

39-9372, and AD 95-20-51, amendment 39-9398.

(g) An alternative method of compliance or adjustment of the compliance time that provides an acceptable level of safety may be used if approved by the Manager, Seattle ACO. Operators shall submit their requests through an appropriate FAA Principal Maintenance Inspector, who may add comments and then send it to the Manager, Seattle ACO.

Note 4: Information concerning the existence of approved alternative methods of compliance with this AD, if any, may be obtained from the Seattle ACO.

(h) Special flight permits may be issued in accordance with sections 21.197 and 21.199 of the Federal Aviation Regulations (14 CFR 21.197 and 21.199) to operate the airplane to a location where the requirements of this AD can be accomplished.

(i) The inspections and follow-on actions shall be done in accordance with Boeing Alert Service Bulletin 767-32A0151, dated November 30, 1995. Certain replacements and repairs shall be done in accordance with Boeing Alert Service Bulletin 767-32A0148, dated December 21, 1995. This incorporation by reference was approved by the Director of the Federal Register in accordance with 5 U.S.C. 552(a) and 1 CFR part 51. Copies may be obtained from Boeing Commercial Airplane Group, P.O. Box 3707, Seattle, Washington 98124-2207. Copies may be inspected at the FAA, Transport Airplane Directorate, 1601 Lind Avenue, SW., Renton, Washington; or at the Office of the Federal Register, 800 North Capitol Street, NW., suite 700, Washington, DC.

(j) This amendment becomes effective on February 16, 1996.

Issued in Renton, Washington, on January 22, 1996.

Darrell M. Pederson,

*Acting Manager, Transport Airplane Directorate, Aircraft Certification Service.*

[FR Doc. 96-1568 Filed 1-31-96; 8:45 am]

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## DEPARTMENT OF COMMERCE

### Bureau of Export Administration

#### 15 CFR Parts 771 and 799

[Docket No. 960111006-6006-01]

RIN 0694-AB29

#### Revision to the Commerce Control List: Items Controlled for Nuclear Nonproliferation Reasons, Addition of Argentina, New Zealand, Poland, South Africa, and South Korea to GNSG Eligible Countries

**AGENCY:** Bureau of Export Administration, Commerce.

**ACTION:** Interim rule.

**SUMMARY:** The Bureau of Export Administration (BXA) maintains the Commerce Control List (CCL), which

identifies those items subject to the Export Administration Regulations. The items on the CCL that are subject to nuclear nonproliferation controls are referred to as the Nuclear Referral List (NRL). This interim rule amends a number of Export Control Classification Numbers (ECCNs) on the CCL in order to make the NRL conform more closely with the items contained in the Annex to the "Nuclear-Related Dual-Use Equipment, Materials, and Related Technology List" (the Annex) published by the International Atomic Energy Agency and adhered to by the United States and other subscribing governments in the Nuclear Suppliers Group.

In addition, this rule removes Poland from General License GNSG national security item country restrictions. In May 1994, Poland was moved from Country Group W to Country Group V to conform with changes in licensing policies for national security-based proscribed countries.

Lastly, this rule adds Argentina, New Zealand, South Africa and South Korea to the countries that are eligible to receive exports under General License GNSG, because they were admitted to the Nuclear Suppliers Group. The subscribing governments have agreed to establish export licensing procedures for the transfer of items identified on the Annex.

While some of the changes in this rule increase the validated license requirements for certain commodities and technology, the fact that other member countries of the Nuclear Suppliers Group have agreed to implement equivalent export licensing procedures for these items and the addition of GNSG eligible countries should limit the economic impact on U.S. exporters.

**DATES:** This rule is effective February 1, 1996. Comments must be received by March 4, 1996.

**ADDRESSES:** Written comments (six copies) should be sent to Sharron Cook, Department of Commerce, Bureau of Export Administration, Office of Exporter Services, Regulation Policy Division, P.O. Box 273, Washington, DC 20044.

**FOR FURTHER INFORMATION CONTACT:** For questions of a general nature, call Sharron Cook, Regulatory Policy Division, at (202) 482-2440.

