, in both the GS and the ammonia-hydrogen exchange processes, items of equipment which individually are not specially designed or prepared for heavy water production can be assembled into systems which are specially designed or prepared for producing heavy water. The catalyst production system used in the ammonia-hydrogen exchange process and water distillation systems used for the final concentration of heavy water to reactor-grade in either process are examples of such systems. The items of equipment which are specially designed or prepared for the production of heavy water utilizing either the water-hydrogen sulfide exchange process or the ammonia-hydrogen exchange process include the following:

6.1. WATER-HYDROGEN SULFIDE EXCHANGE TOWERS

Exchange towers fabricated from fine carbon steel (such as ASTM A516) with diameters of 6 m (20 ft) to 9 m (30 ft), capable of operating at pressures greater than or equal to 2 MPa (300 psi) and with a corrosion allowance of 6 mm or greater, specially designed or prepared for heavy water production utilizing the water-hydrogen sulfide exchange process.

6.2. BLOWERS AND COMPRESSORS

Single stage, low head (i.e., 0.2 MPa or 30 psi) centrifugal blowers or compressors for hydrogen-sulfide gas circulation (i.e., gas containing more than 70% H_2S) specially designed or prepared for heavy water production utilizing the water-hydrogen sulfide exchange process. These blowers or compressors have a throughput capacity greater than or equal to 56 m^3/second (120,000 SCFM) while operating at pressures greater than or equal to 1.8 MPa (260 psi) suction and have seals designed for wet H_2S service.

6.3. AMMONIA-HYDROGEN EXCHANGE TOWERS

Ammonia-hydrogen exchange towers greater than or equal to 35 m (114.3 ft) in height with diameters of 1.5 m (4.9 ft) to 2.5 m (8.2 ft) capable of operating at pressures greater than 15 MPa (2225 psi) specially designed or prepared for heavy water production utilizing the ammonia-hydrogen exchange process. These towers also have at least one flanged axial opening of the same diameter as the cylindrical part through which the tower internals can be inserted or withdrawn.

6.4. TOWER INTERNALS AND STAGE PUMPS

Tower internals and stage pumps specially designed or prepared for towers for heavy water production utilizing the ammonia-hydrogen exchange process. Tower internals include specially designed stage contactors which promote intimate gas/liquid contact. Stage pumps include specially designed submersible pumps for circulation of liquid ammonia within a contacting stage internal to the stage towers.

6.5. AMMONIA CRACKERS

Ammonia crackers with operating pressures greater than or equal to 3 MPa (450 psi) specially designed or prepared for heavy water production utilizing the ammonia-hydrogen exchange process.

6.6. INFRARED ABSORPTION ANALYZERS

Infrared absorption analyzers capable of ''on-line'' hydrogen/deuterium ratio analysis where deuterium concentrations are equal to or greater than 90%.

6.7. CATALYTIC BURNERS

Catalytic burners for the conversion of enriched deuterium gas into heavy water specially designed or prepared for heavy water production utilizing the ammonia-hydrogen exchange process.

7. PLANTS FOR THE CONVERSION OF URANIUM AND EQUIPMENT SPECIALLY DESIGNED OR PREPARED THEREFOR

INTRODUCTORY NOTE: Uranium conversion plants and systems may perform one or more transformations from one uranium chemical species to another, including: conversion of uranium ore concentrates to UO_3, conversion of UO_3 to UO_2, conversion of uranium oxides to UF_4 or UF_6, conversion of UF_4 to UF_6, conversion of UF_6 to UF_4, conversion of UF_4 to uranium metal, and conversion of uranium fluorides to UO_2. Many of the key equipment items for uranium conversion plants are common to several segments of the chemical process industry. For example, the types of equipment employed in these processes may include: Furnaces, rotary kilns, fluidized bed reactors, flame tower reactors, liquid centrifuges, distillation columns and liquid-liquid extraction columns. However, few of the items are available ''off-the-shelf;'' most would be prepared according to the requirements and specifications of the customer. In some instances, special design and construction considerations are required to address the corrosive properties of some of the chemicals handled (HF, F_2, ClF_3, and uranium fluorides). Finally, it should be noted that, in all of the uranium conversion processes, items of equipment which individually are not specially designed or prepared for uranium conversion can be assembled into systems which are specially designed or prepared for use in uranium conversion.

7.1. SPECIALLY DESIGNED OR PREPARED SYSTEMS FOR THE CONVERSION OF URANIUM ORE CONCENTRATES TO UO_3

EXPLANATORY NOTE: Conversion of uranium ore concentrates to UO_3 can be performed by first dissolving the ore in nitric acid and extracting purified uranyl nitrate using a solvent such as tributyl phosphate. Next, the uranyl nitrate is converted to UO_3 either by concentration and denitration or by neutralization with gaseous ammonia to produce ammonium diuranate with subsequent filtering, drying, and calcining.

7.2. SPECIALLY DESIGNED OR PREPARED SYSTEMS FOR THE CONVERSION OF UO_3 TO UF_6

EXPLANATORY NOTE: Conversion of UO_3 to UF_6 can be performed directly by fluorination. The process requires a source of fluorine gas or chlorine trifluoride.

7.3. SPECIALLY DESIGNED OR PREPARED SYSTEMS FOR THE CONVERSION OF UO_3 TO UO_2

EXPLANATORY NOTE: Conversion of UO_3 to UO_2 can be performed through reduction of UO_3 with cracked ammonia gas or hydrogen.

7.4. SPECIALLY DESIGNED OR PREPARED SYSTEMS FOR THE CONVERSION OF UO_2 TO UF_4

EXPLANATORY NOTE: Conversion of UO_2 to UF_4 can be performed by reacting UO_2 with hydrogen fluoride gas (HF) at 300–500 °C.

7.5. SPECIALLY DESIGNED OR PREPARED SYSTEMS FOR THE CONVERSION OF UF_4 TO UF_6

EXPLANATORY NOTE: Conversion of UF_4 to UF_6 is performed by exothermic reaction with fluorine in a tower reactor. UF_6 is condensed from the hot effluent gases by passing the effluent stream through a cold trap cooled to −10 °C. The process requires a source of fluorine gas.

7.6. SPECIALLY DESIGNED OR PREPARED SYSTEMS FOR THE CONVERSION OF UF_4 TO U METAL

EXPLANATORY NOTE: Conversion of UF_4 to U metal is performed by reduction with magnesium (large batches) or calcium (small batches). The reaction is carried out at temperatures above the melting point of uranium (1130 °C).

7.7. SPECIALLY DESIGNED OR PREPARED SYSTEMS FOR THE CONVERSION OF UF_6 TO UO_2

EXPLANATORY NOTE: Conversion of UF_6 to UO_2 can be performed by one of three processes. In the first, UF_6 is reduced and hydrolyzed to UO_2 using hydrogen and steam. In the second, UF_6 is hydrolyzed by solution in water, ammonia is added to precipitate ammonium diuranate, and the diuranate is reduced to UO_2 with hydrogen at 820 °C. In the third process, gaseous UF_6, CO_2, and NH_3 are combined in water, precipitating ammonium uranyl carbonate. The ammonium uranyl carbonate is combined with steam and hydrogen at 500–600 °C to yield UO_2. UF_6 to UO_2 conversion is often performed as the first stage of a fuel fabrication plant.

7.8 SPECIALLY DESIGNED OR PREPARED SYSTEMS FOR THE CONVERSION OF UF_6 TO UF_4

EXPLANATORY NOTE: Conversion of UF_6 to UF_4 is performed by reduction with hydrogen.

PART 784—COMPLEMENTARY ACCESS

Sec.

784.1 Complementary access: General information on the purpose of complementary access, affected locations, and the role of BIS.
784.2 Obtaining consent or warrants to conduct complementary access.
784.3 Scope and conduct of complementary access.

784.4 Notification, duration and frequency of complementary access.
784.5 Subsidiary arrangements.
784.6 Post complementary access activities.

AUTHORITY: United States Additional Protocol Implementation Act of 2006, Pub. Law No. 109–401, 120 Stat. 2726 (December 18, 2006) (to be codified at 22 U.S.C. 8101–8181); Executive Order 13458 (February 4, 2008).

SOURCE: 73 FR 65128, Oct. 31, 2008, unless otherwise noted.

§ 784.1 Complementary access: General information on the purpose of complementary access, affected locations, and the role of BIS.

(a) *Overview.* The Additional Protocol requires that the United States provide the IAEA with complementary access to locations specified in the U.S. declaration. The IAEA may request and be given complementary access to locations in the United States that are not included in the U.S. declaration as agreed to by the U.S. Government. The IAEA, upon request, will be granted complementary access to locations in the United States in accordance with the provisions of §784.3 of the APR, which describes the scope and conduct of complementary access.

(b) *Purposes authorized under the APR.* The APR authorize the conduct of complementary access, at locations in the United States, for the following purposes.

(1) *Declared uranium hard-rock mines and ore beneficiation plants.* Complementary access may be conducted, on a selective basis, to verify the absence of undeclared nuclear material and nuclear related activities at reportable uranium hard-rock mines and ore beneficiation plants (see §783.1(a)(3) of the APR).

(2) *Other locations specified in the U.S. declaration and locations requested by the IAEA that are not included in the U.S. declaration as agreed to by the U.S. Government.* Complementary access may be conducted at other locations specified in the U.S. declaration (i.e., locations required to submit reports to BIS pursuant to §783.1(a)(1), (a)(2), or (b) of the APR), and locations requested by the IAEA and agreed to by the U.S. Government, to resolve questions relating to the correctness and completeness of the information provided in the U.S. declaration or to resolve inconsistencies relating to that information.

(i) In the event that the IAEA has a question about, or identifies an apparent inconsistency in, information contained in the U.S. declaration (e.g., information based on reports submitted to BIS by one of these locations, pursuant to §783.1(a)(1), (a)(2), or (b) of the APR), the IAEA will provide the U.S. Government with an opportunity to clarify or resolve the question or inconsistency. The IAEA will not draw any conclusions about the question or inconsistency, or request complementary access to a location, until the U.S. Government has been provided with an opportunity to clarify or resolve the question or inconsistency, unless the IAEA considers that a delay in access would prejudice the purpose for which the access is sought.

(ii) Upon receipt of a request from the IAEA for clarification concerning information contained in the U.S. declaration, BIS will provide written notification to the U.S. location. The U.S. location must provide BIS with all of the requested information to clarify or resolve the question or inconsistency raised by the IAEA. Unless informed otherwise by BIS, the U.S. location will have 15 calendar days from its receipt of written notification to submit the required forms to BIS (see the *Supplemental Information Report* requirements in §783.1(d) of the APR).

(c) *Locations subject to complementary access.* All locations specified in the U.S. declaration and other locations requested by the IAEA and agreed to by the U.S. Government are subject to complementary access by the IAEA. In cases where access cannot be provided to locations specified by the IAEA, BIS may seek to provide complementary access to adjacent locations or to satisfy the purposes of complementary access (see paragraph (b) of this section) through other means.

(d) *Responsibilities of BIS.* As the lead U.S. Government agency and point of contact for organizing and facilitating complementary access pursuant to the APR, BIS will:

(1) Serve as the official U.S. Government host to the IAEA inspection team;

(2) Provide prior written notification to any location that is scheduled to undergo complementary access;

(3) Take appropriate action to obtain an administrative warrant in the event that a location does not consent to complementary access;

(4) Upon request of the location, dispatch an advance team, if time and other circumstances permit, to the location to provide administrative and logistical support for complementary access and to assist with preparation for such access;

(5) Accompany the IAEA Team throughout the duration of complementary access;

(6) Assist the IAEA Team with complementary access activities and ensure that each activity adheres to the provisions of the Additional Protocol and to the requirements of the APR and the Act, including the conditions of any warrant issued thereunder; and

(7) Assist in the negotiation and development of a location-specific subsidiary arrangement between the U.S. Government and the IAEA, if appropriate (see § 784.5 of the APR).

NOTE TO § 784.1(d): BIS may invite representatives from other U.S. Government agencies to participate as members of the Advance and Host Teams for complementary access. The Host Team will not include employees of the Environmental Protection Agency, the Mine Safety and Health Administration, or the Occupational Safety and Health Administration of the Department of Labor.

§ 784.2 Obtaining consent or warrants to conduct complementary access.

(a) *Procedures for obtaining consent.* (1) For locations specified in the U.S. declaration and other locations specified by the IAEA, BIS will seek consent pursuant to IAEA complementary access requests. In instances where the owner, operator, occupant or agent in charge of a location does not consent to such complementary access, BIS will seek administrative warrants as provided by the Act.

(2) For locations specified by the IAEA where access cannot be provided, BIS may seek consent from an adjacent location pursuant to an IAEA complementary access request.

(b) *Who may give consent.* The owner, operator, occupant or agent in charge of a location may consent to complementary access. The individual providing consent on behalf of the location represents that he or she has the authority to make this decision.

(c) *Scope of consent.* (1) When the owner, operator, occupant, or agent in charge of a location consents to a complementary access request, he or she is agreeing to provide the IAEA Team with the same degree of access as that authorized under § 784.3 of the APR. This includes providing access for the IAEA Team and Host Team to any area of the location, any item on the location, and any records that are necessary to comply with the APR and allow the IAEA Team to accomplish the purpose of complementary access, as authorized under § 784.1(b)(1) or (b)(2) of the APR, except for the following:

(i) Information subject to the licensing jurisdiction of the Directorate of Defense Trade Controls (DDTC), U.S. Department of State, under the International Traffic in Arms Regulations (ITAR) (22 CFR parts 120 through 130)—see § 784.3(b)(3) of the APR, which states that such access cannot be provided without prior U.S. Government authorization; and

(ii) Activities with direct national security significance to the United States, or locations or information associated with such activities.

(2) The Host Team Leader is responsible for determining whether or not the IAEA's request to obtain access to any area, building, or item, or to record or conduct the types of activities described in § 784.3 of the APR is consistent with the Additional Protocol and subsidiary arrangements to the Additional Protocol.

§ 784.3 Scope and conduct of complementary access.

(a) *General.* IAEA complementary access shall be limited to accomplishing only those purposes that are appropriate to the type of location, as indicated in § 784.1(b) of the APR and shall be conducted in the least intrusive manner, consistent with the effective and timely accomplishment of such purposes. No complementary access may take place without the presence of a U.S. Government Host Team. No information of direct national security

significance shall be provided to the IAEA during complementary access.

(b) *Scope.* This paragraph describes complementary access activities that are authorized under the APR.

(1) *Complementary access activities.* Depending on the type of location accessed, the IAEA Team may:

(i) Perform visual observation of parts or areas of the location;

(ii) Utilize radiation detection and measurement devices;

(iii) Utilize non-destructive measurements and sampling;

(iv) Examine relevant records (i.e., records appropriate for the purpose of complementary access, as authorized under § 784.1(b) of the APR), except that the following records may not be inspected unless the Host Team leader, after receiving input from representatives of the location and consulting with other members of the Host Team, determines that such access is both appropriate and necessary to achieve the relevant purpose described in § 784.1(b)(1) or (b)(2) of the APR:

(A) Financial data (other than production data);

(B) Sales and marketing data (other than shipment data);

(C) Pricing data;

(D) Personnel data;

(E) Patent data;

(F) Data maintained for compliance with environmental or occupational health and safety regulations; or

(G) Research data (unless the data are reported on Form AP–3 or AP–4);

(v) Perform location-specific environmental sampling; and

NOTE TO § 784.3(b)(1)(v): BIS will not seek access to a location for location-specific environmental sampling until the President reports to the appropriate congressional committees his determination to permit such sampling.

(vi) Utilize other objective measures which have been demonstrated to be technically feasible and the use of which have been agreed to by the United States (''objective measures,'' as used herein, means any verification techniques that would be appropriate for achieving the official purpose of complementary access, both in terms of their effectiveness and limited intrusiveness).

(2) *Wide Area Environmental Sampling.* In certain cases, IAEA inspectors may collect environmental samples (e.g., air, water, vegetation, soil, smears), at a location specified by the IAEA, for the purpose of assisting the IAEA to draw conclusions about the absence of undeclared nuclear material or nuclear activities over a wide area.

NOTE TO § 784.3(b)(2): The IAEA will not seek such access until the use of wide-area environmental sampling and the procedural arrangements therefor have been approved by its Board of Governors and consultations have been held between the IAEA and the United States. BIS will not seek access to a location for wide-area sampling until the President reports to the appropriate congressional committees his determination to permit such sampling.

(3) *ITAR-controlled technology.* ITAR-controlled technology shall not be made available to the IAEA Team without prior U.S. Government authorization. The owner, operator, occupant, or agent in charge of the location being accessed is responsible for identifying any ITAR-controlled technology at the location to the Host Team as soon as practicable following the receipt of notification from BIS of complementary access (see § 784.4(a) of the APR).

(c) *Briefing.* Following the arrival of the IAEA Team and Host Team at a location subject to complementary access, and prior to the commencement of complementary access, representatives of the organization will provide the IAEA Team and Host Team with a briefing on the environmental, health, safety, and security regulations (e.g., regulations for protection of controlled environments within the location and for personal safety) that are applicable to the location and which must be observed. In addition, the organization's representatives may include in their briefing an overview of the location, the activities carried out at the location, and any administrative and logistical arrangements relevant to complementary access. The briefing may include the use of maps and other documentation deemed appropriate by the organization. The time spent for the briefing may not exceed one hour, and the content should be limited to that which relates to the purpose of

complementary access. The briefing may also address any of the following:

(1) Areas, buildings, and structures specific to any activities relevant to complementary access;

(2) Administrative and logistical information;

(3) Updates/revisions to reports required under the APR;

(4) Introduction of key personnel at the location;

(5) Location-specific subsidiary arrangement, if applicable; and

(6) Proposed access plan to address the purpose of complementary access.

(d) *Visual access.* The IAEA Team may visually observe areas or parts of the location, as agreed by the Host Team Leader, after the Host Team Leader has consulted with the organization's representative for the location.

(e) *Records review.* The location must be prepared to provide the IAEA Team with access to all supporting materials and documentation used by the owner, operator, occupant, or agent in charge of the location to prepare reports required under the APR and to otherwise comply with the APR (see the records inspection and recordkeeping requirements in §§ 786.1 and 786.2 of the APR and paragraph (b) of this section, which describes the scope of complementary access activities authorized under the APR) and with appropriate accommodations in which the IAEA Team can review these supporting materials and documentation. Such access will be provided in appropriate formats (e.g., paper copies, electronic remote access by computer, microfilm, or microfiche) through the Host Team to the IAEA Team during the complementary access period or as otherwise agreed upon by the IAEA Team and Host Team Leader. If the owner, operator, occupant, or agent in charge of the location does not have access to records for activities that took place under previous ownership, the previous owner must make such records available to the Host Team.

(f) *Managed access.* As necessary, the Host Team will implement managed access measures (e.g., the removal of sensitive papers from office spaces and the shrouding of sensitive displays, stores, and equipment) to prevent the dissemination of proliferation sensitive information, to meet safety or physical protection requirements, to protect proprietary or commercially sensitive information, or to protect activities of direct national security significance to the United States, including locations or information associated with such activities. If the IAEA Team is unable to fully achieve its inspection aims under the managed access measures in place, the Host Team will make every reasonable effort to provide alternative means to allow the IAEA Team to meet these aims, consistent with the purposes of complementary access (as described in § 784.1(b) of the APR) and the requirements of this section. If a location-specific subsidiary arrangement applies (see § 784.5(b) of the APR), the Host Team shall, in consultation with the owner, operator, occupant, or agent in charge of the location, implement managed access procedures consistent with the applicable location-specific subsidiary arrangement.

(g) *Hours of complementary access.* Consistent with the provisions of the Additional Protocol, the Host Team will ensure, to the extent possible, that each complementary access is commenced, conducted, and concluded during ordinary business hours, but no complementary access shall be prohibited or otherwise disrupted from commencing, continuing or concluding during other hours.

(h) *Environmental, health, safety, and security regulations and requirements.* In carrying out their activities, the IAEA Team and Host Team shall observe federal, state, and local environmental, health, safety, and security regulations and environmental, health, safety, and security requirements established at the location, including those for the protection of controlled environments within a location and for personal safety. To the extent practicable, any such regulations and requirements that may apply to the conduct of complementary access at the location should be set forth in the location-specific subsidiary arrangement (if any).

(i) *Host Team to accompany the IAEA Team.* The Host Team shall accompany the IAEA Team, during their complementary access at the location, in

accordance with the provisions set forth in this part of the APR.

(j) *Scope of authorized communications by the IAEA Team.* (1) The United States shall permit and protect free communications between the IAEA Team and IAEA Headquarters and/or Regional Offices, including attended and unattended transmission of information generated by IAEA containment and/or surveillance or measurement devices. The IAEA Team shall have the right, through consultation with the Host Team, to make use of internationally established systems of direct communications.

(2) No document, photograph or other recorded medium, or sample relevant to complementary access may be removed or transmitted from the location by the IAEA Team without the prior consent of the Host Team.

(k) *IAEA activities, findings, and results related to complementary access.* (1) In accordance with the Additional Protocol, the IAEA shall inform the United States of:

(i) Any activities that took place in connection with complementary access to a location in the United States, including any activities concerning questions or inconsistencies that the IAEA may have brought to the attention of the United States, within 60 calendar days of the time that the activities occurred; and

(ii) The findings or results of any activities that took place, including the findings and results of activities concerning questions or inconsistencies that the IAEA may have brought to the attention of the United States, within 30 calendar days of the time that such findings or results were reached by the IAEA.

(2) BIS will provide the results of complementary access to the owner, operator, occupant, or agent in charge of the inspected location to the extent practicable.

§ 784.4 Notification, duration and frequency of complementary access.

(a) *Complementary access notification.* Complementary access will be provided only upon the issuance of a written notice by BIS to the owner, operator, occupant or agent in charge of the premises to be accessed. If BIS is unable to provide written notification to the owner, operator, or agent in charge, BIS may post a notice prominently at the location to be accessed.

(1) *Content of notice*—(i) *Pertinent information furnished by the IAEA.* The notice shall include all appropriate information provided by the IAEA to the United States Government concerning:

(A) The purpose of complementary access;

(B) The basis for the selection of the location for complementary access;

(C) The activities that will be carried out during complementary access;

(D) The time and date that complementary access is expected to begin and its anticipated duration; and

(E) The names and titles of the IAEA inspectors who will participate in complementary access.

(ii) *Request for location's consent to complementary access.* The complementary access notification from BIS will request that the location inform BIS whether or not it will consent to complementary access. If a location does not agree to provide consent to complementary access within four hours of its receipt of the complementary access notification, BIS will seek an administrative warrant as provided in § 784.2(a)(1).

(iii) *Availability of advance team from BIS.* An advance team from BIS will be available to assist the location in preparing for complementary access. If the complementary access is a 24-hour advance notice, then the availability of an advance team may be limited. The location requesting advance team assistance will not be required to reimburse the U.S. Government for any costs associated with these activities. The location (in cooperation with the advance team, if available) will make preparations for complementary access, including the identification of any ITAR-controlled technology and/or national security information at the location (see § 784.3(b)(3) of the APR).

(2) *Notification procedures.* The following table sets forth the notification procedures for complementary access.

TABLE TO § 784.4(a)(2)

Activity	Agency action	Location action
IAEA notification of complementary access.	BIS will transmit complementary access notification via facsimile to the owner, operator, occupant, or agent in charge of a location to ascertain whether or not the location: (1) Grants consent to complementary access; and (2) Requests BIS advance team support (subject to availability) in preparing for complementary access. If the location does not inform BIS of its consent to complementary access, within 4 hours of the time it receives notification from BIS, BIS will seek an administrative warrant.	Location must inform BIS, within 4 hours of its receipt of complementary access notification, whether or not it: (1) Grants consent to complementary access; and (2) Requests BIS advance team support (subject to availability) to prepare for complementary access. Location not required to reimburse U.S. Government for assistance from the BIS advance team.
Preparation for complementary access.	If a BIS advance team has been requested and is available, it will arrive at the location to be accessed and assist the location in making logistical and administrative preparations for complementary access.	The location will engage in activities that will prepare the location for complementary access (e.g., identifying any ITAR-controlled technology or national security information at the location), either singularly or in cooperation with a BIS advance team if one has been requested and is available.

(3) *Timing of notification*. In accordance with the Additional Protocol, the IAEA shall notify the United States Government of a complementary access request not less than 24 hours prior to the arrival of the IAEA Team at the location. BIS will provide written notice to the owner, operator, occupant or agent in charge of the location as soon as possible after BIS has received notification from the IAEA.

(b) *Duration of complementary access*. The duration of complementary access will depend upon the nature of the complementary access request and the activities that will be conducted at the location. (See § 784.3(b) of the APR for a description of the types of complementary access activities authorized under the APR.)

§ 784.5 Subsidiary arrangements.

(a) *General subsidiary arrangement*. The United States Government may conclude a general subsidiary arrangement with the IAEA that governs complementary access activities, irrespective of the location (i.e., an arrangement that is not location-specific).

(b) *Location-specific subsidiary arrangement*—(1) *Purpose*. If requested by the location or deemed necessary by the U.S. Government, the U.S. Government will negotiate a location-specific subsidiary arrangement with the IAEA. The purpose of such an arrangement is to establish procedures for conducting managed access at a specific declared location. If the location requests, it may participate in preparations for the negotiation of a location-specific subsidiary arrangement with the IAEA and may observe the negotiations to the maximum extent practicable. The existence of a location-specific subsidiary arrangement does not in any way limit the right of the owner, operator, occupant, or agent in charge of the location to withhold consent to a request for complementary access.

(2) *Format and content*. The form and content of a location-specific subsidiary arrangement will be determined by the IAEA and the U.S. Government, in consultation with the location, on a case-by-case basis.

§ 784.6 Post complementary access activities.

Upon receiving the IAEA's final report on complementary access, BIS will forward a copy of the report to the location for its review, in accordance with § 784.3(k)(2) of the APR. Locations may submit comments concerning the IAEA's final report to BIS, and BIS will consider them, as appropriate, when preparing its comments to the IAEA on the final report. BIS also will send locations a post complementary access letter detailing the issues that require follow-up action (see, for example, the *Amended Report* requirements in § 783.2(d) of the APR).

PART 785—ENFORCEMENT

Sec.

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AUTHORITY: United States Additional Protocol Implementation Act of 2006, Pub. Law No. 109–401, 120 Stat. 2726 (December 18, 2006) (to be codified at 22 U.S.C. 8101–8181); Executive Order 13458 (February 4, 2008).

SOURCE: 73 FR 65128, Oct. 31, 2008, unless otherwise noted.

§ 785.1 Scope and definitions.

(a) *Scope.* This part 785 describes the sanctions that apply to violations of the Act and the APR. It also establishes detailed administrative procedures for certain violations of the Act. Violations for which the statutory basis is the Act are set forth in § 785.2 of the APR. BIS investigates these violations, prepares charges, provides legal representation to the U.S. Government, negotiates settlements, and initiates and resolves proceedings. The administrative procedures applicable to these violations are described in §§ 785.3 through 785.19 of the APR.

(b) *Definitions.* The following are definitions of terms as used only in part 785 of the APR. For definitions of terms applicable to parts 781 through 786 of the APR, unless otherwise noted in this paragraph or elsewhere in the APR, see part 781 of the APR.

The Act. The U.S. Additional Protocol Implementation Act of 2006 (Public Law 109–401, 120 Stat. 2726 (December 18, 2006)).

Assistant Secretary for Export Enforcement. The Assistant Secretary for Export Enforcement, Bureau of Industry and Security, United States Department of Commerce.

Final decision. A decision or order assessing a civil penalty, or otherwise disposing of or dismissing a case, which is not subject to further administrative review, but which may be subject to collection proceedings or judicial review in an appropriate Federal court as authorized by law.

Office of Chief Counsel. The Office of Chief Counsel for Industry and Security, United States Department of Commerce.

Recommended decision. A decision of the administrative law judge in proceedings involving violations of part 785 that is subject to review by the Secretary of Commerce, or a designated United States Government official.

Report. For the purposes of part 785 of the APR, the term ''report'' means any report required under parts 783 through 786 of the APR.

Respondent. Any person named as the subject of a letter of intent to charge, a Notice of Violation and Assessment (NOVA), or order.

Under Secretary, Bureau of Industry and Security. The Under Secretary, Bureau of Industry and Security, United States Department of Commerce.

§ 785.2 Violations of the Act subject to administrative and criminal enforcement proceedings.

(a) *Violations*—(1) *Refusal to permit entry or access.* No person may willfully fail or refuse to permit entry or access, or willfully disrupt, delay or otherwise impede complementary access, or an entry in connection with complementary access, authorized by the Act.

(2) *Failure to establish or maintain records.* No person may willfully fail or refuse to do any of the following:

(i) Establish or maintain any record required by the Act or the APR;

(ii) Submit any report, notice, or other information to the United States Government in accordance with the Act or the APR; or

(iii) Permit access to or copying of any record by the United States Government that is related to a person's obligations under the Act or the APR.

(b) *Civil penalties*—(1) *Civil penalty for refusal to permit entry or access.* Any person that is determined to have willfully failed or refused to permit entry or access, or to have willfully disrupted, delayed or otherwise impeded an authorized complementary access, as set forth in paragraph (a)(1) of this section, shall pay a civil penalty in an amount not to exceed $25,000 for each violation. Each day the violation continues constitutes a separate violation.

(2) *Civil penalty for failure to establish or maintain records.* Any person that is determined to have willfully failed or refused to establish or maintain any record, submit any report or other information required by the Act or the APR, or permit access to or copying of any record related to a person's obligations under the Act or the APR, as set forth in paragraph (a)(2) of this section, shall pay a civil penalty in an amount not to exceed $25,000 for each violation.

(c) *Criminal penalty.* Any person that is determined to have violated the Act by willfully failing or refusing to permit entry or access authorized by the Act; by willfully disrupting, delaying or otherwise impeding complementary access authorized by the Act; or by willfully failing or refusing to establish or maintain any required record, submit any required report or other information, or permit access to or copying of any record related to a person's obligations under the Act or the APR, as set forth in paragraph (a) of this section, shall, in addition to or in lieu of any civil penalty that may be imposed, be fined under Title 18 of the United States Code, be imprisoned for not more than five years, or both.

§ 785.3 Initiation of administrative proceedings.

(a) *Issuance of a Notice of Violation and Assessment (NOVA).* Prior to the initiation of an administrative proceeding through issuance of a NOVA, the Bureau of Industry and Security will issue a letter of intent to charge. The letter of intent to charge will advise a respondent that BIS has conducted an investigation. The letter will give the respondent a specified period of time to contact BIS to discuss settlement of the allegations set forth in the letter of intent to charge. If the respondent does not contact BIS in the time period specified in the letter of intent to charge, the Director of the Office of Export Enforcement, or such other Department of Commerce representative designated by the Assistant Secretary for Export Enforcement, may initiate an administrative enforcement proceeding under this § 785.3 by issuing a NOVA.

(b) *Content of a NOVA.* The NOVA shall constitute a formal complaint and will set forth the alleged violation(s) and the essential facts with respect to the alleged violation(s), reference the relevant statutory, regulatory or other provisions, and state the maximum amount of the civil penalty that could be assessed. The NOVA also will inform the respondent of the requirement to request a hearing pursuant to § 785.4 of the APR.

(c) *Service of a NOVA.* Service of the NOVA shall be made by certified mail or courier delivery with signed acknowledgment of receipt. The date of signed acknowledgment of receipt shall be the effective date of service of the NOVA. One copy of each paper shall be provided to each party in the delivery. BIS files the NOVA with the Administrative Law Judge (ALJ) at the same time that it is sent to the respondent. The ALJ, in turn, will place the case on its docket and will notify both the respondent and BIS of the docket information.

§ 785.4 Request for hearing and answer.

(a) *Deadline for answering the NOVA.* If the respondent wishes to contest the NOVA issued by BIS, the respondent must submit a written request for a hearing to BIS within 15 business days from the date of service of the NOVA. If the respondent requests a hearing, the respondent must answer the NOVA within 30 calendar days from the date of the request for hearing. The request for a hearing and the respondent's answer to the NOVA must be filed with the Administrative Law Judge (ALJ), along with a copy of the NOVA, and served on the Office of Chief Counsel,

and any other address(es) specified in the NOVA, in accordance with § 785.6 of the APR.

(b) *Content of respondent's answer.* The respondent's answer must be responsive to the NOVA and must fully set forth the nature of the respondent's defense(s). The answer must specifically admit or deny each separate allegation in the NOVA; if the respondent is without knowledge, the answer will so state and this will serve as a denial. Failure to deny or controvert a particular allegation will be deemed to be an admission of that allegation. The answer must also set forth any additional or new matter that the respondent contends will support a defense or claim of mitigation. Any defense or partial defense not specifically set forth in the answer shall be deemed to be waived, and evidence supporting that defense or partial defense may be refused, except for good cause shown.

(c) *English required.* The request for hearing, the answer to the NOVA, and all other papers and documentary evidence must be submitted in English.

(d) *Waiver.* The failure of the respondent to file a request for a hearing and an answer within the times prescribed in paragraph (a) of this section constitutes a waiver of the respondent's right to appear and contest the allegations set forth in the NOVA. If no hearing is requested and no answer is provided, a final order will be signed by the Secretary of Commerce, or by a designated United States Government official, and will constitute final agency action in the case.

§ 785.5 Representation.

An individual respondent may appear, in person, or be represented by a duly authorized officer or employee. A partner may appear on behalf of a partnership, or a duly authorized officer or employee of a corporation may appear on behalf of the corporation. If a respondent is represented by counsel, counsel shall be a member in good standing of the bar of any State, Commonwealth or Territory of the United States, or of the District of Columbia, or be licensed to practice law in the country in which counsel resides, if not the United States. The U.S. Government will be represented by the Office of Chief Counsel. A respondent personally, or through counsel or other representative who has the power of attorney to represent the respondent, shall file a notice of appearance with the ALJ, or, in cases where settlement negotiations occur before any filing with the ALJ, with the Office of Chief Counsel.

§ 785.6 Filing and service of papers other than the Notice of Violation and Assessment (NOVA).

(a) *Filing.* All papers to be filed with the ALJ shall be addressed to ''Additional Protocol Administrative Enforcement Proceedings,'' at the address set forth in the NOVA, or such other place as the ALJ may designate. Filing by United States certified mail, by express or equivalent parcel delivery service, via facsimile, or by hand delivery is acceptable. Filing from a foreign country shall be by airmail, via facsimile, or by express or equivalent parcel delivery service. A copy of each paper filed shall be simultaneously served on all parties.

(b) *Service.* Service shall be made by United States certified mail, by express or equivalent parcel delivery service, via facsimile, or by hand delivery of one copy of each paper to each party in the proceeding. Service on the government party in all proceedings shall be addressed to Office of Chief Counsel for Industry and Security, U.S. Department of Commerce, 14th Street and Constitution Avenue, NW., Room H–3839, Washington, DC 20230, or sent via facsimile to (202) 482–0085. Service on a respondent shall be to the address to which the NOVA was sent, or to such other address as the respondent may provide. When a party has appeared by counsel or other representative, service on counsel or other representative shall constitute service on that party.

(c) *Date.* The date of filing or service is the day when the papers are deposited in the mail or are delivered in person, by delivery service, or by facsimile. Refusal by the person to be served, or by the person's agent or attorney, of service of a document or other paper will be considered effective service of the document or other paper as of the date of such refusal.

(d) *Certificate of service.* A certificate of service signed by the party making service, stating the date and manner of service, shall accompany every paper, other than the NOVA, filed and served on the parties.

(e) *Computation of time.* In computing any period of time prescribed or allowed by this part, the day of the act, event, or default from which the designated period of time begins to run is not to be included. The last day of the period is to be included in the computation unless it is a Saturday, a Sunday, or a legal holiday (as defined in Rule 6(a) of the Federal Rules of Civil Procedure). In such instance, the period runs until the end of the next day that is neither a Saturday, a Sunday, nor a legal holiday. Intermediate Saturdays, Sundays, and legal holidays are excluded from the computation when the period of time prescribed or allowed is 7 days or less—there is no cap on the period of time to which this exclusion applies, whenever the period of time prescribed or allowed by this part is computed in business days, rather than calendar days.

§ 785.7 Summary decision.

The ALJ may render a summary decision disposing of all or part of a proceeding on the motion of any party to the proceeding, provided that there is no genuine issue as to any material fact and the party is entitled to summary decision as a matter of law.

§ 785.8 Discovery.

(a) *General.* The parties are encouraged to engage in voluntary discovery regarding any matter, not privileged, which is relevant to the subject matter of the pending proceeding. The provisions of the Federal Rules of Civil Procedure relating to discovery apply to the extent consistent with this part and except as otherwise provided by the ALJ or by waiver or agreement of the parties. The ALJ may make any order which justice requires to protect a party or person from annoyance, embarrassment, oppression, or undue burden or expense. These orders may include limitations on the scope, method, time and place of discovery, and provisions for protecting the confidentiality of classified or otherwise sensitive information, including Confidential Business Information (CBI) as defined by the Act.

(b) *Interrogatories and requests for admission or production of documents.* A party may serve on any party interrogatories, requests for admission, or requests for production of documents for inspection and copying, and a party may apply to the ALJ for such enforcement or protective order as that party deems warranted with respect to such discovery. The service of a discovery request shall be made at least 30 calendar days before the scheduled date of the hearing unless the ALJ specifies a shorter time period. Copies of interrogatories, requests for admission and requests for production of documents and responses thereto shall be served on all parties and a copy of the certificate of service shall be filed with the ALJ at least 5 business days before the scheduled date of the hearing. Matters of fact or law of which admission is requested shall be deemed admitted unless, within a period designated in the request (at least 10 business days after service, or within such additional time as the ALJ may allow), the party to whom the request is directed serves upon the requesting party a sworn statement either denying specifically the matters of which admission is requested or setting forth in detail the reasons why the party to whom the request is directed cannot either admit or deny such matters.

(c) *Depositions.* Upon application of a party and for good cause shown, the ALJ may order the taking of the testimony of any person by deposition and the production of specified documents or materials by the person at the deposition. The application shall state the purpose of the deposition and set forth the facts sought to be established through the deposition.

(d) *Enforcement.* The ALJ may order a party to answer designated questions, to produce specified documents or things or to take any other action in response to a proper discovery request. If a party does not comply with such an order, the ALJ may make a determination or enter any order in the proceeding as the ALJ deems reasonable and appropriate. The ALJ may strike related charges or defenses in whole or

in part or may take particular facts relating to the discovery request to which the party failed or refused to respond as being established for purposes of the proceeding in accordance with the contentions of the party seeking discovery. In addition, enforcement by any district court of the United States in which venue is proper may be sought as appropriate.

§ 785.9 Subpoenas.

(a) *Issuance*. Upon the application of any party, supported by a satisfactory showing that there is substantial reason to believe that the evidence would not otherwise be available, the ALJ may issue subpoenas to any person requiring the attendance and testimony of witnesses and the production of such books, records or other documentary or physical evidence for the purpose of the hearing, as the ALJ deems relevant and material to the proceedings, and reasonable in scope. Witnesses shall be paid the same fees and mileage that are paid to witnesses in the courts of the United States. In case of contempt, challenge or refusal to obey a subpoena served upon any person pursuant to this paragraph, any district court of the United States, in which venue is proper, has jurisdiction to issue an order requiring any such person to comply with a subpoena. Any failure to obey an order of the court is punishable by the court as a contempt thereof.

(b) *Service*. Subpoenas issued by the ALJ may be served by any of the methods set forth in § 785.6(b) of the APR.

(c) *Timing*. Applications for subpoenas must be submitted at least 10 business days before the scheduled hearing or deposition, unless the ALJ determines, for good cause shown, that extraordinary circumstances warrant a shorter time.

§ 785.10 Matters protected against disclosure.

(a) *Protective measures*. The ALJ may limit discovery or introduction of evidence or issue such protective or other orders as in the ALJ's judgment may be needed to prevent undue disclosure of classified or sensitive documents or information. Where the ALJ determines that documents containing classified or sensitive matter must be made available to a party in order to avoid prejudice, the ALJ may direct the other party to prepare an unclassified and nonsensitive summary or extract of the documents. The ALJ may compare the extract or summary with the original to ensure that it is supported by the source document and that it omits only so much as must remain undisclosed. The summary or extract may be admitted as evidence in the record.

(b) *Arrangements for access*. If the ALJ determines that the summary procedure outlined in paragraph (a) of this section is unsatisfactory, and that classified or otherwise sensitive matter must form part of the record in order to avoid prejudice to a party, the ALJ may provide the parties with the opportunity to make arrangements that permit a party or a representative to have access to such matter without compromising sensitive information. Such arrangements may include obtaining security clearances or giving counsel for a party access to sensitive information and documents subject to assurances against further disclosure, including a protective order, if necessary.

§ 785.11 Prehearing conference.

(a) On the ALJ's own motion, or on request of a party, the ALJ may direct the parties to participate in a prehearing conference, either in person or by telephone, to consider:

(1) Simplification of issues;

(2) The necessity or desirability of amendments to pleadings;

(3) Obtaining stipulations of fact and of documents to avoid unnecessary proof; or

(4) Such other matters as may expedite the disposition of the proceedings.

(b) The ALJ may order the conference proceedings to be recorded electronically or taken by a reporter, transcribed and filed with the ALJ.

(c) If a prehearing conference is impracticable, the ALJ may direct the parties to correspond with the ALJ to achieve the purposes of such a conference.

(d) The ALJ will prepare a summary of any actions agreed on or taken pursuant to this section. The summary

will include any written stipulations or agreements made by the parties.

§ 785.12 Hearings.

(a) *Scheduling.* Upon receipt of a valid request for a hearing, the ALJ shall, by agreement with all the parties or upon notice to all parties of at least 30 calendar days from the date of receipt of a request for a hearing, schedule a hearing. All hearings will be held in Washington, DC, unless the ALJ determines, for good cause shown, that another location would better serve the interest of justice.