For questions of a technical nature, the following persons in the Bureau of Export Administration are available:

Category 1: Jeff Tripp—(202) 482-4188  
Category 2: George Loh—(202) 482-3570  
Category 3: Robert Lerner—(202) 482-3710  
Category 4: Joseph Young—(202) 482-4197

Category 5: Dale Jensen—(202) 482-4188

Category 6: Joseph Chuchla—(202) 482-4188

Categories 7, 8 and 9: Steve Clagett—(202) 482-4188

#### SUPPLEMENTARY INFORMATION:

##### Background

This rule amends a number of entries on the Commerce Control List (CCL) by revising the items that are subject to nuclear non-proliferation controls, i.e., the Nuclear Referral List (NRL). As more fully described in § 778.2 of the EAR, NRL items are defined as those "that could be of significance for nuclear explosive purposes if used for activities other than those authorized at the time of export". The changes made by this rule are intended to revise the NRL to conform more closely with the items contained in the Annex to the "Nuclear-Related Dual-Use Equipment, Materials, and Related Technology List" (the Annex), as published by the International Atomic Energy Agency in INFCIRC/254/Part 2. The adherents to INFCIRC/254/Part 2, which include the Nuclear Suppliers Guidelines, have agreed to establish export licensing procedures for the transfer of items identified in the Annex.

In addition, this rule removes Poland from General License GNSG national security item country restrictions. There are some ECCNs that have both National Security (NS) and Nuclear Proliferation (NP) reasons for control. For these ECCNs, GNSG eligibility stated "Yes, except Bulgaria, Poland, Romania, or Russia", i.e., all NP items in that ECCN were eligible for General License GNSG to all GNSG eligible countries, except Bulgaria, Poland, Romania, or Russia. Although Poland is a NSG member, the more restrictive control, in this case NS, was applied. In May 1994, Poland was moved from Country Group W to Country Group V to conform with changes in licensing policies for proscribed countries. Therefore, NS reasons for control no longer apply to Poland and GNSG privileges now extend to all ECCNs that have both NS and NP controls for Poland.

Lastly, this rule will add Argentina, New Zealand, South Africa, and South Korea to the countries that are eligible to receive exports under General License GNSG, because they were admitted to the Nuclear Suppliers Group. General License GNSG permits certain items subject to nuclear nonproliferation controls to be exported under general license to a number of countries whose governments have subscribed to the Annex to the "Guidelines for Transfers of Nuclear-Related Dual-Use Equipment, Material,

and Related Technology” (the Annex) published by the International Atomic Energy Agency and adhered to by the United States and other subscribing governments. The subscribing governments have agreed to establish export licensing procedures for the transfer of items identified on the Annex.

#### Saving Clause

Shipments of items removed from general license authorizations as a result of this regulatory action that were on dock for loading, on lighter, laden aboard an exporting carrier, or en route aboard carrier to a port of export pursuant to actual orders for export before February 15, 1996 may be exported under the previous general license provisions up to and including February 29, 1996. Any such items not actually exported before midnight, February 29, 1996, require a validated export license in accordance with this regulation.

#### Summary of ECCNs Added and Revised by This Rule

The following listing is intended to serve as a guide to the revisions to the Commerce Control List contained in this rule. It is not a complete summary of all the CCL changes made by this rule. Specific questions concerning these changes should be answered by referring to the actual entries in the CCL.

I. The following ECCNs are amended to revise the items subject to nuclear nonproliferation controls (Unless specifically stated the scope of the ECCN is not revised):

- 1A46B Aluminum and titanium alloys in the form of tubes or solid forms; a clarification to scope of control of solid forms was added
- 1B16A Plants for the production of uranium hexafluoride (UF<sub>6</sub>) and specially designed or prepared equipment (including UF<sub>6</sub> purification equipment); Poland was added to GNSG eligibility
- 1B17 Electrolytic cells for the production of fluorine with a production capacity greater than 250 grams of fluorine per hour; Poland was added to GNSG eligibility
- 1B50B Furnaces; the ECCN title is expanded to include “(inert gas) induction” furnaces and clarifications are added that define which furnaces are controlled in paragraph (a)—result will be a decrease in scope of controls
- 1B51B Pressure sensing elements/measuring instruments; the entry was restructured to remove controls on differential pressure transducers and stainless steel was removed as a material of construction—result will be a decontrol in these areas
- 1B52B Water-hydrogen sulfide exchange tray columns; materials of construction is clarified
- 1B53B Hydrogen-cryogenic distillation columns; materials of construction is clarified
- 1B54B Ammonia synthesis converters; clarification is made to the entry and a technical note is removed
- 1B58B Facilities or plants for prod/recovery/extract/concentration/handling of tritium; the entry is reorganized for better clarity
- 1C10A “Fibrous and filamentary materials” that may be used in organic “matrix”, metallic “matrix” or carbon “matrix” “composite” structures or laminates; Poland is added to GNSG eligibility and GCT is corrected to state “Yes, except NP items”
- 1C19A Items on the International Atomic Energy List (e.g., zirconium, nickel powder, lithium, beryllium, wet-proofed platinized catalysts, hafnium); Poland is added to GNSG eligibility; the scope is narrowed by applying the hafnium content parameter to all entries of Zirconium in paragraph (a); in paragraph (b), pertaining to porous nickel metal, the exception is increased from 930 cm<sup>2</sup> to 1000 cm<sup>2</sup> per sheet and a technical note is revised; and in paragraph (d), an exception for bore-hole logging devices and Beryl (silicate of beryllium and aluminum) in the form of emeralds or aquamarines is added—the result of these changes will be a decrease in licensing requirements
- 1C50B Fibrous and filamentary materials not controlled by 1C10; an exception for certain aramid “fibrous or filamentary materials” is added—result will be a decrease in licenses; the controls on prepreps is clarified; and definitions are added to the technical note
- 1C54B Alpha-emitting radionuclides; minor clarifications are made to the entry
- 1C55B Helium isotopically enriched in the helium-3 isotope; the entry is restructured for clarification purposes
- 1C58B Radium-226; the entry is restructured for clarification purposes
- 1D01A “Software” specially designed or modified for the “development”, “production”, or “use” of equipment controlled by 1B01, 1B02, 1B03, 1B16, 1B17, or 1B18; Poland is added to GNSG eligibility
- 1E01A Technology according to the General Technology Note for the “development” or “production” of equipment or materials controlled by 1A01.b, 1A01.c, 1A02, 1A03, 1B01, 1B02, 1B03, 1B18, 1C01, 1C02, 1C03, 1C04, 1C05, 1C06, 1C07, 1C08, 1C09, 1C10, or 1C18; Poland is added to GNSG eligibility
- 1E19A Technology according to the General Technology Note for the “development”, “production”, or “use” of equipment or materials controlled by 1B16, 1B17, or 1C19; Poland is added to GNSG eligibility
- 1E41B Technology for items controlled by 1A44, 1A45, 1A46, 1A47, 1A50, 1B41, 1B42, 1B50, 1B51, 1B52, 1B53, 1B54, 1B58, 1B59, 1C48, 1C49, 1C50, 1C51, 1C52, 1C53, 1C54, 1C55, 1C56, 1C57, or 1C58; 1B55 and 1E57 are added to entry title to reflect new ECCNs
- 2A19A Commodities on the International Atomic Energy List (e.g., power generating and/or propulsion equipment, neutron generator systems, and valves for gaseous diffusion separation process); Poland is added to GNSG eligibility
- 2A48B Valves not controlled by 2A19.c that are made of or lined with aluminum, aluminum alloy, nickel, or alloy containing 60 percent or more nickel; revisions are made to the title and technical note for clarification purposes
- 2A50B Equipment related to nuclear material handling and processing and to nuclear reactors; in paragraph (c), a clarification is made to the parameters; in paragraph (e), the paragraph is restructured and a note added for clarification purposes
- 2A52B Vacuum pumps; the title is corrected, and a technical note added for clarification
- 2B01A “Numerical control” units, “motion control boards” specially designed for “numerical control” applications on machine tools, machine tools, and specially designed components therefor; Poland is added to GNSG eligibility and a note added to the Requirement section
- 2B06A Dimensional inspection or measuring systems or equipment; Poland is added to GNSG eligibility and a note added to the Requirement section
- 2B07A Robots, controllers, and end-effectors; Poland is added to GNSG eligibility
- 2B08A Assemblies, units or inserts for machine tools; NP controls have been removed because of NSG October 1995 agreement on machine tools
- 2B09A Specially designed printed circuit boards with mounted components and software therefor, or “compound rotary tables” or “tilting spindles”, capable of upgrading, according to the manufacturer’s specifications, “numerical control” units, machine tools or feed-back devices to or above the levels specified in ECCNs 2B01, 2B02, 2B03, 2B04, 2B05, 2B06, 2B07, and 2B08; NP controls have been removed because of NSG October 1995 agreement on machine tools
- 2B41B “Numerically controlled” machine tools not controlled by ECCN 2B01A; turning capacity parameter has been increased from 2m to 2.5m
- 2B50B Spin-forming and flow-forming machines; a new parameter and note are added to clarify the scope of control and the scope of GNSG eligibility is amended to reflect the clarifying revisions made to the list of items controlled
- 2D01A Software for equipment controlled by 2A01, 2A02, 2A03, 2A04, 2A05, 2A06, 2B01, 2B02, 2B03, 2B04, 2B05, 2B06, 2B07, 2B08, or 2B09; Poland is added to GNSG eligibility and GNSG eligibility is clarified to include revisions made by this rule
- 2D19A “Software” for the “development”, “production”, or “use” of equipment controlled by 2A19; Poland is added to GNSG eligibility
- 2D50B Software for the equipment controlled by 2A50B or 2B50B; GNSG eligibility is clarified
- 2E01A Technology according to the General Technology Note for the “development” of equipment or “software” controlled by 2A01, 2A02, 2A03, 2A04, 2A05, 2A06,