(b) *Hearing procedure.* Hearings will be conducted in a fair and impartial manner by the ALJ. All hearings will be closed, unless the ALJ for good cause shown determines otherwise. The rules of evidence prevailing in courts of law do not apply, and all evidentiary material deemed by the ALJ to be relevant and material to the proceeding and not unduly repetitious will be received and given appropriate weight, except that any evidence of settlement which would be excluded under Rule 408 of the Federal Rules of Evidence is not admissible. Witnesses will testify under oath or affirmation, and shall be subject to cross-examination.

(c) *Testimony and record.* (1) A verbatim record of the hearing and of any other oral proceedings will be taken by reporter or by electronic recording, and filed with the ALJ. If any party wishes to obtain a written copy of the transcript, that party shall pay the costs of transcription. The parties may share the costs if both want a transcript.

(2) Upon such terms as the ALJ deems just, the ALJ may direct that the testimony of any person be taken by deposition and may admit an affidavit or report as evidence, provided that any affidavits or reports have been filed and served on the parties sufficiently in advance of the hearing to permit a party to file and serve an objection thereto on the grounds that it is necessary that the affiant or declarant testify at the hearing and be subject to cross-examination.

(d) *Failure to appear.* If a party fails to appear in person or by counsel at a scheduled hearing, the hearing may nevertheless proceed. The party's failure to appear will not affect the validity of the hearing or any proceeding or action taken thereafter.

§ 785.13 Procedural stipulations.

Unless otherwise ordered and subject to § 785.14 of the APR, a written stipulation agreed to by all parties and filed with the ALJ will modify the procedures established by this part.

§ 785.14 Extension of time.

The parties may extend any applicable time limitation by stipulation filed with the ALJ before the time limitation expires, or the ALJ may, on the ALJ's own initiative or upon application by any party, either before or after the expiration of any applicable time limitation, extend the time, except that the requirement that a hearing be demanded within 15 calendar days, and the requirement that a final agency decision be made within 60 calendar days, may not be modified.

§ 785.15 Post-hearing submissions.

All parties shall have the opportunity to file post-hearing submissions that may include findings of fact and conclusions of law, supporting evidence and legal arguments, exceptions to the ALJ's rulings or to the admissibility of evidence, and orders and settlements.

§ 785.16 Decisions.

(a) *Recommended decision and order.* After considering the entire record in the case, the ALJ will issue a recommended decision based on a preponderance of the evidence. The decision will include findings of fact, conclusions of law, and a decision based thereon as to whether the respondent has violated the Act. If the ALJ finds that the evidence of record is insufficient to sustain a finding that a violation has occurred with respect to one or more allegations, the ALJ shall order dismissal of the allegation(s) in whole or in part, as appropriate. If the ALJ finds that one or more violations have been committed, the ALJ shall issue an order imposing administrative sanctions.

(b) *Factors considered in assessing penalties.* In determining the amount of a civil penalty, the ALJ shall take into account the nature, circumstances, extent and gravity of the violation(s),

and, with respect to the respondent, the respondent's ability to pay the penalty, the effect of a civil penalty on the respondent's ability to continue to do business, the respondent's history of prior violations, and such other matters as justice may require.

(c) *Referral of recommended decision and order.* The ALJ shall immediately issue and serve the recommended decision (and order, if appropriate) to the Office of Chief Counsel, at the address in §785.6(b) of the APR, and to the respondent, by courier delivery or overnight mail. The recommended decision and order will also be referred to the head of the designated executive agency for final decision and order.

(d) *Final decision and order.* The recommended decision and order shall become the final agency decision and order unless, within 60 calendar days, the Secretary of Commerce, or a designated United States Government official, modifies or vacates it, or unless an appeal has been filed pursuant to paragraph (e) of this section.

(e) *Appeals.* The respondent may appeal the final agency decision within 30 calendar days after the date of certification. Petitions for appeal may be filed in the Court of Appeals for the District of Columbia Circuit or in the Court of Appeals for the district in which the violation occurred.

§785.17 Settlement.

(a) *Settlements before issuance of a NOVA.* When the parties have agreed to a settlement of the case prior to issuance of a NOVA, a settlement proposal consisting of a settlement agreement and order will be submitted to the Assistant Secretary for Export Enforcement for approval and signature. If the Assistant Secretary does not approve the proposal, he/she will notify the parties and the case will proceed as though no settlement proposal has been made. If the Assistant Secretary approves the proposal, he/she will issue an appropriate order, and no action will be required by the ALJ.

(b) *Settlements following issuance of a NOVA.* The parties may enter into settlement negotiations at any time during the time a case is pending before the ALJ. If necessary, the parties may extend applicable time limitations or otherwise request that the ALJ stay the proceedings while settlement negotiations continue. When the parties have agreed to a settlement of the case, the Office of Chief Counsel will recommend the settlement to the Assistant Secretary for Export Enforcement, forwarding a proposed settlement agreement and order, which the Assistant Secretary will approve and sign. If a NOVA has been filed, the Office of Chief Counsel will send a copy of the settlement proposal to the ALJ.

(c) *Settlement scope.* Any respondent who agrees to an order imposing any administrative sanction does so solely for the purpose of resolving the claims in the administrative enforcement proceeding brought under this Part. The government officials involved have neither the authority nor the responsibility for initiating, conducting, settling, or otherwise disposing of criminal proceedings. That authority and responsibility are vested in the Attorney General and the Department of Justice.

(d) *Finality.* Cases that are settled may not be reopened or appealed, absent a showing of good cause. Appeals and requests to reopen settled cases must be submitted to the Assistant Secretary for Export Enforcement within 30 calendar days of the execution of a settlement agreement.

§785.18 Record for decision.

(a) *The record.* The transcript of hearings, exhibits, rulings, orders, all papers and requests filed in the proceedings, and, for purposes of any appeal under §785.16 of the APR, the decision of the ALJ and such submissions as are provided for under §785.16 of the APR will constitute the record and the exclusive basis for decision. When a case is settled, the record will consist of any and all of the foregoing, as well as the NOVA or draft NOVA, settlement agreement, and order.

(b) *Restricted access.* On the ALJ's own motion, or on the motion of any party, the ALJ may direct that there be a restricted access portion of the record for any material in the record to which public access is restricted by law or by the terms of a protective order entered in the proceedings. A party seeking to restrict access to any portion of the record is responsible, prior

to the close of the proceeding, for submitting a version of the document(s) proposed for public availability that reflects the requested deletion. The restricted access portion of the record will be placed in a separate file and the file will be clearly marked to avoid improper disclosure and to identify it as a portion of the official record in the proceedings. The ALJ may act at any time to permit material that becomes declassified or unrestricted through passage of time to be transferred to the unrestricted access portion of the record.

(c) *Availability of documents*—(1) *Scope.* All NOVAs and draft NOVAs, answers, settlement agreements, decisions and orders disposing of a case will be displayed on the BIS Freedom of Information Act (FOIA) Web site, at *http://www.bis.doc.gov/foia,* which is maintained by the Office of Administration, Bureau of Industry and Security, U.S. Department of Commerce. The Office of Administration does not maintain a separate inspection facility. The complete record for decision, as defined in paragraphs (a) and (b) of this section will be made available on request.

(2) *Timing.* The record for decision will be available only after the final administrative disposition of a case. Parties may seek to restrict access to any portion of the record under paragraph (b) of this section.

§ 785.19 Payment of final assessment.

(a) *Time for payment.* Full payment of the civil penalty must be made within 30 days of the effective date of the order or within such longer period of time as may be specified in the order. Payment shall be made in the manner specified in the NOVA.

(b) *Enforcement of order.* The government party may, through the Attorney General, file suit in an appropriate district court if necessary to enforce compliance with a final order issued under the APR. This suit will include a claim for interest at current prevailing rates from the date of expiration of the 60-day period referred to in §785.16(d), or the date of the final order, as appropriate.

(c) *Offsets.* The amount of any civil penalty imposed by a final order may be deducted from any sum(s) owed by the United States to a respondent.

§ 785.20 Reporting a violation.

If a person learns that a violation of the Additional Protocol, the Act, or the APR has occurred or may occur, that person may notify: Office of Export Enforcement, Bureau of Industry and Security, U.S. Department of Commerce, 14th Street and Constitution Avenue, NW., Room H–4520, Washington, DC 20230; Tel: (202) 482–1208; Facsimile: (202) 482–0964.

PART 786—RECORDS AND RECORDKEEPING

Sec.
786.1 Inspection of records.
786.2 Recordkeeping.
786.3 Destruction or disposal of records.

AUTHORITY: United States Additional Protocol Implementation Act of 2006, Pub. Law No. 109–401, 120 Stat. 2726 (December 18, 2006) (to be codified at 22 U.S.C. 8101–8181); Executive Order 13458 (February 4, 2008).

SOURCE: 73 FR 65128, Oct. 31, 2008, unless otherwise noted.

§ 786.1 Inspection of records.

Upon request by BIS, you must permit access to and copying of any record relating to compliance with the requirements of the APR. This requires that you make available the equipment and, if necessary, knowledgeable personnel for locating, reading, and reproducing any record. Copies may be necessary to facilitate IAEA Team review of documents during complementary access. The IAEA Team may not remove these documents from the location without BIS authorization (see §784.3(j)(2) of the APR).

§ 786.2 Recordkeeping.

(a) *Requirements.* Each person and location required to submit a report or correspondence under parts 782 through 784 of the APR must retain all supporting materials and documentation used to prepare such report or correspondence.

(b) *Three year retention period.* All supporting materials and documentation required to be kept under paragraph (a) of this section must be retained for three years from the due

date of the applicable report or for three years from the date of submission of the applicable report, whichever is later. Due dates for reports and correspondence are indicated in parts 782 through 784 of the APR.

(c) *Location of records.* Records retained under this section must be maintained at the location or must be accessible at the location for purposes of complementary access at the location by IAEA Teams.

(d) *Reproduction of original records.* (1) You may maintain reproductions instead of the original records, provided all of the requirements of paragraph (b) of this section are met.

(2) If you must maintain records under this part, you may use any photostatic, miniature photographic, micrographic, automated archival storage, or other process that completely, accurately, legibly and durably reproduces the original records (whether on paper, microfilm, or through electronic digital storage techniques). The process must meet all of the following requirements, which are applicable to all systems:

(i) The system must be capable of reproducing all records on paper.

(ii) The system must record and be able to reproduce all marks, information, and other characteristics of the original record, including both obverse and reverse sides (unless blank) of paper documents in legible form.

(iii) When displayed on a viewer, monitor, or reproduced on paper, the records must exhibit a high degree of legibility and readability. For purposes of this section, legible and legibility mean the quality of a letter or numeral that enable the observer to identify it positively and quickly to the exclusion of all other letters or numerals. Readable and readability mean the quality of a group of letters or numerals being recognized as complete words or numbers.

(iv) The system must preserve the initial image (including both obverse and reverse sides, unless blank, of paper documents) and record all changes, who made them and when they were made. This information must be stored in such a manner that none of it may be altered once it is initially recorded.

(v) You must establish written procedures to identify the individuals who are responsible for the operation, use and maintenance of the system.

(vi) You must keep a record of where, when, by whom, and on what equipment the records and other information were entered into the system.

(3) *Requirements applicable to a system based on digital images.* For systems based on the storage of digital images, the system must provide accessibility to any digital image in the system. The system must be able to locate and reproduce all records according to the same criteria that would have been used to organize the records had they been maintained in original form.

(4) *Requirements applicable to a system based on photographic processes.* For systems based on photographic, photostatic, or miniature photographic processes, the records must be maintained according to an index of all records in the system following the same criteria that would have been used to organize the records had they been maintained in original form.

§ 786.3 Destruction or disposal of records.

If BIS or any other authorized U.S. government agency makes a formal or informal request for a certain record or records, such record or records may not be destroyed or disposed of without the written authorization of the requesting entity.

PARTS 787–789 [RESERVED]

SUBCHAPTER E—INFORMATION AND COMMUNICATIONS TECHNOLOGY AND SERVICES REGULATIONS

PART 790 [RESERVED]

PART 791—SECURING THE INFORMATION AND COMMUNICATIONS TECHNOLOGY AND SERVICES SUPPLY CHAIN

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AUTHORITY: 50 U.S.C. 1701 *et seq.;* 50 U.S.C. 1601 *et seq.;* E.O. 13873, 84 FR 22689; E.O. 14034, 86 FR 31423

SOURCE: 86 FR 4923, Jan. 19, 2021, unless otherwise noted. Redesignated at 89 FR 58265, July 18, 2024.

EDITORIAL NOTE: Nomenclature changes to part 791 appear at 89 FR 96892, Dec. 6, 2024.

Subpart A—General

§ 791.1 Purpose.

(a) This part sets forth the procedures by which the Secretary may:

(1) Determine whether any acquisition, importation, transfer, installation, dealing in, or use of any information and communications technology or service, including but not limited to connected software applications, (ICTS Transaction) that has been designed, developed, manufactured, or supplied by persons owned by, controlled by, or subject to the jurisdiction or direction of foreign adversaries poses certain undue or unacceptable risks as identified in the Executive Order 13873. For purposes of these regulations, the Secretary will consider information and communications technology and services (ICTS) to be designed, developed, manufactured, or supplied by a person owned by, controlled by, or subject to the jurisdiction of a foreign adversary where such a person operates, manages, maintains, repairs, updates, or services the ICTS;

(2) Issue a determination to prohibit an ICTS Transaction;

(3) Direct the timing and manner of the cessation of the ICTS Transaction;

(4) Consider factors that may mitigate the risks posed by the ICTS Transaction.

(b) The Secretary will evaluate ICTS Transactions under this rule, which include, but are not limited to, classes of transactions, on a case-by-case basis. The Secretary, in consultation with appropriate agency heads specified in Executive Order 13873 and other relevant governmental bodies, as appropriate, shall make an Initial Determination as to whether to prohibit a given ICTS Transaction or propose mitigation measures, by which the ICTS Transaction may be permitted. Parties may submit information in response to theInitial Determination, including a response to the Initial Determination and any supporting materials and/or proposed measures to remediate or mitigate the risks identified in the Initial Determination as posed by the ICTS Transaction at issue. Upon consideration of the parties' submissions, the Secretary will issue a Final Determination prohibiting the transaction, not prohibiting the transaction, or permitting the transaction subject to the adoption of measures determined by the Secretary to sufficiently mitigate the risks associated with the ICTS Transaction. The Secretary shall also engage in coordination and information sharing, as appropriate, with international partners on the application of this part.

[88 FR 39357, June 16, 2023, as amended at 89 FR 96892, Dec. 6, 2024]

§ 791.2 Definitions.

Appropriate agency heads means the Secretary of the Treasury, the Secretary of State, the Secretary of Defense, the Attorney General, the Secretary of Homeland Security, the United States Trade Representative, the Director of National Intelligence, the Administrator of General Services, the Chairman of the Federal Communications Commission, and the heads of any other executive departments and agencies the Secretary determines is appropriate, or their designees.

Commercial item has the same meaning given to it in Federal Acquisition Regulation (48 CFR part 2.101).

Connected software application means software, a software program, or a group of software programs, that is designed to be used on an end-point computing device and includes as an integral functionality, the ability to collect, process, or transmit data via the internet.

Covered ICTS Transaction means an ICTS Transaction or a class of ICTS Transactions that meets the criteria set forth in § 791.3.

Dealing in means the activity of buying, selling, reselling, receiving, licensing, or acquiring ICTS, or otherwise doing or engaging in business involving the conveyance of ICTS.

Department means the United States Department of Commerce.

End-point computing device means a device that can receive or transmit data and includes as an integral functionality the ability to collect or transmit data via the internet.

Entity means a partnership, association, trust, joint venture, corporation, group, subgroup, or other non-U.S. governmental organization.

Executive Order means Executive Order 13873, May 15, 2019, ''Securing the Information and Communications Technology and Services Supply Chain''.

Foreign adversary means any foreign government or foreign non-government person determined by the Secretary to have engaged in a long-term pattern or serious instances of conduct significantly adverse to the national security of the United States or security and safety of United States persons.

ICTS Transaction means any acquisition, importation, transfer, installation, dealing in, or use of any information and communications technology or service, including ongoing activities, such as managed services, data transmission, software updates, repairs, or the platforming or data hosting of applications for consumer download. An ICTS Transaction includes any other transaction, the structure of which is designed or intended to evade or circumvent the application of the Executive Order. The term ICTS Transaction includes a class of ICTS Transactions.

IEEPA means the International Emergency Economic Powers Act (50 U.S.C. 1701, *et seq.*).

Importation means the process or activity of bringing foreign ICTS to or into the United States, regardless of

the means of conveyance, including via electronic transmission.

Information and communications technology or services or *ICTS* means any hardware, software, including connected software applications, or other product or service, including cloud-computing services, primarily intended to fulfill or enable the function of information or data processing, storage, retrieval, or communication by electronic means (including electromagnetic, magnetic, and photonic), including through transmission, storage, or display.

Party or parties to a Transaction means a person or persons engaged in an ICTS Transaction or class of ICTS Transactions, including, but not limited to the following: designer, developer, provider, buyer, purchaser, seller, transferor, licensor, broker, acquiror, intermediary (including consignee), and end user. Party or parties to a Transaction include entities designed, or otherwise used with the intention, to evade or circumvent application of the Executive Order. For purposes of this rule, this definition does not include common carriers, except to the extent that a common carrier knew or should have known (as the term ''knowledge'' is defined in 15 CFR 772.1) that it was providing transportation services of ICTS to one or more of the parties to a Transaction that has been prohibited in a final written determination made by the Secretary or, if permitted subject to mitigation measures, in violation of such mitigation measures.

Person means an individual or entity.

Person owned by, controlled by, or subject to the jurisdiction or direction of a foreign adversary means:

(1) Any person, wherever located, who acts as an agent, representative, or employee, or any person who acts in any other capacity at the order, request, or under the direction or control, of a foreign adversary or of a person whose activities are directly or indirectly supervised, directed, controlled, financed, or subsidized in whole or in majority part by a foreign adversary;

(2) Any person, wherever located, who is a citizen or resident of a foreign adversary or a country controlled by a foreign adversary, and is not a United States citizen or permanent resident of the United States;

(3) Any corporation, partnership, association, or other organization with a principal place of business in, headquartered in, incorporated in, or otherwise organized under the laws of a foreign adversary or a country controlled by a foreign adversary; or

(4) Any corporation, partnership, association, or other organization, wherever organized or doing business, that is owned or controlled by a foreign adversary, to include circumstances in which any person identified in paragraphs (1) through (3) of this definition possesses the power, direct or indirect, whether or not exercised, through the ownership of a majority or a dominant minority of the total outstanding voting interest in an entity, board representation, proxy voting, a special share, contractual arrangements, formal or informal arrangements to act in concert, or other means, to determine, direct, or decide important matters affecting an entity.

Secretary means the Secretary of Commerce or the Secretary's designee, including for example the Under Secretary of Commerce for Industry and Security or the Executive Director of the Office of Information and Communications Technology and Services.

Sensitive personal data means:

(1) Personally-identifiable information, including:

(i) Financial data that could be used to analyze or determine an individual's financial distress or hardship;

(ii) The set of data in a consumer report, as defined under 15 U.S.C. 1681a, unless such data is obtained from a consumer reporting agency for one or more purposes identified in 15 U.S.C. 1681b(a);

(iii) The set of data in an application for health insurance, long-term care insurance, professional liability insurance, mortgage insurance, or life insurance;

(iv) Data relating to the physical, mental, or psychological health condition of an individual;

(v) Non-public electronic communications, including email, messaging, or chat communications, between or

among users of a U.S. business's products or services if a primary purpose of such product or service is to facilitate third-party user communications;

(vi) Geolocation data collected using positioning systems, cell phone towers, or WiFi access points such as via a mobile application, vehicle GPS, other onboard mapping tool, or wearable electronic device;

(vii) Biometric enrollment data including facial, voice, retina/iris, and palm/fingerprint templates;

(viii) Data stored and processed for generating a Federal, State, Tribal, Territorial, or other government identification card;

(ix) Data concerning U.S. Government personnel security clearance status; or

(x) The set of data in an application for a U.S. Government personnel security clearance or an application for employment in a position of public trust; or

(2) Genetic information, which includes the results of an individual's genetic tests, including any related genetic sequencing data, whenever such results, in isolation or in combination with previously released or publicly available data, constitute identifiable data. Such results shall not include data derived from databases maintained by the U.S. Government and routinely provided to private parties for purposes of research. For purposes of this paragraph, ''genetic test'' shall have the meaning provided in 42 U.S.C. 300gg–91(d)(17).

Undue or unacceptable risk means those risks identified in Section 1(a)(ii) of the Executive Order.

United States person means any United States citizen; any permanent resident alien; any entity organized under the laws of the United States or any jurisdiction within the United States (including such entity's foreign branches); or any person in the United States.

Via the internet means using internet protocols to transmit data, including, but not limited to, transmissions by cable, telephone lines, wireless methods, satellites, or other means.

[86 FR 4923, Jan. 19, 2021, as amended at 88 FR 39357, June 16, 2023; 89 FR 96892, Dec. 6, 2024]

§ 791.3 Scope of Covered ICTS Transactions.