- 2B01, 2B02, 2B03, 2B04, 2B05, 2B06, 2B07, 2B08, 2B09, 2D01, or 2D02; Poland is added to GNSG eligibility
- 2E02A Technology according to the General Technology Note for the "production" of equipment controlled by 2A01, 2A02, 2A03, 2A04, 2A05, 2A06, 2B01, 2B02, 2B03, 2B04, 2B05, 2B06, 2B07, 2B08, or 2B09; Poland is added to GNSG eligibility
- 2E03A Other technology; Poland is added to GNSG eligibility
- 2E19A Technology for the "development", "production", or "use" of equipment controlled by 2A19; Poland is added to GNSG eligibility
- 2E50B Technology for the equipment controlled by 2A50B or 2B50B; the Reason for control is corrected to include MT controls; and NP and MT notes are added for clarification
- 3A01A Electronic devices and components; Poland is added to GNSG eligibility
- 3D01A "Software" specially designed for the "development" or "production" of equipment controlled by 3A01.b to 3A01.f, 3A02, and 3B01; Poland is added to GNSG eligibility
- 3E01A Technology according to the General Technology Note for the "development" or "production" of equipment or materials controlled by 3A01, 3A02, 3B01, 3C01, 3C02, 3C03, or 3C04; Poland is added to GNSG eligibility
- 6A03A Cameras; Poland is added to GNSG eligibility
- 6A05A "Lasers", components and optical equipment; Poland is added to GNSG eligibility
- 6A43B Cameras and components not controlled by 6A03—includes radiation-hardened television cameras; paragraphs (a) and (c) are restructured and a note added to paragraph (a) for clarification
- 6E01A Technology according to the General Technology Note for the "development" of equipment, materials or "software" controlled by 6A01, 6A02, 6A03, 6A04, 6A05, 6A06, 6A07, 6A08, 6B04, 6B05, 6B07, 6B08, 6C02, 6C04, 6C05, 6D01, 6D02, or 6D03; Poland is added to GNSG eligibility
- 6E02A Technology according to the General Technology Note for the "production" of equipment or materials controlled by 6A01, 6A02, 6A03, 6A04, 6A05, 6A06, 6A07, 6A08, 6B04, 6B05, 6B07, 6B08, 6C02, 6C04, or 6C05; Poland is added to GNSG eligibility
- 9B26B Other vibration test equipment; the reason for controls is corrected to add NP controls which was inadvertently omitted in a previous rule; NP controls are increased by adding all of paragraph (a) to the NP scope—the result will not be an increase in licensing, because these entries are already controlled for MT reasons; and a NP note is clarified

II. The following new ECCNs are added to control items listed in the Annex, but not previously controlled on the CCL:

- 1B55B Turboexpanders or turboexpander-compressor sets designed for operation below 35K and a throughput of hydrogen gas of 1000 kg/hr or greater

- 1B57B Lithium isotope separation facilities, plants and equipment.

III. Although Commerce will retain unilateral nuclear nonproliferation controls on the following items, the United States Government will continue to urge multilateral adoption of comparable controls. Please note that ECCNs 2A49E, 2A50B, 2D49E, and 2E49E are the only entries revised in this list.