(a) The Secretary may continue review under § 791.103(b) of this part for any ICTS Transaction that:

(1) Is conducted by any person subject to the jurisdiction of the United States or involves property subject to the jurisdiction of the United States;

(2) Involves any property in which any foreign country or a national thereof has any interest of any nature whatsoever, whether direct or indirect (including through an interest in a contract for the provision of the technology or service);

(3) Is initiated, pending, or completed on or after January 19, 2021, regardless of when any contract applicable to the transaction is entered into, dated, or signed or when any license, permit, or authorization applicable to such transaction was granted. Any act or service with respect to an ICTS Transaction, such as execution of any provision of a managed services contract, installation of software updates, or the conducting of repairs, that occurs on or after January 19, 2021 may be deemed an ICTS Transaction within the scope of this part, even if the contract was initially entered into, or the activity commenced, prior to January 19, 2021; and

(4) Involves ICTS and software, hardware, or any other product or service integral to one of the following:

(i) Information and communications hardware and software, including

(A) Wireless local area networks;

(B) Mobile networks;

(C) Satellite payloads;

(D) Satellite operations and control;

(E) internet-enabled sensors, cameras, and any other end-point surveillance or monitoring device, or any device that includes these components such as drones;

(F) Routers, modems, and any other networking devices;

(G) Cable access points;

(H) Wireline access points;

(I) Core networking systems;

(J) Long- and short-haul networks;

(ii) Data hosting, computing or storage, including software, hardware, or any other product or service integral to data hosting or computing services, including software-defined services

such as virtual private servers, that uses, processes, or retains, or is expected to use, process, or retain, sensitive personal data of United States persons, including:

(A) internet hosting services;

(B) Cloud-based or distributed computing and data storage;

(C) Managed services; and

(D) Content delivery services;

(iii) Connected software applications, including software designed primarily to enable connecting with and communicating via the internet, which is accessible through cable, telephone line, wireless, or satellite or other means, that is in use by United States persons at any point over the twelve (12) months preceding an ICTS Transaction, including connected software applications, such as but not limited to, desktop applications, mobile applications, gaming applications, and web-based applications;

(iv) Critical infrastructure, including any subsectors of the chemical, commercial facilities, communications, critical manufacturing, dams, defense industrial base, emergency services, energy, financial services, food and agriculture, government services and facilities, health care and public health, information technology, nuclear reactors, materials, and waste, transportation systems, and water and wastewater systems sectors, and

(v) Critical and emerging technologies, including advanced network sensing and signature management; advanced computing; artificial intelligence; clean energy generation and storage; data privacy, data security, and cybersecurity technologies; highly automated, autonomous, and uncrewed systems and robotics; integrated communication and networking technologies; positioning, navigation, and timing technologies; quantum information and enabling technologies; semiconductors and microelectronics; and biotechnology.

(b) The Secretary will not continue review of an ICTS Transaction under § 791.103 if the Secretary finds that:

(1) The ICTS Transaction involves the acquisition of ICTS items by a United States person as a party to a transaction authorized under a U.S. government-industrial security program; or

(2) The Committee on Foreign Investment in the United States (CFIUS) is conducting a review, investigation, or assessment, or has concluded action on, the specific ICTS Transaction as a covered transaction under section 721(a)(4) of the Defense Production Act of 1950, as amended, and its implementing regulations.

[86 FR 4923, Jan. 19, 2021, as amended at 88 FR 39358, June 16, 2023; 89 FR 96893, Dec. 6, 2024]

§ 791.4 Determination of foreign adversaries.

(a) The Secretary has determined that the following foreign governments or foreign non-government persons have engaged in a long-term pattern or serious instances of conduct significantly adverse to the national security of the United States or security and safety of United States persons and, therefore, constitute foreign adversaries solely for the purposes of the Executive Order, this rule, and any subsequent rule:

(1) The People's Republic of China, including the Hong Kong Special Administrative Region and the Macau Special Administrative Region (China);

(2) Republic of Cuba (Cuba);

(3) Islamic Republic of Iran (Iran);

(4) Democratic People's Republic of Korea (North Korea);

(5) Russian Federation (Russia); and

(6) Venezuelan politician Nicolás Maduro (Maduro Regime).

(b) The Secretary's determination of foreign adversaries is solely for the purposes of the Executive Order, this rule, and any subsequent rule promulgated pursuant to the Executive Order. Pursuant to the Secretary's discretion, the list of foreign adversaries will be revised as determined to be necessary. Such revisions will be effective immediately upon publication in the FEDERAL REGISTER without prior notice or opportunity for public comment.

(c) The Secretary's determination is based on multiple sources, including but not limited to:

(1) National Security Strategy of the United States;

(2) The Director of National Intelligence's Worldwide Threat Assessments of the U.S. Intelligence Community;

(3) The National Cyber Strategy of the United States of America; and

(4) Reports and assessments from the U.S. Intelligence Community, the U.S. Departments of Justice, State and Homeland Security, and other relevant sources.

(d) The Secretary will periodically review this list in consultation with appropriate agency heads and may add to, subtract from, supplement, or otherwise amend this list. Any amendment to this list will apply to any ICTS Transaction that is initiated, pending, or completed on or after the date that the list is amended.

[86 FR 4923, Jan. 19, 2021. Redesignated at 89 FR 58265, July 18, 2024, as amended at 89 FR 96893, Dec. 6, 2024]

§ 791.5 Effect on other laws.

Nothing in this part shall be construed as altering or affecting any other authority, process, regulation, investigation, enforcement measure, or review provided by or established under any other provision of Federal law, including prohibitions under the National Defense Authorization Act of 2019, the Federal Acquisition Regulations, or IEEPA, or any other authority of the President or the Congress under the Constitution of the United States.

§ 791.6 Amendment, modification, or revocation.

Except as otherwise provided by law, any determinations, prohibitions, or decisions issued under this part may be amended, modified, or revoked, in whole or in part, at any time.

§ 791.7 Public disclosure of records.

Public requests for agency records related to this part will be processed in accordance with the Department of Commerce's Freedom of Information Act regulations, 15 CFR part 4, or other applicable law and regulation.

Subpart B—Review of ICTS Transactions

§ 791.100 General.

In implementing this part, the Secretary of Commerce may:

(a) Consider any and all relevant information held by, or otherwise made available to, the Federal Government that is not otherwise restricted by law for use for this purpose, including:

(1) Publicly available information;

(2) Confidential business information, as defined in 19 CFR 201.6, or proprietary information;

(3) Classified National Security Information, as defined in Executive Order 13526 (December 29, 2009) and its predecessor executive orders, and Controlled Unclassified Information, as defined in Executive Order 13556 (November 4, 2010);

(4) Information obtained from state, local, tribal, or foreign governments or authorities;

(5) Information obtained from parties to a transaction, including records related to such transaction that any party uses, processes, or retains, or would be expected to use, process, or retain, in their ordinary course of business for such a transaction;

(6) Information obtained through the authority granted under sections 2(a) and (c) of the Executive Order and IEEPA, as set forth in § 791.101 of this part;

(7) Information provided by any other U.S. Government national security body, in each case only to the extent necessary for national security purposes, and subject to applicable confidentiality and classification requirements, including the Committee for the Assessment of Foreign Participation in the United States Telecommunications Services Sector and the Federal Acquisitions Security Council and its designated information-sharing bodies;

(8) Information or referrals provided by any other U.S. Government agency, department, or other regulatory body; and

(9) Information provided voluntarily by private industry.

(b) Consolidate the review of any ICTS Transactions with other transactions already under review where the

Secretary determines that the transactions raise the same or similar issues, or that are otherwise properly consolidated;

(c) Determine, in consultation with the appropriate agency heads, whether an ICTS Transaction involves ICTS designed, developed, manufactured, or supplied, by persons owned by, controlled by, or subject to the jurisdiction or direction of a foreign adversary, and in making a determination, the Department may consider the following:

(1) Whether the person or its suppliers have headquarters, research, development, manufacturing, test, distribution, or service facilities, or other operations in a foreign country, including one controlled by, or subject to the jurisdiction of, a foreign adversary;

(2) Ties between the person—including its officers, directors or similar officials, employees, consultants, or contractors—and a foreign adversary;

(3) Laws and regulations of any foreign adversary in which the person is headquartered or conducts operations, including research and development, manufacturing, packaging, and distribution; and

(4) Any other criteria that the Secretary deems appropriate;

(d) Determine, in consultation with the appropriate agency heads, whether a Covered ICTS Transaction poses an undue or unacceptable risk, considering the following:

(1) Threat assessments and reports prepared by the Director of National Intelligence pursuant to section 5(a) of the Executive Order;

(2) Removal or exclusion orders issued by the Secretary of Homeland Security, the Secretary of Defense, or the Director of National Intelligence (or their designee) pursuant to recommendations of the Federal Acquisition Security Council, under 41 U.S.C. 1323;

(3) Relevant provisions of the Defense Federal Acquisition Regulation (48 CFR ch. 2) and the Federal Acquisition Regulation (48 CFR ch. 1), and their respective supplements;

(4) The written assessment produced pursuant to section 5(b) of the Executive Order, as well as the entities, hardware, software, and services that present vulnerabilities in the United States as determined by the Secretary of Homeland Security pursuant to that section;

(5) Actual or potential threats to execution of a ''National Critical Function'' identified by the Department of Homeland Security Cybersecurity and Infrastructure Security Agency;

(6) The nature, degree, and likelihood of consequence to the United States public and private sectors that could occur if ICTS vulnerabilities were to be exploited; and

(7) Any other source or information that the Secretary deems appropriate; and

(e) In the event the Secretary finds that unusual and extraordinary harm to the national security of the United States is likely to occur if all of the procedures specified herein are followed, deviate from these procedures in a manner tailored to protect against that harm.

[86 FR 4923, Jan. 19, 2021. Redesignated at 89 FR 58265, July 18, 2024, as amended at 89 FR 96893, Dec. 6, 2024]

§ 791.101 Information to be furnished on demand.

(a) Pursuant to the authority granted to the Secretary under sections 2(a), 2(b), and 2(c) of the Executive Order and IEEPA, the Secretary may require any person to furnish under oath, in the form of reports or otherwise, at any time as may be required by the Secretary, complete information relative to any act or transaction, subject to the provisions of this part. The Secretary may require that such reports include the production of any books, contracts, letters, papers, or other hard copy or electronic documents relating to any such act, transaction, or property, in the custody or control of the persons required to make such reports. Reports with respect to transactions may be required from before, during, or after such transactions. The Secretary may, through any person or agency, conduct investigations, hold hearings, administer oaths, examine witnesses, receive evidence, take depositions, and require by subpoena the attendance and testimony of witnesses and the production of any books, contracts, letters, papers, and other hard copy or

documents relating to any matter under investigation, regardless of whether any report has been required or filed in connection therewith.

(b) For purposes of paragraph (a) of this section, the term ''document'' includes any written, recorded, or graphic matter or other means of preserving thought or expression (including in electronic format), and all tangible things stored in any medium from which information can be processed, transcribed, or obtained directly or indirectly, including correspondence, memoranda, notes, messages, contemporaneous communications such as text and instant messages, letters, emails, spreadsheets, metadata, contracts, bulletins, diaries, chronological data, minutes, books, reports, examinations, charts, ledgers, books of account, invoices, air waybills, bills of lading, worksheets, receipts, printouts, papers, schedules, affidavits, presentations, transcripts, surveys, graphic representations of any kind, drawings, photographs, images, graphs, video or sound recordings, and motion pictures or other media such as film.

(c) Persons providing documents to the Secretary pursuant to this section must produce documents in a format useable to the Department of Commerce, which may be detailed in the request for documents or otherwise agreed to by the parties.

[86 FR 4923, Jan. 19, 2021. Redesignated at 89 FR 58265, July 18, 2024, as amended at 89 FR 96894, Dec. 6, 2024]

§ 791.102 Confidentiality of information.

(a) Information or documentary materials, not otherwise publicly or commercially available, submitted or filed with the Secretary under this part will not be released publicly except to the extent required by law.

(b) The Secretary may, subject to appropriate confidentiality and classification requirements, disclose information or documentary materials that are not otherwise publicly or commercially available and referenced in paragraph (a) of this section in the following circumstances:

(1) Pursuant to any administrative or judicial proceeding;

(2) Pursuant to an act of Congress;

(3) Pursuant to a request from any duly authorized committee or subcommittee of Congress;

(4) Pursuant to a request from any domestic governmental entity or any foreign governmental entity of a United States ally or partner, but only to the extent necessary for national security purposes;

(5) Where the parties or a party to a transaction have consented, the information or documentary material that is not otherwise publicly or commercially available may be disclosed to third parties;

(6) Where the Secretary has determined that at least one Covered ICTS Transaction related to the information or documents presents an undue or unacceptable risk, and disclosure to the public or to affected third parties is necessary to prevent or significantly reduce imminent harm to U.S. national security, or the security and safety of United States persons; and

(7) Any other purpose authorized by law.

(c) This section shall continue to apply with respect to information and documentary materials that are not otherwise publicly or commercially available and submitted to or obtained by the Secretary even after the Secretary issues a Final Determination pursuant to § 791.109.

(d) The provisions of 18 U.S.C. 1905, relating to fines and imprisonment and other penalties, shall apply with respect to the disclosure of information or documentary material provided to the Secretary under these regulations.

[86 FR 4923, Jan. 19, 2021. Redesignated and amended at 89 FR 58265, July 18, 2024; 89 FR 96894, Dec. 6, 2024]

§ 791.103 Review of ICTS Transactions.

(a) After considering materials described in § 791.100(a), the Secretary may, at the Secretary's discretion, initiate a review of an ICTS Transaction.

(b) As part of the review, the Secretary will assess whether the transaction:

(1) Constitutes a Covered ICTS Transaction, as described in § 791.3;

(2) Involves ICTS designed, developed, manufactured, or supplied by persons owned by, controlled by, or subject to the jurisdiction or direction of a

foreign adversary, as described in §791.100(c); and

(3) Poses an undue or unacceptable risk as described in §§791.100(d) and 791.103(c).

(c) In assessing whether the Covered ICTS Transaction poses an undue or unacceptable risk, the Secretary may evaluate, among other relevant factors, the following criteria:

(1) The nature and characteristics of the ICTS at issue in the Covered ICTS Transaction, including technical capabilities, applications, and market share considerations;

(2) The nature and degree of the ownership, control, direction, or jurisdiction exercised by the foreign adversary or foreign adversary persons over the design, development, manufacture, or supply at issue in the Covered ICTS Transaction, to include:

(i) The ownership, control, or management by persons that support a foreign adversary's military, intelligence, or proliferation activities; and

(ii) The ownership, control, or management by persons involved in malicious cyber-enabled activities;

(3) The statements and actions of the foreign adversary at issue in the Covered ICTS Transaction;

(4) The statements and actions of the persons involved in the design, development, manufacture, or supply of the ICTS at issue in the Covered ICTS Transaction;

(5) The statements and actions of the parties to the Covered ICTS Transaction;

(6) Whether the Covered ICTS Transaction poses a discrete or persistent threat;

(7) The nature and characteristics of the customer base, business relationships, and operating locations of the parties to the Covered ICTS Transaction;

(8) Whether there is an ability to otherwise mitigate the risks posed by the Covered ICTS Transaction;

(9) The severity of the harm posed by the Covered ICTS Transaction on at least one of the following:

(i) Health, safety, and security;

(ii) Critical infrastructure;

(iii) Sensitive data;

(iv) The economy;

(v) Foreign policy;

(vi) The natural environment; and

(vii) National Essential Functions (as defined by Federal Continuity Directive-2 (FCD–2));

(10) The likelihood that the Covered ICTS Transaction will result in the threatened harm; and

(11) For ICTS Transactions involving connected software applications:

(i) the number and sensitivity of the users with access to the connected software application;

(ii) the scope and sensitivity of any data collected by the connected software application;

(iii) any use of the connected software application to conduct surveillance that enables espionage, including through a foreign adversary's access to sensitive or confidential government or business information, or sensitive personal data;

(iv) whether there is regular, thorough, and reliable third-party auditing of the connected software application; and

(v) the extent to which identified risks have been or can be mitigated using measures that can be verified by independent third parties.

(d) If the Secretary finds that an ICTS Transaction does not meet the criteria of paragraph (b) of this section:

(1) The transaction shall no longer be under review; and

(2) Future review of the transaction shall not be precluded, where additional information becomes available to the Secretary.

[89 FR 96894, Dec. 6, 2024]

§791.104 First interagency notification.

(a) If the Secretary assesses that an ICTS Transaction meets the criteria under §791.103(b), the Secretary shall memorialize that assessment, provide the assessment to the appropriate agency heads, and offer the appropriate agency heads twenty-one (21) days to comment in writing on the Secretary's assessment.

(b) If the Secretary does not receive written comments on the assessment from an appropriate agency head within twenty-one (21) days of notification, the Secretary may presume that agency has no comments.

(c) The Secretary may, at the Secretary's discretion, modify or revise the assessment based on comments received from the appropriate agency heads. The Secretary retains discretion to make an Initial Determination, as provided in § 791.105, regardless of the comments received.

[89 FR 96895, Dec. 6, 2024]

§ 791.105 Initial Determination.

(a) If, after notifying the appropriate agency heads as required by § 791.104 and considering any comments received, the Secretary determines that the Covered ICTS Transaction does not meet the criteria set forth in § 791.103:

(1) The transaction shall no longer be under review; and

(2) Future review of the transaction shall not be precluded, where additional information becomes available to the Secretary.

(b) If, after notifying the appropriate agency heads as required by § 791.104 and considering any comments received, the Secretary determines that the Covered ICTS Transaction meets the criteria set forth in § 791.103, the Secretary shall:

(1) Make a written Initial Determination, which shall be dated and signed by the Secretary, that:

(i) Explains why the ICTS Transaction meets the criteria set forth in § 791.103;

(ii) Sets forth whether the Secretary proposes to prohibit the Covered ICTS Transaction or to impose mitigation measures, by which the Covered ICTS Transaction may be permitted; and

(iii) Provides information regarding the factual basis supporting the decision that is set forth pursuant to subparagraph (ii) above;

(2) Provide at least twenty-one (21) calendar days' notice to the appropriate agency heads of the proposed Initial Determination prior to taking any action under 791.105(b)(3); and

(3) Notify a party or the parties to the Covered ICTS Transaction by:

(i) Serving a copy of the Initial Determination to the identified parties to the Covered ICTS Transaction when the Covered ICTS Transaction under review consists of a single transaction or a set of transactions between a limited number of parties (for example, the sale of ICTS by a company with a foreign nexus to an identified United States person); or

(ii) Serving a copy of the Initial Determination to the person whose ICTS the Secretary determines constitutes the Covered ICTS Transactions under review when the number of U.S. parties or users acquiring, importing, transferring, installing, dealing in, or using the ICTS is unknown or unidentified, or notice to such U.S. parties or users is not feasible or appropriate (for example, when individual consumers purchase the ICTS through an online service or at a retail location).

(c) Notwithstanding the fact that the Initial Determination to prohibit or propose mitigation measures on an ICTS Transaction may, in whole or in part, rely upon classified national security information, or sensitive but unclassified information, the Initial Determination will contain no classified national security information, nor reference thereto, and, at the Secretary's discretion, may not contain controlled unclassified information.

(d) Notwithstanding paragraph (b)(3) of this section, the Secretary may, at the Secretary's discretion, determine to publish any notice of an Initial Determination in the FEDERAL REGISTER.

[89 FR 96895, Dec. 6, 2024]

§ 791.106 Recordkeeping requirement.

Upon notification that an ICTS Transaction is under review, such as, though not limited to, through a demand for information or documents related to an ICTS Transaction under § 791.101 or a notification that an Initial Determination concerning an ICTS Transaction has been made, a notified person must immediately take steps to retain any and all records relating to such Transaction and must retain such records for no less than ten (10) years following a Final Determination made under § 791.109 or as otherwise indicated in the Final Determination. If a notified person receives no notification that an Initial Determination concerning an ICTS Transaction has been made within ten (10) years of notification that an ICTS Transaction is under review, then the recordkeeping obligation will extend for ten (10) years following the initial notification of an

ICTS Transaction review unless the notified person is informed otherwise by the Secretary.

[89 FR 96895, Dec. 6, 2024]

§ 791.107 Procedures governing response and mitigation.

Within 30 days of service of the Secretary's Initial Determination pursuant to § 791.105, a party to a transaction may respond to the Initial Determination or assert that the circumstances resulting in the Initial Determination no longer apply, and thus seek to have the Initial Determination rescinded or mitigated pursuant to the following administrative procedures:

(a) A party may submit arguments or evidence that the party believes establishes that insufficient basis exists for the Initial Determination, including any prohibition of the ICTS Transaction;

(b) A party may propose remedial steps on the party's part, such as corporate reorganization, disgorgement of control of the foreign adversary, engagement of a compliance monitor, or similar steps, which the party believes would negate the basis for the Initial Determination;

(c) All submissions under this section must be made in writing.

(1) The Secretary may, for good cause, extend the time to provide a written submission pursuant to this section.

(2) Any extensions granted pursuant to this section shall not exceed thirty (30) days.

(3) A written submission to the Secretary pursuant to this section may not exceed fifty (50) pages without approval from the Secretary prior to the expiration of time for a party's response.

(4) A written submission to the Secretary may include business confidential information. Any business confidential information must be clearly and specifically demarcated. Publicly available information should not be marked business confidential.