- 1A48B Depleted uranium
- 2A49E The following items, previously requiring a validated license to Country Groups S&Z, South African military and police, and countries listed in Supplement No. 4 to Part 778, now only require a validated license to Country Groups S, Z and countries listed in Supplement No. 4 to Part 778: Generators, turbine generator sets, steam turbines, heat exchangers, and heat exchanger type condensers and process control systems therefor
- 2A50B Reactor and power plant simulators and analytical models for reactor and power plant simulators; in paragraph (c), clarification to parameters; in paragraph (e), restructured and note added for clarification
- 2A51B Piping, fittings, and valves made of, or lined with, stainless steel, copper-nickel alloy or other alloy steel containing 10% or more nickel and/or chromium
- 2A53B Pumps designed to move molten metals by electromagnetic forces
- 2D49E The following items, previously requiring a validated license to Country Groups S & Z, South African military and police, and countries listed in Supplement No. 4 to Part 778, now only require a validated license to Country Groups S, Z and countries listed in Supplement No. 4 to Part 778: Software for equipment controlled by 2A49E
- 2E49E The following items, previously requiring a validated license to Country Groups S & Z, South African military and police, and countries listed in Supplement No. 4 to Part 778, now only require a validated license to Country Groups S, Z and countries listed in Supplement No. 4 to Part 778: Technology for equipment controlled by 2A49E
- 4A01A Electronic computers that are radiation-hardened, specially designed for operation at extreme temperatures, or capable of performing functions exceeding the limits of the "information security" entries in Category 5 (NP controls apply to computers with a CTP of 500 Mtops or more to countries listed in Supplement No. 4 to Part 778)
- 4A02A Hybrid computers (NP controls apply to computers with a CTP of 500 Mtops or more to countries listed in Supplement No. 4 to Part 778)
- 4A03A Digital computers (NP controls apply to computers with a CTP of 500 Mtops or more to countries listed in Supplement No. 4 to Part 778)

Although the Export Administration Act (EAA) expired on August 20, 1994, the President invoked the International Emergency Economic Powers Act and

continued in effect, to the extent permitted by law, the provisions of the EAA and the EAR in Executive Order 12924 of August 19, 1994, and extended by a notice published in the Federal Register on August 15, 1995.

#### Rulemaking Requirements

1. This interim rule has been determined to be significant for the purposes of Executive Order 12866.

2. Notwithstanding any other provision of law, no person is required to respond to nor shall a person be subject to a penalty for failure to comply with a collection of information subject to the requirements of the Paperwork Reduction Act unless that collection of information displays a currently valid OMB Control Number. This rule involves collections of information subject to the Paperwork Reduction Act of 1980 (44 U.S.C. 3501 *et seq.*). These collections have been approved by the Office of Management and Budget under control numbers 0694-0005, and 0694-0010.

3. This rule does not contain policies with Federalism implications sufficient to warrant preparation of a Federalism assessment under Executive Order 12612.

4. The provisions of the Administrative Procedure Act, (5 U.S.C. 553), requiring notice of proposed rulemaking, the opportunity for public participation, and a delay in effective date, are inapplicable because this regulation involves a military or foreign affairs function of the United States. No other law requires that a notice of proposed rulemaking and an opportunity for public comment be given for this rule.

5. Because a notice of proposed rulemaking and an opportunity for public comment are not required to be given for this rule under 5 U.S.C. 553 or by any other law, under sections 3(a) and 4(a) of the Regulatory Flexibility Act (5 U.S.C. 603(a) and 604(a)) no initial or final Regulatory Flexibility Analysis has to be or will be prepared.

However, because of the importance of the issues raised by these regulations, this rule is issued in interim form and comments will be considered in the development of final regulations. Accordingly, the Department encourages interested persons who wish to comment to do so.

The period for submission of comments will close March 4, 1996. The Department will consider all comments received on or before the close of the comment period in developing final regulations. Comments received after the end of the comment period will be considered if possible, but their

consideration cannot be assured. The Department will not accept public comments accompanied by a request that a part or all of the material be treated confidentially because of its business proprietary nature or for any other reason. The Department will return such comments and materials to the person submitting the comments and will not consider them in the development of final regulations. All public comments on these regulations will be a matter of public record and will be available for public inspection and copying. In the interest of accuracy and completeness, the Department requests comments in written form.

Oral comments should be followed by written memoranda, which will also be a matter of public record and will be available for public review and copying. Communications from agencies of the United States Government or foreign governments will not be made available for public inspection.

The public record concerning these regulations will be maintained in the Bureau of Export Administration Freedom of Information Records Inspection Facility, Room 4525, Department of Commerce, 14th Street and Pennsylvania Avenue NW., Washington, DC 20230. Records in this facility, including written public comments and memoranda summarizing the substance of oral communications, may be inspected and copied in accordance with regulations published in Part 4 of Title 15 of the Code of Federal Regulations. Information about the inspection and copying of records at the facility may be obtained from Theodore Zois, Bureau of Export Administration Freedom of Information Officer, at the above address or by calling (202) 482-1525.