(d) A party responding to the Secretary's Initial Determination may request a meeting with the Department, and the Department may, at its discretion, agree or decline to conduct such meetings prior to making a Final Determination pursuant to § 791.109;

(e) This rule creates no right in any person to obtain access to information in the possession of the U.S. Government that was considered in making the Initial Determination, to include classified national security information or sensitive but unclassified information; and

(f) If the Department receives no response from the parties within 30 days after service of the Initial Determination to the parties, the Secretary may issue a Final Determination without the need to engage in the consultation process provided in section 791.108 of this rule.

[86 FR 4923, Jan. 19, 2021. Redesignated and amended at 89 FR 58265, July 18, 2024; 89 FR 96895, Dec. 6, 2024]

§ 791.108 Interagency consultation on the Final Determination.

(a) Upon receipt of any submission by a party to a transaction under § 791.107, the Secretary shall consider whether and how the information provided—including proposed mitigation measures—affects an Initial Determination.

(b) After considering the effect of any submission by a party to a transaction under § 791.107 consistent with paragraph (a) of this section, the Secretary shall provide notice in writing of the proposed Final Determination and consult with and seek concurrence from all appropriate agency heads prior to issuing a Final Determination as to whether the Covered ICTS Transaction shall be prohibited, not prohibited, or permitted pursuant to the adoption of negotiated mitigation measures.

(c) If the appropriate agency heads under paragraph (b) of this section concur, the Secretary shall issue a Final Determination pursuant to § 791.109. If an appropriate agency head provides no response within fourteen (14) days of the agency receiving the notice in writing of the proposed Final Determination, the Secretary may presume concurrence. If an agency objects to the Final Determination, such objection must be submitted by the agency's Deputy Secretary or equivalent or higher level within the 14 days.

[89 FR 96896, Dec. 6, 2024]

§ 791.109 Final Determination.

(a) For each Covered ICTS Transaction for which the Secretary issues an Initial Determination, the Secretary shall issue a Final Determination as to whether the Covered ICTS Transaction is:

(1) Prohibited;

(2) Not prohibited; or

(3) Permitted, at the Secretary's discretion, pursuant to the adoption of mitigation measures.

(b) Unless the Secretary, at the Secretary's sole discretion, determines in writing that additional time is necessary, the Secretary shall issue the Final Determination within 180 days of serving the Initial Determination pursuant to § 791.105(b)(3).

(c) If the Secretary determines that a Covered ICTS Transaction is prohibited, the Secretary shall direct the means that the Secretary assesses to be necessary to address the undue or unacceptable risk posed by the Covered ICTS Transaction.

(d) The Final Determination shall:

(1) Be written, signed, and dated;

(2) Describe the Secretary's determination;

(3) Be unclassified and contain no reference to classified national security information;

(4) Consider and address any information received from a party or parties to the transaction;

(5) Direct, if applicable, the timing and manner of the cessation of the Covered ICTS Transaction;

(6) Explain, if applicable, that a Final Determination that the Covered ICTS Transaction is not prohibited does not preclude the future review of transactions related in any way to the Covered ICTS Transaction;

(7) Include, if applicable, a description of the mitigation measures agreed upon by the party or parties to the transaction and the Secretary;

(8) State the penalties a party will face if it fails to comply fully with any mitigation agreement or direction, including violations of IEEPA, or other violations of law; and

(9) Include, if applicable, how the Department may transition a mitigation agreement to a prohibition should a party or parties fail to comply with any mitigation agreement or obligations, or violate IEEPA or other law.

(e) The written, signed, and dated Final Determination shall be sent to:

(1) The party or parties to the transaction that are identified in the Final Determination via registered U.S. mail and electronic mail; and

(2) The appropriate agency heads.

(f) The Secretary shall publish a notice of any Final Determination to prohibit an ICTS Transaction in the FEDERAL REGISTER. The Secretary shall also publish a notice of Final Determination for any ICTS Transaction for which the Secretary published a notice of an Initial Determination. The Secretary may publish a notice of a Final Determination to mitigate an ICTS Transaction in the FEDERAL REGISTER. Any notice of a Final Determination that is published in the FEDERAL REGISTER shall omit any confidential business information.

[89 FR 96896, Dec. 6, 2024]

§ 791.110 Classified national security information.

In any review of a determination made under this part, if the determination was based on classified national security information, such information may be submitted to the reviewing court *ex parte* and *in camera*. This section does not confer or imply any right to review in any tribunal, judicial or otherwise.

Subpart C—Enforcement

§ 791.200 Penalties.

(a) *Prohibited activities.* (1) No person shall be a party to an ICTS Transaction that is prohibited by a Final Determination issued under this part, unless authorized by the Secretary.

(2) No person shall aid, abet, counsel, command, induce, facilitate, procure, or otherwise engage in conduct with knowledge that such conduct is prohibited by, or contrary to a Final Determination issued under this part, unless authorized by the Secretary.

(3) No person shall be a party to an ICTS Transaction in a manner that is contrary to any direction, regulation, or condition published under this part.

(4) No person shall aid, abet, counsel, command, induce, facilitate, procure, or otherwise engage in conduct with knowledge that such conduct is contrary to the terms of a mitigation agreement under this part.

(5) Any ICTS Transaction that has the purpose of evading or avoiding, causes a violation of, or attempts to violate, any of the prohibitions set forth in this section is prohibited.

(6) Any conspiracy formed to violate any of the prohibitions set forth in this section is prohibited.

(7) Any approval, financing, facilitation, or guarantee by a United States person, wherever located, of an ICTS Transaction by a foreign person where the ICTS Transaction by that foreign person would be prohibited by this order if performed by a United States person or within the United States, is prohibited.

(8) No person may, whether directly or indirectly through any other person, make any false or misleading representation, statement, or certification, or falsify or conceal any material fact, to the Department:

(i) In the course of an ICTS Transaction review, in order to secure a benefit or avoid a prohibition, including in proposing and agreeing to mitigation measures; or

(ii) In connection with the preparation, submission, issuance, use, or maintenance of any report filed or required to be filed pursuant to this part.

(9) Additional requirements:

(i) For purposes of paragraph (a)(8), any representation, statement, or certification made by any person shall be deemed to be continuing in effect until the person notifies the Department in accordance with paragraph (a)(9)(ii).

(ii) Any person who makes a representation, statement, or certification to the Department relating to any ICTS Transaction review shall notify the Department, in writing, of any change of any material fact or intention from that previously represented, stated, or certified, immediately upon receipt of any information that would lead a reasonably prudent person to know that a change of material fact or intention had occurred or may occur in the future.

(b) *Maximum penalties*—(1) *Civil penalty*. A civil penalty not to exceed the amount set forth in Section 206 of IEEPA, 50 U.S.C. 1705, may be imposed on any person who violates, attempts to violate, conspires to violate, or causes any knowing violation of paragraph (a) of this section. IEEPA provides for a maximum civil penalty not to exceed the greater of $250,000 per violation, subject to inflationary adjustment, or an amount that is twice the amount of the transaction that is the basis of the violation with respect to which the penalty is imposed.

(i) Notice of the penalty, including a written explanation of the penalized conduct specifying the laws and regulations allegedly violated and the amount of the proposed penalty, and notifying the recipient of a right to make a written petition within 30 days as to why a penalty should not be imposed, shall be served on the person.

(ii) The Secretary shall review any presentation and issue a final administrative decision within 30 days of receipt of the petition.

(2) *Criminal penalty*. A person who willfully commits, willfully attempts to commit, or willfully conspires to commit, or aids and abets in the commission of a violation of paragraph (a) of this section shall, upon conviction of a violation of IEEPA, be fined not more than $1,000,000, or if a natural person, may be imprisoned for not more than 20 years, or both.

(3) Any civil penalties authorized in this section may be recovered in a civil action brought by the United States in U.S. district court.

(c) *Adjustments to penalty amounts*. (1) The civil penalties provided in IEEPA are subject to adjustment pursuant to the Federal Civil Penalties Inflation Adjustment Act of 1990 (Pub. L. 101–410, as amended, 28 U.S.C. 2461 note).

(2) The criminal penalties provided in IEEPA are subject to adjustment pursuant to 18 U.S.C. 3571.

(d) *Available penalties*. The penalties available under this section are without prejudice to other penalties, civil or criminal, available under law. Attention is directed to 18 U.S.C. 1001, which provides that whoever, in any matter within the jurisdiction of any department or agency in the United

States, knowingly and willfully falsifies, conceals, or covers up by any trick, scheme, or device a material fact, or makes any false, fictitious, or fraudulent statements or representations, or makes or uses any false writing or document knowing the same to contain any false, fictitious, or fraudulent statement or entry, shall be fined under title 18, United States Code, or imprisoned not more than 5 years, or both.

[89 FR 96896, Dec. 6, 2024]

Subpart D—ICTS Supply Chain: Connected Vehicles

SOURCE: 90 FR 5414, Jan. 16, 2025, unless otherwise noted.

§ 791.300 Purpose and scope.

The inclusion in connected vehicles of certain ICTS designed, developed, manufactured, or supplied by persons owned by, controlled by, or subject to the jurisdiction or direction of certain foreign adversaries poses undue or unacceptable risks to U.S. national security. To address these undue or unacceptable risks, it is the purpose of this subpart to:

(a) Prohibit ICTS transactions that involve certain software and hardware that are designed, developed, manufactured, or supplied by persons owned by, controlled by, or subject to the jurisdiction or direction of the People's Republic of China (PRC) or the Russian Federation (Russia), as defined in § 791.4, and that directly enable connected vehicle Automated Driving Systems (ADS) or Vehicle Connectivity Systems (VCS), as defined in this subpart;

(b) Implement Declarations of Conformity to provide a mechanism for connected vehicle manufacturers and VCS hardware importers to communicate to BIS that they have conducted supply chain due diligence, and to confirm that no prohibited transactions, as defined in this subpart, have knowingly occurred;

(c) Provide for the issuance of general authorizations for certain transactions that would otherwise be prohibited by this subpart, but where certain factors described in the authorizations reduce the risk to an acceptable level;

(d) Provide a mechanism to apply for specific authorizations for certain transactions that would otherwise be prohibited by this subpart, where the undue or unacceptable risks can be reasonably mitigated, based on criteria and conditions that are specifically constructed for each applicant; and

(e) Incentivize connected vehicle manufacturers, VCS hardware importers, and related suppliers to adopt and enhance measures to help secure the U.S. ICTS supply chain for connected vehicles.

§ 791.301 Definitions.

The following definitions apply only to this subpart. For additional definitions applicable to all of part 791, *see* 15 CFR 791.2. If a term is defined differently in this subpart than in 15 CFR 791.2, the definition listed in this section will apply to this subpart.

Automated Driving System means hardware and software that, collectively, are capable of performing the entire dynamic driving task for a completed connected vehicle on a sustained basis, regardless of whether it is limited to a specific operational design domain (ODD).

Completed connected vehicle means a connected vehicle that requires no further manufacturing operations to perform its intended function. For the purposes of this subpart, the integration of an Automated Driving System into a connected vehicle constitutes a manufacturing operation for a completed connected vehicle.

Connected vehicle means a vehicle driven or drawn by mechanical power and manufactured primarily for use on public streets, roads, and highways, that integrates onboard networked hardware with automotive software systems to communicate via dedicated short-range communication, cellular telecommunications connectivity, satellite communication, or other wireless spectrum connectivity with any other network or device. A vehicle operated only on a rail line is not included in this definition. For the purposes of this subpart, a connected vehicle with a gross vehicle weight rating of more

than 4,536 kilograms (10,000 pounds) is not included in this definition.

Connected vehicle manufacturer means a U.S. person who:

(1) Manufactures or assembles completed connected vehicles in the United States for sale in the United States;

(2) Imports completed connected vehicles for sale in the United States; and/or

(3) Integrates ADS software on a completed connected vehicle for sale in the United States. A connected vehicle manufacturer may also be a VCS hardware importer, as defined herein, if VCS hardware has already been installed in a connected vehicle when the connected vehicle manufacturer imports it.

Covered software means the software-based components, including application, middleware, and system software, in which there is a foreign interest, executed by the primary processing unit or units of an item that directly enables the function of Vehicle Connectivity Systems or Automated Driving Systems at the vehicle level. Covered software does not include firmware, which is characterized as software specifically programmed for a hardware device with a primary purpose of directly controlling, configuring, and communicating with that hardware device. Covered software also does not include open-source software, which is characterized as software for which the human-readable source code is available in its entirety for use, study, re-use, modification, enhancement, and redistribution by the users of such software, unless that open-source software has been modified for proprietary purposes and not redistributed or shared. Covered software also does not include software subcomponents that were designed, developed, manufactured, or supplied prior to March 17, 2026, as long as those software subcomponents are not maintained, augmented, or otherwise altered by an entity owned by, controlled by, or subject to the jurisdiction or direction of a foreign adversary after March 17, 2026.

Declarant means the U.S. person submitting a Declaration of Conformity to BIS.

FCC ID Number means the unique alphanumeric code identifying a product subject to certification by the Federal Communications Commission composed of a:

(1) Grantee code; and

(2) Product code.

Foreign interest, for purposes of this subpart, means any interest in property of any nature whatsoever, whether direct or indirect, by a non-U.S. person.

Hardware Bill of Materials (HBOM) means a formal record the supply chain relationships of parts, assemblies, and components required to create a physical product, including information identifying the manufacturer, and related firmware.

Import means, in the context of this subpart, with respect to any article, the entry of such article into the United States Customs Territory. It does not include admission of an article from outside the United States into a foreign-trade zone for storage pending further assembly in the foreign-trade zone or shipment to a foreign country. This definition also applies to related terms such as *importing* or *imported*.

Item means a component or set of components with a specific function at the vehicle level. A system may also be considered an item if it implements a function.

Knowingly means having knowledge of a circumstance (the term may be a variant, such as ''know,'' ''reason to know,'' or ''reason to believe''), to include not only positive knowledge that the circumstance exists or is substantially certain to occur, but also an awareness of a high probability of its existence or future occurrence. Such awareness is inferred from evidence of the conscious disregard of facts known to a person and is also inferred from a person's willful avoidance of facts.

Model year means the year used to designate a discrete vehicle model, irrespective of the calendar year in which the vehicle was actually produced, provided that the production period does not exceed 24 months.

Person owned by, controlled by, or subject to the jurisdiction or direction of a foreign adversary means:

(1) Any person, wherever located, who acts as an agent, representative, or employee, or any person who acts in any other capacity at the order, request, or under the direction or control, of a foreign adversary or of a person whose activities are directly or indirectly supervised, directed, controlled, financed, or subsidized in whole or in majority part by a foreign adversary;

(2) Any person, wherever located, who is a citizen or resident of a foreign adversary or a country controlled by a foreign adversary, and is not a United States citizen or permanent resident of the United States;

(3) Any corporation, partnership, association, or other organization with a principal place of business in, headquartered in, incorporated in, or otherwise organized under the laws of a foreign adversary or a country controlled by a foreign adversary; or

(4) Any corporation, partnership, association, or other organization, wherever organized or doing business, that is owned or controlled by a foreign adversary, to include circumstances in which any person identified in paragraphs (1) through (3) of this definition possesses the power, direct or indirect, whether or not exercised, through the ownership of a majority or a dominant minority of the total outstanding voting interest in an entity, board representation, proxy voting, a special share, contractual arrangements, formal or informal arrangements to act in concert, or other means, to determine, direct, or decide important matters affecting an entity.

Prohibited transactions mean, collectively, the transactions described in § 791.302 (Prohibited VCS hardware transactions), § 791.303 (Prohibited covered software transactions), or § 791.304 (Related prohibited transactions) of this subpart.

Sale means, in the context of this subpart, distributing for purchase, lease, or other commercial operations a new completed connected vehicle for a price, to include the transfer of completed connected vehicles from a connected vehicle manufacturer to a dealer or distributor, as those terms are defined in 49 U.S.C. 30102. This definition also applies to the related terms such as *sell* or *selling*.

Software Bill of Materials (SBOM) means a formal record containing the details and supply chain relationships of various components used in building software. Software developers and vendors often create products by assembling existing open source and commercial software components. The SBOM enumerates these components in a product.

United States means the United States of America, the States of the United States, the District of Columbia, and any commonwealth, territory, dependency, or possession of the United States, or any subdivision thereof, and the territorial sea of the United States.

Vehicle Connectivity System (VCS) means a hardware or software item installed in or on a completed connected vehicle that directly enables the function of transmission, receipt, conversion, or processing of radio frequency communications at a frequency over 450 megahertz. VCS does not include a hardware or software item that exclusively:

(1) enables the transmission, receipt, conversion, or processing of automotive sensing (*e.g.*, LiDAR, radar, video, ultrawideband);

(2) enables the transmission, receipt, conversion, or processing of ultrawideband communications to directly enable physical vehicle access (*e.g.*, key fobs);

(3) enables the receipt, conversion or processing of unidirectional radio frequency bands (*e.g.*, global navigation satellite systems (GNSS), satellite radio, AM/FM radio); or

(4) supplies or manages power for the VCS.

VCS hardware means software-enabled or programmable components if they directly enable the function of and are directly connected to Vehicle Connectivity Systems, or are part of an item that directly enables the function of Vehicle Connectivity Systems, including but not limited to: microcontroller, microcomputers or modules, systems on a chip, networking or telematics units, cellular modem/modules, Wi-Fi microcontrollers or modules, Bluetooth microcontrollers or

modules, satellite communication systems, other wireless communication microcontrollers or modules, external antennas, digital signal processors, and field-programmable gate arrays. VCS hardware does not include component parts that do not contribute to the communication function of VCS hardware (*e.g.*, brackets, fasteners, plastics, and passive electronics, diodes, field-effect transistors, and bipolar junction transistors).

VCS hardware importer means a U.S. person who imports:

(1) VCS hardware for further manufacturing, incorporation, or integration into a completed connected vehicle that is intended to be sold or operated in the United States; or

(2) VCS hardware that has already been installed, incorporated, or integrated into a connected vehicle, or a subassembly thereof, that is intended to be sold as part of a completed connected vehicle in the United States.

§ 791.302 Prohibited VCS hardware transactions.

(a) VCS hardware importers are prohibited from knowingly importing into the United States VCS hardware that is designed, developed, manufactured, or supplied by persons owned by, controlled by, or subject to the jurisdiction or direction of the PRC or Russia.

(b) In the context of this subpart, VCS hardware will not be considered to be designed, developed, manufactured, or supplied by persons owned by, controlled by, or subject to the jurisdiction or direction of the PRC or Russia, based solely on the country of citizenship of one or more natural persons who are employed by, contracted by, or otherwise similarly engaged in such actions through the entity designing, developing, manufacturing, or supplying the hardware.

§ 791.303 Prohibited covered software transactions.

(a) Connected vehicle manufacturers are prohibited from knowingly importing into the United States completed connected vehicles that incorporate covered software that is designed, developed, manufactured, or supplied by persons owned by, controlled by, or subject to the jurisdiction or direction of the PRC or Russia.

(b) Connected vehicle manufacturers are prohibited from knowingly selling within the United States completed connected vehicles that incorporate covered software that is designed, developed, manufactured, or supplied by persons owned by, controlled by, or subject to the jurisdiction or direction of the PRC or Russia.

(c) In the context of this subpart, covered software will not be considered to be designed, developed, manufactured, or supplied by persons owned by, controlled by, or subject to the jurisdiction or direction of the PRC or Russia, based solely on the country of citizenship of one or more natural persons who are employed by, contracted by, or otherwise similarly engaged in such actions through the entity designing, developing, manufacturing, or supplying the software.

§ 791.304 Related prohibited transactions.

Connected vehicle manufacturers who are owned by, controlled by, or subject to the jurisdiction or direction of the PRC or Russia, are prohibited from knowingly selling in the United States completed connected vehicles that incorporate VCS hardware or covered software, regardless of whether such VCS hardware or covered software is designed, developed, manufactured, or supplied by persons owned by, controlled by, or subject to the jurisdiction or direction of the PRC or Russia. These connected vehicle manufacturers are also prohibited from offering commercial services in the United States that utilize completed connected vehicles that incorporate ADS.

§ 791.305 Declaration of Conformity.

(a) *Requirements*—(1) *VCS hardware:* A VCS hardware importer must submit a Declaration of Conformity to BIS prior to importing VCS hardware, unless otherwise specified by this subpart. The Declaration of Conformity for VCS hardware shall include:

(i) The name and address of the VCS hardware importer, to include identifying information for an individual point of contact (including name, email address, and phone number);

(ii) If known, the FCC ID Number associated with the VCS hardware and, if applicable, of the subcomponents contained therein;

(iii) If known, the make and model of the connected vehicle(s) for which the VCS hardware is intended, or already integrated;

(iv) A certification that the VCS hardware described in the Declaration of Conformity was not designed, developed, manufactured, or supplied by persons owned by, controlled by, or subject to the jurisdiction or direction of the PRC or Russia;

(v) A certification that the declarant has conducted due diligence (with or without the use of third-party assessments) to inform the above certification, and the declarant or a delegated third party maintains documentation (either through an HBOM or otherwise) and third-party assessments (as applicable) in support of the above certification, which can be made available upon request by BIS;

(vi) Identification as to who maintains the documentation and third-party assessments (as applicable) as certified above;

(vii) A certification that the declarant has taken all possible measures, either contractually or otherwise, to ensure any necessary documentation and assessments from suppliers will be furnished to BIS upon request either by the declarant, or, in cases including confidential business information, directly by the supplier; and

(viii) If applicable, an indication as to whether the submission is an update to a prior Declaration of Conformity, and if so, the date of the last submission.