List of Subjects in 15 CFR Parts 771 and 799

Exports, Reporting and recordkeeping requirements.

Accordingly, Parts 771 and 799 of the Export Administration Regulations (15 CFR Parts 730-799) are amended as follows:

#### **PART 771—[AMENDED]**

1. The authority citation for 15 CFR Parts 771 and 799 continues to read as follows:

Authority: 50 U.S.C. App. 5, as amended; Pub. L. 264, 59 Stat. 619 (22 U.S.C. 287c), as amended; Pub. L. 90-351, 82 Stat. 197 (18 U.S.C. 2510 *et seq.*), as amended; sec. 101, Pub. L. 93-153, 87 Stat. 576 (30 U.S.C. 185), as amended; sec. 103, Pub. L. 94-163, 89 Stat. 877 (42 U.S.C. 6212), as amended; secs. 201 and 201(11)(e), Pub. L. 94-258, 90 Stat. 309 (10 U.S.C. 7420 and 7430(e)), as

amended; Pub. L. 95-223, 91 Stat. 1626 (50 U.S.C. 1701 *et seq.*); Pub. L. 95-242, 92 Stat. 120 (22 U.S.C. 3201 *et seq.* and 42 U.S.C. 2139a); sec. 208, Pub. L. 95-372, 92 Stat. 668 (43 U.S.C. 1354); Pub. L. 96-72, 93 Stat. 503 (50 U.S.C. App. 2401 *et seq.*), as amended; sec. 125, Pub. L. 99-64, 99 Stat. 156 (46 U.S.C. 466c); Pub. L. 102-484, 106 Stat. 2575 (22 U.S.C. 6004); E.O. 11912 of April 13, 1976 (41 FR 15825, April 15, 1976); E.O. 12002 of July 7, 1977 (42 FR 35623, July 7, 1977), as amended; E.O. 12058 of May 11, 1978 (43 FR 20947, May 16, 1978); E.O. 12214 of May 2, 1980 (45 FR 29783, May 6, 1980); E.O. 12851 of June 11, 1993 (58 FR 33181, June 15, 1993); E.O. 12867 of September 30, 1993 (58 FR 51747, October 4, 1993); E.O. 12918 of May 26, 1994 (59 FR 28205, May 31, 1994); E.O. 12924 of August 19, 1994 (59 FR 43437 of August 23, 1994); and E.O. 12938 of November 14, 1994 (59 FR 59099 of November 16, 1994); and Notice of August 15, 1995 (60 FR 42767).

2. In § 771.24 paragraphs (b) and (c) are revised to read as follows:

#### **§ 771.24 General License GNSG.**

(a) \* \* \*

(b) *Eligible countries.* The countries that are eligible to receive exports under this general license are Argentina, Australia, Austria, Belgium, Bulgaria, the Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Japan, Korea (Republic of), Luxembourg, the Netherlands, New Zealand, Norway, Poland, Portugal, Romania, Russia, the Slovak Republic, South Africa, Spain, Sweden, Switzerland, and the United Kingdom. Canada is also a member of the Nuclear Suppliers Group, but generally there is no license requirement for shipments to Canada (see § 770.3).

(c) *Eligible commodities, software, and technology.* The items that are eligible for export under this General License GNSG are indicated in the GNSG paragraph under the Requirements heading for each entry on the CCL that contains eligible items. Entries that contain no eligible items do not have a GNSG paragraph. General License GNSG may only be used for items controlled for nuclear proliferation reasons. Items that are subject to the missile technology controls described in § 778.7 are not eligible for General License GNSG. Items controlled for national security reasons (i.e., entries that end in the code letter "A") are not eligible for shipment under General License GNSG to Bulgaria, Romania, or Russia. All shipments under General License GNSG are subject to the prohibitions contained in § 771.2(c), except that the prohibitions in § 771.2(c)(2) do not apply to Russia for items controlled by

entries that do not end in the code letter "A".

\* \* \* \* \*

#### **PART 799—[AMENDED]**

##### *Supplement No. 1 to § 799.1 [Amended]*

The following amendments are made to Supplement No. 1 to § 799.1:

3. In Category 1 (Materials), ECCNs 1A46B, 1B50B and heading, 1B51B, 1B52B, 1B53B, 1B54B, 1B58B, 1C19A, 1C50B, 1C54B, 1C55B, 1C58B, and 1E41B and heading are revised, ECCNs 1B16A, 1B17A, 1C10A, 1D01A, 1E01A, 1E19A are amended by revising the requirements sections and new ECCNs 1B55B and 1B57B are added, as follows:

1A46B Aluminum and titanium alloys in the form of tubes or cylindrical solid forms (including forgings) with an outside diameter of more than 75 mm (3 inches).