(2) *Covered software:* A connected vehicle manufacturer must submit a Declaration of Conformity to BIS prior to importing or selling in the United States completed connected vehicles that incorporate covered software, unless otherwise specified by this subpart. The Declaration of Conformity for covered software shall include:

(i) The name and address of the connected vehicle manufacturer, to include information identifying an individual point of contact (including name, email address, and phone number);

(ii) The make, model, trim, and Vehicle Identification Number (VIN) series applicable to the completed connected vehicles that incorporate the covered software;

(iii) A certification that the covered software described in the Declaration of Conformity was not designed, developed, manufactured, or supplied by persons owned by, controlled by, or subject to the jurisdiction or direction of the PRC or Russia;

(iv) A certification that the declarant has conducted due diligence (with or without the use of third-party assessments) to inform the above certification, and the declarant or a delegated third party maintains documentation (either through an SBOM or otherwise) and third-party assessments (as applicable) that are sufficient to identify, at minimum, the author name, timestamp, component name, and supplier name of all proprietary additions to the development of the covered software, which can be made available upon request by BIS;

(v) Identification as to who maintains the documentation and third-party assessments (as applicable) as certified above;

(vi) A certification that the declarant has taken all possible measures, either contractually or otherwise, to ensure any necessary documentation and assessments from suppliers will be furnished to BIS upon request either by the declarant, or, in cases including confidential business information, directly by the supplier; and

(vii) If applicable, an indication as to whether the submission is an update to a prior Declaration of Conformity and the date of the last submission.

(b) *Certification.* A certification is a written statement or attestation within a Declaration of Conformity in § 791.305(a) above to the U.S. Government, signed by a duly authorized designee, certifying under the penalties provided in 18 U.S.C. 1001, that the information provided is accurate and complete in all material respects to the best knowledge of the designee on behalf of the entity filing the Declaration of Conformity.

(1) For purposes of this section, a duly authorized designee is:

(i) In the case of a partnership, any general partner thereof;

(ii) In the case of a corporation, the chief executive officer, or any officer with the authority to bind the corporation;

(iii) An employee with authority to make certifications on behalf of the company as designated by a person in (i) or (ii); and

(iv) In the case of an entity lacking partners and officers, any individual manager, or designated agent who has been explicitly authorized by the board of directors or equivalent to sign contracts and make legally binding agreements on behalf of the entity.

(c) *Additional information.* BIS may request additional information after receipt of a Declaration of Conformity.

(d) *Reliance on third-party assessments.* Declarants are permitted to utilize assessments produced by third parties to assist and prepare a Declaration of Conformity, in addition to ensuring ongoing compliance with this rule, as long as such entities conform to § 791.315 of this subpart.

(e) *Material changes.* The following events will require an update to a previously submitted Declaration of Conformity:

(1) The discovery, by the declarant, of an omission, inaccuracy, or error in the information provided to BIS in a prior Declaration of Conformity that could reasonably mislead as to the true source of VCS hardware or covered software in question.

(2) Covered software updates alone do not constitute a material change unless an additional condition above is true.

(f) *Change in circumstance.* If the connected vehicle manufacturer or VCS hardware importer determines that articles subject to a Declaration of Conformity are no longer eligible, it must, within 30 days, cease any prohibited conduct and submit a specific authorization application, pursuant to § 791.307(m).

(g) *Deadline to submit Declarations of Conformity.* Connected vehicle manufacturers and VCS hardware importers shall submit Declarations of Conformity prior to the first sale of the subject connected vehicle in the United States, prior to the import of VCS hardware as specified in this section, and following discovery of a material change that makes a prior Declaration of Conformity no longer accurate.

(1) Connected vehicle manufacturers shall submit a Declaration of Conformity at least 60 days prior to the first import or first sale of each model year of completed connected vehicle that incorporates covered software. Declarants may submit a single Declaration of Conformity for all connected vehicles that use the same covered software, grouped by make, model, and VIN series.

(2) VCS hardware importers shall submit a Declaration of Conformity at least 60 days prior to the first import of VCS hardware for each model year for units associated with a vehicle model year, or calendar year for units not associated with a vehicle model year. VCS hardware importers may submit a single Declaration of Conformity detailing all VCS hardware models that will be imported in the model year or calendar year.

(3) Connected vehicle manufacturers and VCS hardware importers must notify BIS of any material change to the information conveyed in a previously submitted Declaration of Conformity by submitting a revised Declaration of Conformity within 60 days following the discovery of such change. A declarant's obligation to inform BIS of material changes to the information ceases 10 years after submission of the original Declaration of Conformity for that model year or calendar year.

(h) *Annual updates to Declarations of Conformity.* If applicable, connected vehicle manufacturers and VCS hardware importers may, in lieu of submitting a new Declaration of Conformity, submit a confirmation that the prior Declaration of Conformity remains accurate and that associates the relevant new model year of vehicles (if known) in lieu of submitting a new Declaration of Conformity.

(1) Where there are no material changes to the covered software for a subsequent model year of completed connected vehicles, the connected vehicle manufacturer may submit a confirmation no later than one year after the previous submission, certifying

that the prior information remains accurate, and that associates the new relevant model year of vehicles to an existing Declaration of Conformity.

(2) Where there are no material changes to the VCS hardware for a subsequent model year of completed connected vehicles (if known) or calendar year, the VCS hardware importer may submit a confirmation no later than one year after the previous submission, certifying that the prior information remains accurate, and that associates the new relevant model year of vehicles (if known) to an existing Declaration of Conformity.

(i) *Submission instructions.* The declarant shall follow the electronic filing instructions on BIS's website, *https://www.bis.gov/OICTS*.

(j) *Verification.* BIS, in its sole discretion, may choose to verify Declarations of Conformity that have been submitted by VCS hardware importers and connected vehicle manufacturers.

(k) *Connected vehicle introduced by means of false information in the Declaration of Conformity.* Any person who submits false information in a Declaration of Conformity, with knowledge that such information is false, and engages in one or more prohibited transactions, may incur penalties as defined in § 791.318.

(l) *Exemptions.* No Declaration of Conformity is required if the only foreign interest in a transaction arises from a foreign person's equity ownership of a U.S. person, whether through ownership of public shares or otherwise. This exemption has no effect on transactions where a foreign interest arises from a foreign entity's design, development, manufacture, or supply of VCS hardware or covered software for a U.S. person or where equity ownership allows a foreign person to exercise control over the U.S. person. Further, this exemption has no effect on the analysis of whether or not an entity is owned by, controlled by, or subject to the jurisdiction or direction of the PRC or Russia.

§ 791.306 General authorizations.

(a) *Overview.* VCS hardware importers and connected vehicle manufacturers may rely on a general authorization to engage in an otherwise prohibited transaction if they meet the stated requirements or conditions identified in the general authorization and are not subject to the restrictions identified in this section. Records demonstrating compliance with the terms of general authorizations must be retained for a period of 10 years, as specified in § 791.312, and be made available to BIS upon request.

(b) *General course of procedure.* BIS may issue general authorizations for certain types of transactions subject to the prohibitions contained in this subpart. In determining whether to issue a general authorization, BIS may consider any information or material BIS deems relevant and appropriate, classified or unclassified, from any Federal department or agency, or from any other source. BIS will publish general authorizations it issues under this subpart on its website (*https://www.bis.gov/OICTS*), and will also publish them in the FEDERAL REGISTER.

(c) *Relationship with specific authorizations.* BIS will not grant specific authorizations for transactions in which a general authorization is applicable.

(d) *Instructions.* Persons availing themselves of certain general authorizations may be required to file reports and statements in accordance with the instructions specified by BIS in each general authorization. Failure to fulfill instructions provided in a general authorization may nullify the authorization and result in a violation of the applicable prohibitions that may be subject to BIS enforcement action.

(e) *Change in circumstance.* Unless otherwise prescribed by BIS, within 30 days of discovering a change in circumstance, the VCS hardware importer or connected vehicle manufacturer must assess if it still qualifies for the general authorization.

(1) If the connected vehicle manufacturer or VCS hardware importer determines that articles subject to a general authorization have been used outside the conditions of the general authorization, it must, within 30 days of such a determination, cease any prohibited conduct, conduct an internal inquiry, and submit to BIS a report identifying

any prohibited transactions, the number of connected vehicles or VCS hardware units implicated, and proposed remedial measures.

(2) [Reserved]

(f) *Verification.* BIS may, at its discretion, seek verification from VCS hardware importers and connected vehicle manufacturers as to whether they are relying on a general authorization, and if so, may request documentation to verify compliance with this subpart.

(g) *Restrictions.* VCS hardware importers and connected vehicle manufacturers may not avail themselves of any general authorization if any one or more of the following apply:

(1) BIS has notified, either directly or through an advisory opinion, the VCS hardware importer or connected vehicle manufacturer is not eligible for a general authorization; or

(2) The VCS hardware importer or connected vehicle manufacturer is owned by, controlled by, or subject to the jurisdiction or direction of the PRC or Russia.

§ 791.307 Specific authorizations.

(a) *Prohibited transactions authorized.* Upon receipt of a valid and complete application, BIS may grant specific authorizations to permit a VCS hardware importer or connected vehicle manufacturer to engage in an otherwise prohibited transaction.

(b) *Policy.* It is the policy of BIS not to review applications for specific authorizations for transactions that are otherwise permitted by a general authorization.

(c) *Applications for specific authorizations.* Applications for specific authorizations shall include, at a minimum, a description of the nature of the otherwise prohibited transaction(s), including the following:

(1) The identity of the parties engaged in the transaction, including relevant corporate identifiers and information sufficient to identify the ultimate beneficial ownership of the transacting parties;

(2) An overview of the VCS hardware or covered software that is designed, developed, manufactured, or supplied by a person owned by, controlled by, or subject to the jurisdiction or direction of the PRC or Russia, including persons responsible for assembling and packaging VCS hardware or covered software;

(3) If known, the make, model, and trim of the connected vehicle(s) in which the VCS hardware or covered software will be integrated;

(4) The intended function of the VCS hardware or covered software;

(5) Documentation to support the information contained in the application, such as any ISO/SAE 21434 Threat Analysis and Risk Assessments (if available);

(6) An assessment of the applicant's ability to limit PRC or Russian government access to, or influence over the design, development, manufacture, or supply of the VCS hardware or covered software;

(7) Security standards used by the applicant with respect to the VCS hardware or covered software; and

(8) Other actions and proposals such as technical controls (*e.g.*, software validation) or operational controls (*e.g.*, physical and logical access monitoring procedures) the applicant intends to take to mitigate undue or unacceptable risk, if applicable.

(d) *Application submission procedures and timing.* VCS hardware importers or connected vehicle manufacturers who seeks to engage in an otherwise prohibited transaction must submit an application for a specific authorization in writing prior to engaging in the transaction, and await a decision from BIS prior to engaging in the transaction. Specific authorization submissions must be delivered to BIS as specified on its website, *https://www.bis.gov/OICTS.*

(e) *Additional conditions.* Only one application for a specific authorization should be submitted to BIS for each otherwise prohibited transaction; multiple parties submitting an application for a specific authorization for the same transaction may result in processing delays.

(f) *Information to be supplied.* An applicant may be required to furnish additional information as BIS deems necessary to assist in making a decision. BIS may request an oral briefing by the applicant and any other relevant

parties. The applicant may present additional information concerning an application for a specific authorization at any time before BIS issues its decision regarding the application.

(g) *Review and decisions.* Applications for specific authorizations will be reviewed on a case-by-case basis, and conditions to be applied to each specific authorization may vary as needed to mitigate any risk that arises as a result of the otherwise prohibited transaction. Such review will include an evaluation of the risks and potential mitigation measures proposed by the applicant for the particular transaction. The risks that BIS may consider include, but are not limited to, risks of data exfiltration from, and remote manipulation or operation of, the connected vehicle and the extent and nature of foreign adversary involvement in the design, development, manufacture, or supply of the VCS hardware or covered software. Mitigation may include the applicant's ability to limit PRC or Russian government access to, or influence over the design, development, manufacture, or supply of the VCS hardware or covered software; security standards used by the applicant and if such standards can be validated by BIS or a third party; and other actions or proposals the applicant intends to take to mitigate undue or unacceptable risk. BIS will advise each applicant in writing of the decision respecting the filed application. Decisions regarding specific authorizations will not be made publicly available.

(h) *Processing period.* BIS will provide a decision regarding an application for a specific authorization within 90 days unless BIS determines, in its sole discretion, and notifies the applicant within that 90-day period, that additional time is required. Failure or delays by the applicant in submitting additional information requested by BIS may delay or prevent BIS's ability to issue a specific authorization.

(i) *Scope.* (1) Unless otherwise specified in the authorization, a specific authorization applies only to the transaction:

(i) Between the parties identified in the specific authorization;

(ii) With respect to the otherwise prohibited transaction(s) described in the authorization; and

(iii) If the conditions specified in the specific authorization are satisfied. The applicant must inform any other parties identified in the specific authorization of the authorization's scope and specific conditions.

(2) As a condition for the issuance of any specific authorization, BIS may require the applicant to submit third-party assessments or SBOMs/HBOMs as may be prescribed in the specific authorization or otherwise communicated to the applicant by BIS. Reports should be sent in accordance with the instructions provided in the applicable specific authorization.

(3) Any materially false or misleading representation in or otherwise associated with the application, or in any document submitted in connection with the application under this section, shall cause the specific authorization to be deemed void as of the date of issuance, and the applicant may incur penalties as specified in § 791.318.

(j) *Verification.* BIS may establish, in its sole discretion as conditions for receiving a specific authorization, any compliance, auditing, or verification requirements.

(k) *Effect of denial.* BIS's denial of a specific authorization may be appealed as described in § 791.309. BIS's denial of a prior specific authorization does not preclude parties from filing an application for a specific authorization for a separate otherwise prohibited transaction. The applicant may at any time, by written correspondence, request reconsideration of the denial of an application based on new material facts or changed circumstances.

(l) *Effect of specific authorization.* (1) No specific authorization issued under this subpart, or otherwise issued by BIS, permits or validates any prohibited transaction effectuated prior to the issuance of such specific authorization unless specifically provided for in the specific authorization.

(2) No regulation, ruling, instruction, or authorization permits any prohibited transaction under this subpart unless the regulation, ruling, instruction or authorization is issued by BIS and specifically refers to this subpart. No

regulation, ruling, instruction, or authorization referring to this subpart shall be deemed to permit any prohibited transaction prohibited by any provision of this subpart unless the regulation, ruling, instruction, or authorization specifically refers to such provision. Any specific authorization permitting any otherwise prohibited transaction has the effect of removing those prohibitions from the transaction, but only to the extent specifically stated by the terms of the specific authorization. Unless the specific authorization otherwise specifies, such an authorization does not create any right, duty, obligation, claim, or interest in, or with respect to, any property that would not otherwise exist under ordinary principles of law.

(3) Nothing contained in this subpart shall be construed to supersede the requirements established under any other provision of law or to relieve a person from any requirement to obtain an authorization from another department or agency of the U.S. Government in compliance with applicable laws and regulations subject to the jurisdiction of that department or agency.

(4) Specific authorizations will be approved for a duration of no less than one (1) model year or calendar year except as provided in §791.307(m).

(m) *Exceptions.* BIS may approve specific authorizations for a period of less than one (1) calendar year on a case-by-case basis under the following circumstances:

(1) 2027 model years that include covered software and are actively being sold or imported as of the effective date of this rule;

(2) Covered software and VCS hardware supply chains that are affected by force majeure events;

(3) As a result of a corporate merger, investment, acquisition, joint venture, or conversion of equity (such as from debt) that occurs during model year production;

(4) As a result of the closure or relocation of facilities involved in the production of covered software or VCS hardware; and

(5) Other instances as determined by BIS.

(n) *Records.* Persons receiving a specific authorization are required to maintain records for a period of 10 years, as required in § 791.312, as well as to submit reports and statements in accordance with the instructions specified in each specific authorization.

(o) *Amendment, modification, or rescission.* Except as otherwise provided by law, any specific authorization or instructions issued thereunder may be amended, modified, or rescinded by BIS at any time.

§791.308 Exemptions.

(a) VCS hardware importers may engage in prohibited transactions described in §791.302 without an authorization as required under §§791.306 and 791.307, and are exempt from submitting Declarations of Conformity with respect to all other transactions, as described in §791.305 provided that:

(1) For VCS hardware units not associated with a vehicle model year, the import of the VCS hardware occurs prior to January 1, 2029; or

(2) The VCS hardware is associated with a vehicle model year prior to 2030, the VCS hardware is imported as part of a connected vehicle with a model year prior to 2030, or the VCS hardware is imported for purposes of repair or warranty for a connected vehicle with a model year prior to 2030.

(b) Connected vehicle manufacturers may engage in prohibited transactions described in §791.303 without authorization as required under §791.306 or §791.307 and are exempt from submitting Declarations of Conformity with respect to all other transactions, as described in §791.305, provided that the completed connected vehicle that incorporates covered software described in §791.303(a)(1) was manufactured prior to model year 2027.

(c) Connected vehicle manufacturers who are owned by, controlled by, or subject to the jurisdiction or direction of the PRC or Russia may engage in prohibited transactions described in §791.304 without authorization as required under §791.306 or §791.307, and are exempt from submitting Declarations of Conformity to all other transactions, provided that the completed connected vehicle that incorporates VCS hardware and/or covered software

was manufactured prior to model year 2027.

§ 791.309 Appeals.

(a) *Scope.* Any person claiming to be directly and adversely affected by any of the listed administrative actions taken by BIS pursuant to this subpart may appeal to the Under Secretary for reconsideration of that administrative action. Only the following types of administrative actions are subject to the appeals procedures described in this subpart:

(1) Denial of an application for a specific authorization;

(2) Suspension or revocation of an issued specific authorization; or

(3) Determination of ineligibility for a general authorization.

(b) *Designated appeals reviewer and coordinator.* The Under Secretary may delegate to the Deputy Under Secretary of Commerce for Industry and Security or to another BIS official the authority to review and decide the appeal, and to exercise any other function of the Under Secretary under this section. In addition, the Under Secretary may designate any employee of BIS to be an appeals coordinator to assist in the review and processing of an appeal under this subpart. The responsibilities of an appeals coordinator may include presiding over informal hearings.

(c) *Appeals procedures*—(1) *Filing.* An appeal under this subpart must be submitted to the Under Secretary by email or at the following address: Bureau of Industry and Security, U.S. Department of Commerce, Room 3898, 14th Street and Pennsylvania Avenue NW, Washington, DC 20230 no later than 45 days after the date appearing on the written notice of administrative action.

(2) *Content of appeal.* The appeal must include a full written statement in support of the appellant's position. The appeal must include a precise statement of the reasons that the appellant believes that the administrative action has a direct and adverse effect and should be reversed or modified. The Under Secretary or the designated official may request additional information that would be helpful in resolving the appeal, and may accept additional submissions from the appellant. The Under Secretary or the designated official will not ordinarily accept any submission filed voluntarily more than 30 days after the filing of the appeal.

(3) *Request for informal hearing.* In addition to the written statement submitted in support of an appeal, an appellant may request, in writing, at the time an appeal is filed, an opportunity for an informal hearing. A hearing is not required, and the Under Secretary or the designated official may grant or deny a request for an informal hearing at the Under Secretary or the designated official's sole discretion. Any hearings will be held in the District of Columbia unless the Under Secretary or the designated official determines, based upon good cause shown, that another location would be preferable.

(d) *Informal hearing procedures*—(1) *Presentations.* If a hearing request is granted, the Under Secretary or the designated official may provide an opportunity for the appellant to make an oral presentation at an informal hearing based on the materials previously submitted by the appellant or made available by BIS. The Under Secretary or the designated official may require that any facts in controversy be covered by an affidavit or testimony given under oath or affirmation.

(2) *Evidence.* The rules of evidence prevailing in courts of law do not apply, and all evidentiary material deemed by the Under Secretary or the designated official to be relevant and material to the proceeding, and not unduly repetitious, will be received and considered.

(3) *Procedural questions.* The Under Secretary or the designated official has the authority to limit the number of people attending the hearing, to impose any time or other limitations deemed reasonable, and to determine all procedural questions.

(4) *Transcript.* A transcript of an informal hearing shall not be made, unless the Under Secretary or the designated official determines that the national interest or other good cause warrants it, or if the appellant requests a transcript. If the appellant requests, and the Under Secretary or the designated official approves the taking of,

a transcript, the appellant will be responsible for paying all expenses related to production of the transcript.

(5) *Report.* Any person designated by the Under Secretary to conduct an informal hearing shall submit a written report containing a summary of the hearing and recommended action to the Under Secretary.

(e) *Amicus filings.* At the request of the appellant, parties not subject to the administrative action under appeal may submit amicus filings in support of the appellant prior to any informal hearing.