#### **Requirements**

*Validated License Required:* QSTVWYZ.

*Unit:* \$ value.

*Reason for Control:* NP.

*GLV:* \$0.

*GCT:* No.

*GFW:* No.

*GNSG:* Yes.

#### **List of Items Controlled**

Alloys in the form of tubes or cylindrical solid forms (including forgings) with an outside diameter of more than 75 mm (3 inches), as follows:

- a. Aluminum alloys capable of an ultimate tensile strength of 460 MPa ( $0.46 \times 10^9 \text{ N/m}^2$ ) or more at 293 K (20° C);
- b. Titanium alloys capable of an ultimate tensile strength of 900 MPa ( $0.9 \times 10^9 \text{ N/m}^2$ ) (130,500 lbs./in<sup>2</sup>) or more at 293 K (20° C).

Technical Note: Alloys "capable of" a specified tensile strength include those having that strength at the time of export, as well as those capable of attaining that strength as a result of heat treatment.

1B16A Plants for the production of uranium hexafluoride (UF<sub>6</sub>) and specially designed or prepared equipment (including UF<sub>6</sub> purification equipment), and specially designed parts and accessories therefor.

#### **Requirements**

*Validated License Required:* QSTVWYZ.

*Unit:* \$ value.

*Reason for Control:* NS, NPP (items appear on International Atomic Energy List).

*GLV:* \$0.

GCT: No.  
 GFW: No.  
 GNSG: Yes, *except* Bulgaria, Romania, or Russia, for NP only (see *Note*).

Note: See 10 CFR Part 110 for nuclear plants subject to the export licensing authority of the Nuclear Regulatory Commission (i.e., fuel fabrication facilities, enrichment facilities, reprocessing facilities, and heavy water production facilities).

\* \* \* \* \*

1B17A Electrolytic cells for the production of fluorine with a production capacity greater than 250 grams of fluorine per hour, and specially designed parts and accessories therefor.

Requirements

*Validated License Required:*  
 QSTVWYZ.

Unit: \$ value.  
 Reason for Control: NS, NP.  
 GLV: \$0.  
 GCT: No.  
 GFW: No.  
 GNSG: Yes, *except* Bulgaria, Romania, or Russia.

\* \* \* \* \*

1B50B Vacuum or controlled environment (inert gas) induction furnaces.

Requirements

*Validated License Required:*  
 QSTVWYZ.

Unit: \$ value.  
 Reason for Control: NP.  
 GLV: \$0.  
 GCT: No.  
 GFW: No.  
 GNSG: Yes.

List of Items Controlled

a. Vacuum or controlled environment (inert gas) induction furnaces capable of operation above 850° C and having induction coils 600 mm (24 in.) or less in diameter, and designed for power inputs of 5kW or more; and power supplies specially designed therefor with a specified power output of 5 kW or more;

b. Vacuum and controlled atmosphere metallurgical melting and casting furnaces, as follows, and specially configured computer control and monitoring systems therefor:

b.1. Arc remelt and casting furnaces with consumable electrode capacities equal to or greater than 1,000 cm<sup>3</sup>, and less than or equal to 20,000 cm<sup>3</sup>, and capable of operating with melting temperatures above 1,700° C;

b.2. Electron beam melting and plasma atomization and melting furnaces with a power of 50 kW or greater and capable of operating with melting temperatures above 1,200° C.

Note: This ECCN does not control furnaces designed for semiconductor wafer manufacturing or processing (see ECCN 3B96).

1B51B Pressure transducers which are capable of measuring absolute pressure at any point in the range 0 to 13 kPa, with pressure sensing elements made of or protected by nickel, nickel alloys with more than 60% nickel by weight, aluminum or aluminum alloys as follows:

Requirements

*Validated License Required:*  
 QSTVWYZ.

Unit: \$ value.  
 Reason for Control: NP.  
 GLV: \$0.  
 GCT: No.  
 GFW: No.  
 GNSG: Yes.

List of Items Controlled

a. Transducers with a full scale of less than 13 kPa and an accuracy of better than ±1% of full scale;  
 b. Transducers with a full scale of 13 kPa or greater and an accuracy of better than ±130 Pa.