(f) *Decisions.* In addition to the documents specifically submitted in connection with the appeal, the Under Secretary or the designated official may consider any recommendations, reports, or other relevant documents available to BIS in determining the appeal, but shall not be bound by any such information, nor prevented from considering any other relevant information, or consulting with any other person or groups, in making a decision. The Under Secretary or the designated official may adopt any other procedures deemed necessary and reasonable for considering an appeal, including by providing the appellant with an interim or proposed decision and offering the appellant an opportunity to provide comments. The Under Secretary or the designated official shall decide an appeal within a reasonable time after receipt of the appeal. The decision shall be issued to the appellant in writing and contain a statement of the reasons for the action and address any arguments contrary to the decision presented by the appellant. The decision of the Under Secretary or the designated official shall be final.

(g) *Effect of appeal.* Acceptance and consideration of an appeal shall not affect any administrative action, pending or in effect, unless the Under Secretary or the designated official, upon request by the appellant and with opportunity for a response, grants a stay.

§ 791.310 Advisory opinions.

(a) VCS hardware importers and connected vehicle manufacturers may request an advisory opinion from BIS to determine whether a prospective transaction is subject to a prohibition, or requirement under this subpart. The requestor must have a direct financial interest in the substance of the question(s) presented, and the submission must include the name of the parties to the transaction.

(b) Requests for advisory opinions must be delivered to BIS as specified on its website, *https://www.bis.gov/OICTS.*

(c) Persons submitting advisory opinion requests are encouraged to provide as much information as possible to assist BIS in making a determination, to include the following information:

(1) The name, title, telephone, and email address of the submitter;

(2) The submitter's complete address, comprised of street address, city, state, country, and postal code;

(3) All available information identifying the parties to the prospective transaction;

(4) Information regarding the VCS hardware and/or covered software and any descriptive literature, brochures, technical specifications, or papers that provide sufficient technical detail to enable BIS to verify whether the prospective transaction would constitute a prohibited transaction as defined in this subpart;

(5) For connected vehicle manufacturers: the make, model, and trim level, or other identifying information of the completed connected vehicle;

(6) For VCS hardware importers: the identification of the system; and, if known, the make, model, and trim of the group of completed connected vehicles for which the equipment is intended; and

(7) Any other information that the submitter believes to be material to the prospective transaction.

(d) BIS may consider third-party materials on a case-by-case basis as part of its review of an advisory opinion request. Each person that submits an advisory opinion request or information in support of another party's advisory opinion request shall provide any additional information or documents that BIS may thereafter request in its review of the matter.

(e) BIS shall issue an advisory opinion within 60 days of the request unless it notifies the requester within that 60-day period that more time is required.

Failure or delays by the applicant in submitting additional information requested by BIS may delay or prevent BIS's ability to issue an advisory opinion.

(f) Each advisory opinion can be relied upon by the requesting party or parties to the extent the disclosures made pursuant to this subpart were accurate and complete and to the extent the disclosures continue to reflect circumstances accurately and completely after the date of the issuance of the advisory opinion. An advisory opinion will not restrict enforcement actions by any agency other than BIS. It will not affect a requesting party's obligations to any other agency or under any statutory or regulatory provision other than those specifically discussed in the advisory opinion.

(g) BIS may publish on its website an advisory opinion that may be of broad interest to the public, with redactions where necessary to protect Confidential Business Information.

(h) BIS may, at its sole discretion, decline to issue an advisory opinion within 60 days after receipt of the request.

§ 791.311 "Is-informed" notices.

(a) BIS may inform VCS hardware importers or connected vehicle manufacturers either individually by specific notice or, for larger groups, through a separate notice published in the FEDERAL REGISTER, that a specific authorization is required because an activity could constitute a prohibited transaction.

(b) Specific notice that a specific authorization is required may be given only by, or at the direction of, the Under Secretary or a BIS official designated by the Under Secretary.

§ 791.312 Recordkeeping.

(a) Except as otherwise provided herein, or through subsequent communication with BIS, VCS hardware importers, connected vehicle manufacturers, and/or third-party assessors (if applicable) shall keep all primary business records related to the execution of each transaction for which a Declaration of Conformity, general authorization, or specific authorization would be required under § 791.305, § 791.306, or § 791.307. Primary business records include contracts, import records, commercial invoices, bills of sale, corporate policy documentation, and reports produced by third parties created for the purposes of compliance with this rule. Regardless of whether these transactions are effectuated pursuant to a general authorization, specific authorization, or otherwise, such records shall be available for examination for at least 10 years after the date of such transactions.

(b) Third-party assessors are required to maintain all records relating to third-party verification or assessment of a U.S. person's compliance with this rule.

§ 791.313 Reports to be furnished on demand.

(a) VCS hardware importers and connected vehicle manufacturers must furnish, under oath, in the form of reports or as otherwise specified by BIS, and at any time as may be required by BIS, complete information regarding any transaction involving the import of VCS hardware or the import or sale of completed connected vehicles incorporating covered software. This requirement applies regardless of whether such transaction is affected pursuant to a general or specific authorization or otherwise, subject to the provisions of this subpart. BIS may require that such reports include the production of any books, contracts, letters, papers, or other hard copy or electronic documents relating to any transactions, in the custody or control of the persons required to make such reports. Reports being submitted to BIS pursuant to this section must be retained for a period of 10 years, as specified in § 791.312.

(b) BIS may, through any person or agency, conduct investigations, hold hearings, administer oaths, examine witnesses, receive evidence, take depositions, and require by subpoena the attendance and testimony of witnesses and the production of any books, contracts, letters, papers, and other hard copy or electronic documents relating to any matter under investigation, regardless of whether any report has been required or filed in connection therewith.

(c) Persons providing records to BIS pursuant to this section shall follow the electronic filing instructions on BIS's website, *https://www.bis.gov/OICTS*.

§ 791.314 Confidential business information.

(a) *Confidential business information.* Confidential Business Information is defined in 19 CFR 201.6.

(b) *Submission procedures.* Any information or material submitted to BIS which the entity or any other party desires to submit in confidence as a part of a Declaration of Conformity, specific authorization application, advisory opinion request, record to be furnished on demand, or is otherwise Confidential Business Information should be contained within a file beginning its name with the characters ''CBI.'' Any page containing Confidential Business Information must be clearly marked ''CONFIDENTIAL BUSINESS INFORMATION'' on the top of the page. Any pages not containing Confidential Business Information should not be marked. By submitting information or material identified as Confidential Business Information, the entity or other party represents that the information is exempted from public disclosure, either by the Freedom of Information Act (5 U.S.C. 552 *et seq.*) or by another specific statutory exemption. Any request for Confidential Business Information treatment must be accompanied at the time of submission by a statement justifying non-disclosure and referring to the specific legal authority claimed.

(c) *Confidentiality of information.* Confidentiality of information is subject to 15 CFR 791.102.

§ 791.315 Third-party verification and assessments.

(a) *Overview.* U.S persons subject to this subpart may hire, consult, or otherwise contract with a third-party to ensure compliance with this rule. In certain cases, the use of a third-party assessor will be mandated in the terms of an approved specific authorization.

(b) *Third-party assessors.* U.S. persons should determine whether a third-party assessor is qualified and competent, such as through industry certification or standard, to examine, to verify, and attest to the U.S. person's compliance with and the effectiveness of the security requirements implemented for VCS hardware or covered software transactions.

(1) The third-party assessor cannot be a person owned by, controlled by, or subject to the jurisdiction or direction of the PRC or Russia.

(2) In determining the reasonableness of an entity's reliance on a third-party assessment, BIS will consider the independence of the third-party, including any financial incentives between the third-party and the entity.

(c) *Scope.* The use of a third-party assessor for U.S. persons submitting Declarations of Conformity is voluntary; however, if utilized, BIS recommends such third-party assessments to:

(1) identify and examine the VCS hardware importer or connected vehicle manufacturer's VCS hardware and covered software supply chains in relation to the prohibitions in this subpart;

(2) examine compliance relating to each Declaration of Conformity, general authorization, or specific authorization pursuant to which an entity is conducting transactions;

(3) use a reliable methodology to conduct the third-party verification; and

(4) acknowledge that the assessment may be used by the U.S. government to verify compliance.

(d) *Assessment.* To utilize third-party verification to fulfill the due diligence requirement for a Declaration of Conformity, the third-party assessor should prepare and submit a written report to the VCS hardware importer or connected vehicle manufacturer. The third-party assessment should at minimum:

(1) identify the suppliers of each relevant component and describe the nature of any foreign interest;

(2) describe the methodology undertaken, including the policies and other documents reviewed, personnel interviewed, and any facilities, equipment, or systems examined;

(3) describe the effectiveness of the VCS hardware importer or connected vehicle manufacturer's corporate policies related to compliance with this rule;

(4) for VCS hardware importers or connected vehicle manufacturers conducting transactions under the auspices of a general authorization or specific authorization, describe any vulnerabilities or deficiencies in the implementation of the authorization; and

(5) recommend any improvements or changes to policies, practices, or other aspects to maintain compliance with this subpart, as applicable to each transaction.

(e) *Recordkeeping*. The third-party assessor must comply with all recordkeeping requirements, pursuant to § 791.312.

§ 791.316 Finding of violation.

(a) *When issued*. (1) BIS may issue an initial finding of violation that identifies a violation if BIS:

(i) Determines that there has occurred a violation of any provision of this subpart, or a violation of the provisions of any exemption, general authorization, specific authorization, regulation, order, directive, instruction, or prohibition issued by or pursuant to the direction or authorization of the Secretary pursuant to this subpart or otherwise under IEEPA;

(ii) Considers it important to document the occurrence of a violation; and

(iii) Concludes that an administrative response is warranted but that a civil monetary penalty is not the most appropriate response.

(2) An initial finding of violation shall be in writing and may be issued whether or not another agency has taken any action with respect to the matter.

(b) *Response*—(1) *Right to respond*. An alleged violator may contest an initial finding of violation by providing a written response to BIS.

(2) *Deadline for response; default determination*. A response to an initial finding of violation must be made within 30 days as set forth in paragraphs (b)(2)(i) and (ii) of this section. The failure to submit a response within 30 days shall be deemed to be a waiver of the right to respond, and the initial finding of violation will become final and will constitute final agency action. The violator may seek judicial review of that final agency action in Federal district court.

(i) *Computation of time for response*. A response to an initial finding of violation must be electronically transmitted on or before the 30th day after the date of delivery by BIS.

(ii) *Extensions of time for response*. If a due date falls on a Federal holiday or weekend, that due date is extended to include the following business day. Any other extensions of time will be granted, at the discretion of BIS, only upon specific request to BIS.

(3) *Form and method of response*. A response to an initial finding of violation need not be in any particular form, but it must be typewritten and signed by the alleged violator or a representative thereof, contain information sufficient to indicate that it is in response to the initial finding of violation, and include the BIS identification number listed on the initial finding of violation. A digital signature is acceptable.

(4) *Information that should be included in response*. Any response should set forth in detail why the alleged violator either believes that a violation of the provisions of this subpart did not occur and/or why a finding of violation is otherwise unwarranted under the circumstances. The response should include all documentary or other evidence available to the alleged violator that supports the arguments set forth in the response. BIS will consider all relevant materials submitted in the response.

(c) *Determination*—(1) *Determination that a finding of violation is warranted*. If, after considering the response, BIS determines that a final finding of violation should be issued, BIS will issue a final finding of violation that will inform the violator of its decision and may include a responsive administrative action other than a civil monetary penalty. Any action taken in a final finding of violation shall constitute final agency action. The violator has the right to seek judicial review of that final agency action in Federal district court.

(2) *Determination that a finding of violation is not warranted*. If, after considering the response, BIS determines a finding of violation is not warranted,

then BIS will inform the alleged violator of its decision not to issue a final finding of violation.

§ 791.317 Pre-penalty notice; settlement.

(a) *When required.* If BIS has reason to believe that there has occurred a violation of any provision of this subpart or a violation of the provisions of any exemption, general authorization, specific authorization, regulation, order, directive, instruction, or prohibition issued by or pursuant to the direction or authorization of the Secretary pursuant to this subpart or otherwise under IEEPA and determines that a civil monetary penalty is warranted, BIS will issue a pre-penalty notice informing the alleged violator of BIS's intent to impose a monetary penalty. A pre-penalty notice shall be in writing and issued either electronically or by mail to the alleged violator. The pre-penalty notice may be issued whether or not another agency has taken any action with respect to the matter. BIS will consider any voluntary disclosures of a violation prior to issuing such notice.

(b) *Response*—(1) *Right to respond.* An alleged violator may respond to a pre-penalty notice in writing to BIS.

(2) *Deadline for response.* A response to a pre-penalty notice must be made within 30 days as set forth below. The failure to submit a response within 30 days shall be deemed to be a waiver of the right to respond.

(i) *Computation of time for response.* A response to a pre-penalty notice must be electronically transmitted on or before the 30th day after the date of delivery by BIS.

(ii) *Extensions of time for response.* If a due date falls on a Federal holiday or weekend, that due date is extended to include the following business day. Any other extensions of time will be granted, at the discretion of BIS, only upon specific request to BIS.

(3) *Form and method of response.* A response to a pre-penalty notice need not be in any particular form, but it must be typewritten and signed by the alleged violator or a representative thereof, contain information sufficient to indicate that it is in response to the pre-penalty notice, and include the BIS identification number listed on the pre-penalty notice. A digital signature is acceptable.

(4) *Information that should be included in response.* Any response should set forth in detail why the alleged violator either believes that a violation of the provisions of this subpart did not occur and/or why a civil monetary penalty is otherwise unwarranted under the circumstances. The response should include all documentary or other evidence available to the alleged violator that supports the arguments set forth in the response. BIS will consider all relevant materials submitted in the response.

(c) *Representation.* A representative of the alleged violator may act on behalf of the alleged violator, but any oral communication with BIS prior to a written submission regarding the specific allegations contained in the pre-penalty notice must be preceded by a written letter of representation, unless the pre-penalty notice was served upon the alleged violator in care of the representative.

(d) *Settlement.* Settlement discussions may be initiated by BIS, the alleged violator, or the alleged violator's authorized representative.

§ 791.318 Penalties.

(a) Section 206 of the International Emergency Economic Powers Act (50 U.S.C. 1705) (IEEPA) is applicable to violations of the provisions of any general authorization, specific authorization, regulation, order, directive, instruction, or prohibition issued by or pursuant to the direction or authorization of the Secretary of Commerce (Secretary) pursuant to this subpart or otherwise under IEEPA.

(1) A civil penalty not to exceed the amount set forth in section 206 of IEEPA may be imposed on any person who violates, attempts to violate, conspires to violate, or causes a violation of any exemption, general authorization, specific authorization, regulation, order, directive, instruction, or prohibition issued under this subpart.

(2) A person who willfully commits, willfully attempts to commit, willfully conspires to commit, or aids or abets in the commission of a violation of any

exemption, general authorization, specific authorization, regulation, order, directive, instruction, or prohibition issued under this subpart is subject to criminal penalties and may, upon conviction, be fined not more than $1,000,000, or if a natural person, be imprisoned for not more than 20 years, or both.

(b) The civil penalties provided in IEEPA are subject to adjustment pursuant to the Federal Civil Penalties Inflation Adjustment Act of 1990 (Pub. L. 101–410, as amended, 28 U.S.C. 2461 note).

(c) The criminal penalties provided in IEEPA are subject to adjustment pursuant to 18 U.S.C. 3571.

(d) Pursuant to 18 U.S.C. 1001, whoever, in any matter within the jurisdiction of the executive, legislative, or judicial branch of the U.S. Government, knowingly and willfully falsifies, conceals, or covers up by any trick, scheme, or device a material fact; or makes any materially false, fictitious, or fraudulent statement or representation; or makes or uses any false writing or document knowing the same to contain any materially false, fictitious, or fraudulent statement or entry shall be fined under title 18, United States Code, imprisoned, or both.

(e) Violations of this subpart may also be subject to other applicable laws and therefore may be subject to additional penalties not specified in this section.

§ 791.319 Penalty imposition.

(a) If, after considering any written response to the pre-penalty notice and any relevant facts, including voluntary disclosure of a violation, BIS determines that there was a violation by the alleged violator named in the pre-penalty notice and that a civil monetary penalty is appropriate, BIS may issue a penalty notice to the violator containing a determination of the violation and the imposition of the monetary penalty.

(b) The issuance of the penalty notice shall constitute final agency action. The violator may seek judicial review of that final agency action in Federal district court.

§ 791.320 Administrative collection; referral to United States Department of Justice.

In the event that the violator does not pay the penalty imposed pursuant to this subpart or make payment arrangements acceptable to BIS, the matter may be referred for administrative collection measures by the United States Department of the Treasury or to the United States Department of Justice for appropriate action to recover the penalty in a civil suit in a Federal district court.

§ 791.321 Severability.

If any provision of this subpart is held to be invalid or unenforceable by its terms, or as applied to any person or circumstance, or stayed pending further agency action or judicial review, the provision is to be construed so as to continue to give the maximum effect to the provision permitted by law, unless such holding will be one of utter invalidity or unenforceability, in which event the provision will be severable from this part and will not affect the remainder thereof.

PARTS 792–799 [RESERVED]

FINDING AIDS

The List of CFR Sections Affected can be found at the end of this volume. Other finding aids are available at *www.ecfr.gov*.

List of CFR Sections Affected

All changes in this volume of the Code of Federal Regulations (CFR) that were made by documents published in the FEDERAL REGISTER since January 1, 2021 are enumerated in the following list. Entries indicate the nature of the changes effected. Page numbers refer to FEDERAL REGISTER pages. The user should consult the entries for chapters, parts and subparts as well as sections for revisions.

For changes to this volume of the CFR prior to this listing, consult the annual edition of the monthly List of CFR Sections Affected (LSA). The LSA is available at *www.govinfo.gov*. For changes to this volume of the CFR prior to 2001, see the ''List of CFR Sections Affected, 1949–1963, 1964–1972, 1973–1985, and 1986–2000'' published in 11 separate volumes. The ''List of CFR Sections Affected 1986–2000'' is available at *www.govinfo.gov*.

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Chapter VII Policy statement 32757
745 Authority citation revised 942
745 Supplement No. 1 revised 942
748 Authority citation revised 46594
748 Correction: Authority citation revised 54812
748.3 Correction: (c) introductory text and (1) introductory text revised 54812
748.12 (b)(1) and (d)(3) revised; (e)(3) note 2 redesignated as note 4; (e)(3) note (3) added 46594
748 Supplement No. 2 amended 4934
748 Correction: Supplement No. 2 amended 54812
748 Correction: Supplement No. 3 amended 54812
748 Supplement No. 6 removed 46595
750 Correction: Authority citation revised 54812
750.1 Correction: Revised 54812
750.4 (b)(6)(i) amended 4934
750.7 Correction: (a) revised 54812
750.8 Correction: (b) revised 54813
750.9 Correction: (a) revised 54813
758 Authority citation revised 46595
758.1 (g)(4)(ii) revised 46595
760 Authority citation revised 30536
760 Supplement No. 17 added 30536

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770 Correction: Authority citation revised 54813
770.3 Correction: (d)(1)(ii) revised 54813
772 Authority citation revised; eff. 1-19-22 58210
772.1 Amended 4934, 16488
772.1 Correction: Amended 54813
772.1 Amended; interim; eff. 1-19-22 58210
774 Supplement No. 1, Category 0 (ECCN 0A018) amended 46595
774 Supplement No. 1, Category 0 (ECCN 0A501) amended 46595
774 Supplement No. 1, Category 0 (ECCN 0A502) amended 16488
774 Supplement No. 1, Category 0 (ECCN 0A503) amended 16489
774 Supplement No. 1, Category 0 (ECCN 0A505) amended 46596
774 Supplement No. 1, Category 0 (ECCN 0A606) amended 16489
774 Supplement No. 1, Category 0 (ECCN 0B501) amended 46596
774 Supplement No. 1, Category 0 (ECCN 0E505) amended 46597
774 Supplement No. 1, Category 1 (ECCN 1A002) amended 16490
774 Supplement No. 1, Category 1 (ECCN 1A005) amended 16491
774 Supplement No. 1, Category 1 (ECCN 1A006) amended 16491

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774 Supplement No. 1, Category 1 (ECCN 1A613) amended 16491
774 Supplement No. 1, Category 1 (ECCN 1A984) amended 46597
774 Supplement No. 1, Category 1 (ECCN 1B002) amended 16492
774 Supplement No. 1, Category 1 (ECCN 1C001) amended 16492
774 Supplement No. 1, Category 1 (ECCN 1C002) amended 16493
774 Supplement No. 1, Category 1 (ECCN 1C006) amended 16493
774 Supplement No. 1, Category 1 (ECCN 1C010) amended 16494
774 Supplement No. 1, Category 1 (ECCN 1C298) revised 55494
774 Supplement No. 1, Category 1 (ECCN 1C350 and 1C355) revised 4934
774 Supplement No. 1, Category 1 (ECCN 1C351) revised 947
774 Supplement No. 1, Category 1 (ECCN 1C991) revised 948
774 Supplement No. 1, Category 2 (ECCN 2A001) amended 16495
774 Supplement No. 1, Category 3 (ECCN 3B001) amended 16495
774 Supplement No. 1, Category 3 (ECCN 3E002) amended 16496
774 Supplement No. 1, Category 4 amended; interim; eff. 1-19-22 58210
774 Supplement No. 1, Category 4 (ECCN 4A005) added; interim; eff. 1-19-22 58210
774 Supplement No. 1, Category 4 (ECCN 4D001) revised; interim; eff. 1-19-22 58211
774 Supplement No. 1, Category 4 (ECCN 4D004) added; interim; eff. 1-19-22 58211
774 Supplement No. 1, Category 4 (ECCN 4E001) revised; interim; eff. 1-19-22 58211
774 Supplement No. 1, Category 5, Part 2 amended 16497
774 Supplement No. 1, Category 5 amended; interim; eff. 1-19-22 58212
774 Supplement No. 1, Category 5 revised (ECCN 5A001); interim; eff. 1-19-22 58212
774 Supplement No. 1, Category 5, Part 2 (ECCN 5A002) amended 16497

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774 Supplement No. 1, Category 5 revised (ECCN 5B001); interim; eff. 1-19-22 58214
774 Supplement No. 1, Category 5 revised (ECCN 5D001); interim; eff. 1-19-22 58214
774 Supplement No. 1, Category 5 revised (ECCN 5E001); interim; eff. 1-19-22 58215
774 Supplement No. 1, Category 5 revised (ECCN 5A004); interim; eff. 1-19-22 58216
774 Supplement No. 1, Category 6 (ECCN 6A004) amended 16498
774 Supplement No. 1, Category 6 (ECCN 6A005) amended 16499
774 Supplement No. 1, Category 6 (ECCN 6A008) amended 16503
774 Supplement No. 1, Category 9 (ECCN 9A011) amended 16504
774 Supplement No. 1, Category 9 (ECCN 9D515) amended 16504
774 Supplement No. 1, Category 9 (ECCN 9E003) amended 16504
774 Correction: Supplement No. 1 (ECCN 0D617 and 7A611) amended 54813
774 Supplement No. 1, Category 2 (ECCN 2D352 and 2E001) amended 54818
774 Supplement No. 5 amended; interim 462
774 Supplement No. 6, Category 1 amended 16506

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746 Authority citation revised 12248
746.5 (a)(1) revised 12248
746.5 (a)(1) and (b) revised 12858
746.5 (b)(2) revised 28760
746.5 (a)(2) amended; heading, (a)(1)(i) through (iii), (b), and (c) revised; (a)(1)(iv) added 57085
746.6 Revised 12248
746.6 (b) revised 34152
746.8 Added 12249
746.8 Revised 13062
746.8 (a)(1) and (c)(5) revised 22132
746.8 (a)(3) and (b) revised 34153
746.8 (a) introductory text and (1) revised; (a) Note 1 redesignated as (a) Note 2 57085
746.10 Added 14788

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746.10 (b) and (c) revised; (c)(3) added 57086
746 Supplement No. 2 amended 12250, 12858, 28760, 34153
746 Supplement No. 3 amended 12250, 13063, 13628, 21555
746 Supplement No. 4 added 12858
746 Supplement No. 4 revised 28760
746 Supplement No. 4 amended 57086
746 Supplement No. 5 added 14788
746 Supplement No. 5 amended 28774, 34153
746 Supplement No. 5 revised 57089
746 Supplement No. 6 added 57104
748 Authority citation revised 32987
748 Supplement No. 2 amended 32987
762 Authority citation revised 57106
762 Policy statement 61970
762.1 (a)(2) revised 57106
762.2 (b)(3) through (31) redesignated as (b)(4) through (32); new (b)(3) added; interim 62207
762.2 Regulation at 87 FR 62207 comment period extended to 1-31-23; interim 74966
762.6 (a)(2) revised 57106
766.20 (c)(2)(ii) revised 34153
766 Supplement No. 2 amended 60892
772 Authority citation revised 55267
772 Policy statement 61970
772.1 Regulation at 86 FR 58210 eff. date delayed to 3-7-22 1670
772.1 Amended 12250, 31952
772.1 Amended; interim 49983, 55267, 62208
772.1 Regulation at 87 FR 62208 comment period extended to 1-31-23; interim 74966
774 Regulation at 86 FR 58210, 58211, 58212, 58214, 58215, and 58216 eff. date delayed to 3-7-22 1670
774 Policy statement 61970
774 Supplement No. 1, Category 0 (ECCN 0A919) revised 6026
774 Supplement No. 1, Category 5 (ECCN 5D001) revised 31953
774 Supplement No. 1, Category 3 (ECCN 3C001, 3C005, and 3C006) revised; interim 49983
774 Supplement No. 1, Category 3 (ECCN 3D006) added; interim 49983

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774 Supplement No. 1, Category 3 (ECCN 3E003) and Category 9 (ECCN 9E003) revised; interim 49984
774 Supplement No. 1 (ECCN 3B090) added; (3B991, 3D001, and 3E001) revised; interim 62208
774 Regulation at 87 FR 62208 comment period extended to 1-31-23; interim 74966
774 Supplement No. 2, Category 3 (ECCN 3A090, 4A090, and 4D090) added; (Note 3, ECCN 3A991, 3D001, 3E001, 4A994, 4E001, 5A992, and 5D992) revised; interim 62211
774 Supplement No. 5 amended; interim 730

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746 Authority citation revised 12154, 12181, 73495
746.5 (b) revised 12181
746.5 (a) introductory text, (1) Note 1, (3), (b) Note 2, and (c)(3) added; (b)(1) and (2) revised 33428
746.6 Heading and (a)(1) revised; (a)(4) added 33429
746.7 Introductory text amended; (a)(1) revised 12154
746.8 (b) revised 12181
746.8 (a) introductory text, (2), (4), and (b) revised 33429
746.8 (a) introductory text revised; interim 73495
746.8 Regulation at 88 FR 73495 Comment period extended to 1-17-24 86821
746.10 (a) introductory text added; (b) revised 12182
746.10 (a) introductory text revised; (b) amended 33430
746.10 (a) introductory text revised; interim 73495
746.10 Regulation at 88 FR 73495 Comment period extended to 1-17-24 86821
746 Supplement No. 2 revised 12182
746 Supplement No. 2, Supplement No. 3, and Supplement No. 4 amended 33430
746 Supplement No. 3 amended 12154, 12183

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746 Supplement No. 4 revised 12183
746 Supplement No. 5 amended 12192, 33460
746 Supplement No. 6 amended 12204
746 Supplement No. 7 added 12155
746 Supplement No. 6 and Supplement No. 7 amended 33469
748 Authority citation revised 73496
748 Regulation at 88 FR 73496 Comment period extended to 1-17-24 86821
748.8 (d), (s), (t), and (z) added; interim 73496
748.8 Regulation at 88 FR 73496 Comment period extended to 1-17-24 86821
748.15 (d) amended 71480
748 Supplement No. 2 amended; interim 73496
748 Supplement No. 7 amended 71480
748 Supplement No. 7 amended; interim 73496
748 Correction: Supplement No. 7 amended 76990
750.7 (c)(1)(xi) added 33470
758.1 (g)(5) added; interim 73497
758.1 Regulation at 88 FR 73497 Comment period extended to 1-17-24 86821
758.6 (a)(2) revised; interim 73497
758.6 Regulation at 88 FR 73497 Comment period extended to 1-17-24 86821
766.24 (a) and (e)(5) amended; (b)(1) and (d)(1) revised 59793
772.1 Amended 12112
772.1 Amended; interim 71935, 73450
772.1 Note 1 amended; interim 73497
772.1 Regulation at 88 FR 73497 Comment period extended to 1-17-24 86821
774 Supplement No. 1, Category 1 (ECCN 1C350, 1C351, 1C353, 1C354, 1C991, and 2B352) revised 2511
774 Supplement No. 1 (ECCN 3A090, 3B090, 3D001, 3E001, 4A090, 4D090, and 4E001) revised; interim 2826

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774 Supplement No. 1, Category 0 (ECCN 0A988) removed; Supplement No. 1, Category 1 (ECCN 1A613, 1C006, and Annex), Category 2 (ECCN 2E003), Category 3 Note 1, (ECCN 3A001 and 3A002), Category 5 (ECCN 5A003), Category 6 (ECCN 6A005, 6A008, and 6D003), Category 7 (ECCN 7D003), and Category 9 (ECCN 9A004, 9B001, and 9E003) revised 12112
774 Supplement No. 1, Category 4 (ECCN 4A003, 4D001, and 4E001) revised 12129
774 Supplement No. 1 revised 56464
774 Supplement No. 1, Category 1 (ECCN 1A004, 1A006, 1A007, 1A008, 1B001, 1C001, 1C002, 1C003, 1C005, 1C008, 1C010, 1C011), Category 2 (2A001, 2B004, 2B006, 2B008, 2B009, 2E003), Category 3 (3A001, 3A002, 3B001, 3D003, 3D006, 3E001, 3E002), Category 4 (4A004, 4D001, 4E001), Category 5 (5A001, 5A002, 5A004), Category 6 (6A001, 6A002, 6A003, 6A004, 6A005, 6A006, 6A007, 6A008, 6B007, 6C002, 6C005, 6D003, 6E003), Category 7 (7A003, 7A004, 7A005, 7A006, 7B001, 7D002, 7E004), Category 8 (8A001, 8A002, 8C001, 8E002), and Category 9 (9A001, 9A003, 9A004, 9A005, 9B005, 9E001, 9E002, and 9E003) revised; interim 71936
774 Supplement No. 1, Category 3 (ECCN 3B001, 3B002, 3D001, 3D002, 3D003, and 3E001) revised; Supplement No. 1, Category 3 (ECCN 3B090) removed; interim 73451
774 Supplement No. 1, Category 3 (ECCN 3A001, 3A090, 3A991, 3D001, 3E001), Category 4 (4A003, 4A004, 4A005, 4A090, 4A994, 4D001, 4E001), Category 4 Note 3, Category 4 Technical Note 2, Category 5 (5E001, 5A002, 5A992, 5A004, 5B002, 5D002, 5D992, 5E002, 5E992), Category 5 Note 3, and Category 9 (9A004, and 9A515) revised; interim 73497

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774 Supplement No. 1, Category 1 (ECCN 1C351, 1C353, 1C354, and 1E001) revised 85484
774 Supplement No. 1, Category 1 (ECCN 1C111), Category 2 (2A101, 2B119), Category 6 (6A107), and Category 9 (9A101, 9E515) revised 85493
774 Supplement No. 6 amended; interim 71985, 73517
774 Regulation at 88 FR 73497 and 73517 Comment period extended to 1-17-24 86821

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746 Authority citation revised 29256, 51662, 60565
746 Notification 87783, 96095
746.5 (a) introductory text and (c) revised; (b)(2)(i) through (v) redesignated as (b)(2)(ii) through (vi); new (b)(2)(i) added 4810
746.5 (c) introductory text revised; (c)(8) added 33228
746.5 Removed 51662
746.6 (a)(5) added 4811
746 Supplement No. 2, Supplement No. 3, and Supplement No. 4 amended 51665
746 Supplement No. 5 amended 51677
746 Supplement No. 6 amended 51678, 87282
746 Supplement No. 7 amended 51678
746.6 (c)(7) added 33228
746.7 (a)(1)(iii) and (iv) revised 60565
746.8 (a) introductory text amended; (c) revised 4811
746.8 Revised 51662
746.8 (a) introductory text amended; (a)(8) and (12)(iv) added; (a)(12)(ii) introductory text, (b)(3) introductory text, and (c)(1) revised 51664
746.8 Heading revised; (a) introductory text, (3), (8)(ii), (c)(1), and (2) amended; (a)(3) Note 1 removed 68543
746.8 (c)(2)(ii) revised; interim 84777
746.8 (a)(3), (12)(ii)(D), (E), (b)(3)(vi)(D), (E), and (c)(2)(vi) revised; (a)(12)(ii)(F) and (b)(3)(vi)(F) added 87282

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746.8 Regulation at 89 FR 84777 Comment period extended 91251
746.10 (a) introductory text, (b), and (c) revised; (a)(3) added 4811
746.10 (a)(2) and (3) introductory text revised; (c) introductory text amended 20116
746.10 (c) introductory text revised; (c)(8) added 33229
746.10 Removed 51665
746 Supplement No. 4 amended 4812
746 Supplement No. 5, Supplement No. 6, and Supplement No. 7 amended 4815
746 Supplement No. 7 amended 29256
748 Notification 96095
748 Authority citation revised; interim 34706
748 Authority citation amended 96854
748.8 (z) revised; interim 34706
748.12 Introductory text and (a) through (d) revised; interim 34706
748.15 Revised 80083
748 Supplement No. 2 amended; interim 34707
748 Supplement No. 7 revised 80085
748 Supplement No. 7 amended 96854
748 Supplement No. 8 revised 80093
750.4 (d)(2)(v) added; interim 34708
750.7 (g) revised; interim 34708
754 Authority citation revised; interim 28601
754.3 (a) revised; interim 28601
754.4 (a) revised; interim 28601
754.5 (a) revised; interim 28601
758 Notification 96095
758.1 (b)(3), (6), and (9) revised; interim 28601
758.1 (b)(9), (c)(1), and (g)(4) revised; interim 34709
758.6 (a)(2) revised; interim 96818
758.10 (a), (b)(1), Note 1, and Note 2 revised; interim 34709
758.10 (b)(1) Note 1 amended 40372
758.11 (a) revised; interim 28601
758.11 (a) and (b)(2) revised; interim 34710
762 Notification 96095
762.2 (b)(53) and (54) revised; (b)(55) added 33229
762.2 (a)(11) revised; interim 34710
762.2 (b)(56) and (57) added; interim 96818
762.3 (a)(5) revised; interim 34710

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764.5 (a) and (b) through (f) revised; (g) added 75482
764.5 Correction: (a) and (c) through (f) revised; (g) added 83619
766 Supplement No. 1 revised 75485
770.2 (o) added; interim 18355
770.2 (o)(2)(i) revised; interim 96819
772 Notification 96095
772.1 Amended; interim 28602, 34710, 58274, 96819
772.1 Amended 72940
774 Notification 87783, 96095
774 Regulation at 89 FR 84777 Comment period extended 91251
774 Technical correction 94603
774 Supplement No. 1 (ECCN 6A003 and 6A203) revised; Supplement No. 1 (ECCN 6A293) added 13592
774 Supplement No. 1 (ECCN 4A001, 4A101, 5A001, 6A203, and 6A999) revised; interim 18356
774 Supplement No. 1 Category 0 (ECCN 0A501, 0A502, 0A504, 0A505, 0B501, 0D501, 0E501, 0E502, 0E504, and 0E505) revised; (ECCNs 0A506, 0A507, 0A508, and 0A509) added; interim 34710
774 Supplement No. 1 (ECCN 1C351) revised; interim 28602
774 Supplement No. 1 amended (ECCN 3A001, 3A090, 3B001, 3B991, 3D001, 3D002, 3E001, 4A003, 4A004, 4A005, 4A090, 4D001, 4E001, 5A002, 5A992, 5A004, 5D002, 5D992, 5E002, and 5E992) revised; interim 23886
774 Supplement No. 1 (ECCN 2B018) revised; interim 34710
774 Supplement No. 1 (ECCN 0A998, 1C992, 3A229, 3A231, 3A232, 6A991, 8A992, and 8D999) revised 51678

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774 Supplement No. 1 Category 2 (ECCN 2B910, 2D910, 2E903, and 2E910), Category 3 (ECCN 3A901, 3A904, 3B903, 3B904, 3C907, 3C908, 3C909, 3D901, and 3D907), Product Group E note, technical note, and Category 4 (ECCN 4D906 and 4E906) added; Category 2 (ECCN 2E003), Category 3 Product Group A Note 1, Note 2, Nota Bene, (ECCN 3A001, 3B001, 3C001, 3D001, 3D002, and 3E001), and Category 4 (ECCN 4D001 and 4E001) revised 72940
774 Supplement No. 1 (ECCN 9A515 and 9E515) revised; interim 84768
774 Supplement No. 1 (ECCN 9A004, 9A515, 9A604, 9D515, and 9E515) revised; interim 84777
774 Supplement No. 1 (ECCN 1B999, 2A992, 2B999, 3A392, 3A999, and 6A996) amended 93167
774 Supplement No. 1 (ECCN 3A090, 3B001, 3B002, 3B991, 3B992, 3D001, 3D002, and 3E001) revised; (ECCN 3B993, 3B994, 3D992, 3D993, and 3D994) added; interim 96819
774 Supplement No. 1 Category 1 (ECCN 1C350, 1C351, 1C353, 1C991, 1E001, and 1E351) and Category 2 (ECCN 2B351 and 2B352) amended 104412
774 Correction: Supplement No. 1 (ECCN 2B910 and 3C908) amended 105450
774 Supplement No. 6 amended; interim 23905
790—799 (Subchapter E) Added 58265
791 Redesignated from 7 and transferred to Subchapter E 58265
791 Nomenclature change; eff. 2-4-25 96892
791.1 (a)(1) revised; eff. 2-4-25 96892
791.2 Amended; eff. 2-4-25 96892
791.3 (a)(2), (4), and (b) revised; (c) removed; eff. 2-4-25 96893
791.4 (a)(1), (c) introductory text, (2), (3), and (d) revised; (d) amended; eff. 2-4-25 96893
791.100 (a) introductory text, (6) through (9), (c) introductory text, (d) introductory text, (5), and (e) revised; eff. 2-4-25 96893

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791.101 (a) and (b) revised; eff. 2-4-25 96894
791.102 (c) amended 58265
791.102 (b) introductory text and (4) through (6) revised; (b)(7) added; eff. 2-4-25 96894
791.103 (a), (b) introductory text, and (2) amended 58265
791.103 Revised; eff. 2-4-25 96894
791.104 Amended 58265
791.104 Revised; eff. 2-4-25 96895
791.105 (a) introductory text and (b) introductory text amended 58265
791.105 Revised; eff. 2-4-25 96895
791.106 Revised; eff. 2-4-25 96895
791.107 Introductory text, (d), and (f) amended 58265
791.107 Introductory text, (c), (e), and (f) revised; eff. 2-4-25 96895
791.108 (a), (b), and (d) amended 58265
791.108 Revised; eff. 2-4-25 96896
791.109 (b) amended 58265
791.109 Revised; eff. 2-4-25 96896
791.200 Revised; eff. 2-4-25 96896

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746 Authority citation revised 42320
746.1 (a)(3) revised 42320
746.9 Introductory text and Note removed; (b) and (c) revised 42320
748 Notification 3624
748 Authority citation revised 4562, 42322, 47193
748.3 (f) added; interim 4562
748.3 (c)(4) redesignated as (c)(5); new (c)(4) added; interim 5312
748.8 (aa) added; interim 47214
748.8 Regulation at 90 FR 47214 and stayed until 11-9-26 50857
748.12 Introductory text, (a), (1), (3), and (b) through (d) revised; (a)(2)(ii) removed 47193
748.15 Introductory text, (a)(1), (2), (b), (d)(2), and (f) revised; interim 4562
748.16 Added; interim 5312
748 Supplement No. 8 amended; interim 4564
748 Supplement No. 10 added; interim 4565

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748 Supplement No. 4 added; interim 5313
748 Supplement No. 7 amended 42322
748 Supplement No. 2 amended 47194
748 Supplement No. 2 amended; interim 4564, 47214
748 Regulation at 90 FR 47214 and stayed until 11-9-26 50857
750 Notification 3624
750 Authority citation revised 47194
750.4 (d)(2)(v) removed 47194
750.7 (g) introductory text revised; interim 4567
750.7 (g) introductory text revised 47194
758 Authority citation revised 47195
758.1 (b)(11) added; interim 4615
758.1 (g)(4)(ii) revised 47195
762 Notification 3624
762.2 (b)(58) through (60) added; interim 4567
762.2 (b)(61) and (62) added; interim 5313
772 Notification 3624
772 Authority citation revised 47195
772.1 Amended; interim 4567, 5313
772.1 Amended 47195
774 Notification 3624
774 Authority citation revised 47195
774 Supplement No. 1 (ECCN 3A069, 3A999, 3E001, 3E069) amended; interim 4615
774 Supplement No. 1 (ECCN 3A090, 3B001, 3B993, 3B994, 3D992, 3D993, 3D994, 3E992, 3E993, 3E994) amended; interim 5314
774 Supplement No. 1 (ECCN 3A001, 3A090, 3D001, 3E001, 4A003, 4A004, 4A005, 4A090, 4D001, 4D090, 4E001, 5A002, 5A992, 5A004, 5D002, 5D992, 5E002, 5E992) revised; (ECCN 4E091) added; interim 4567
774 Correction: Supplement No. 1 (ECCN 3A090) amended 9606
774 Supplement No. 1 Category 0 (ECCN 0A501, 0A502, 0A504, 0A505, 0A506, 0A507, 0A508, 0A509, 0D501, 0D505, 0E501, 0E502, 0E504, and 0E505) Revised 47195
774 CFR correction: Supplement No. 1 amended 56001

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791.3 Correction: (a) introductory text, (2), (4), and (b) revised; (c) removed 4624

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791.100 Correction: (a) introductory text, (6) through (8), (c) introductory text, (d) introductory text, (5), and (e) revised; (a)(9) added 4624

791.300—791.321 (Subpart D) Added 5414