Technical Notes: 1. Pressure transducers are devices that convert pressure measurements into an electrical signal.  
 2. For the purposes of this entry, "accuracy" includes non-linearity, hysteresis and repeatability at ambient temperature.

1B52B Water-hydrogen sulfide exchange tray columns constructed from fine carbon steel with a diameter of 1.8 m (6 ft.) or greater, which can operate at a nominal pressure of 2 Mpa (300 psi) or greater, and internal contactors therefor.

Requirements

*Validated License Required:*  
 QSTVWYZ.

Unit: \$ value.  
 Reason for Control: NP.  
 GLV: \$0.  
 GCT: No.  
 GFW: No.  
 GNSG: Yes.

Note: This ECCN does not control columns specially designed or prepared for the production of heavy water. See 10 CFR Part 110 for heavy water production equipment subject to the export licensing authority of the Nuclear Regulatory Commission.

Technical Notes: 1. For columns which are especially designed or prepared for the production of heavy water, see INFCIRC/254/Part 1.

2. Internal contactors of the columns are segmented trays with an effective assembled diameter of 1.8 m (6 ft.) or greater, are designed to facilitate countercurrent contacting and constructed of materials resistant to corrosion by hydrogen sulfide/

water mixtures. These may be sieve trays, valve trays, bubble cap trays or turbogrid trays.

3. Fine carbon steel in this entry is defined to be steel with the austenitic ASTM (or equivalent standard) grain size number of 5 or greater.

4. Materials resistant to corrosion by hydrogen sulfide/water mixtures in this entry are defined to be stainless steels with a carbon content of 0.03% or less.

1B53B Hydrogen-cryogenic distillation columns.

Requirements

*Validated License Required:*  
 QSTVWYZ.

Unit: \$ value.  
 Reason for Control: NP.  
 GLV: \$0.  
 GCT: No.  
 GFW: No.  
 GNSG: Yes.

List of Items Controlled

Hydrogen-cryogenic distillation columns having all of the following characteristics:

a. Designed to operate at internal temperatures of -238° C (35 K) or less;  
 b. Designed to operate at 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 sulfur content or equivalent cryogenic and H<sub>2</sub>-compatible materials; and  
 d. With internal diameters of 1 m or greater and effective lengths of 5 m or greater.

Technical Note: Fine-grain stainless steels in this item are defined to be fine-grain austenitic stainless steels with an ASTM (or equivalent standard) grain size number of 5 or greater.

Note: See 10 CFR 110 for heavy water production equipment subject to the export licensing authority of the Nuclear Regulatory Commission.

1B54B Ammonia synthesis converters or synthesis units in which the synthesis gas (nitrogen and hydrogen) is withdrawn from an ammonia/hydrogen high-pressure exchange column and the synthesized ammonia is returned to said column.

Requirements

*Validated License Required:*  
 QSTVWYZ.

Unit: \$ value.  
 Reason for Control: NP.  
 GLV: \$0.  
 GCT: No.  
 GFW: No.  
 GNSG: Yes.

1B55B Turboexpanders or turboexpander-compressor sets designed for operation below 35K

and a throughput of hydrogen gas of 1000 kg/hr or greater.

#### Requirements

*Validated License Required:*

QSTVWYZ.

*Unit:* \$ value.

*Reason for Control:* NP.

*GLV:* \$0.

*GCT:* No.

*GFW:* No.

*GNSG:* Yes.

1B57B Lithium isotope separation facilities, plants and equipment.

#### Requirements

*Validated License Required:*

QSTVWYZ.

*Unit:* \$ value.

*Reason for Control:* NP.

*GLV:* \$0.

*GCT:* No.

*GFW:* No.

*GNSG:* Yes.

Lithium isotope separation facilities, plants and equipment, as follows:

- a. Facilities or plants for the separation of lithium isotopes;
- b. Equipment for the separation of lithium isotopes, 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.

1B58B Tritium facilities, plants and equipment, as follows:

#### Requirements

*Validated License Required:*

QSTVWYZ.

*Unit:* \$ value.

*Reason for Control:* NP.

*GLV:* \$0.

*GCT:* No.

*GFW:* No.

*GNSG:* Yes.

#### List of Items Controlled

- a. Facilities or plants for the production, recovery, extraction, concentration, or handling of tritium;
- b. Equipment for tritium facilities or plants, 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;
  - b.2. Hydrogen isotope storage and purification systems using metal hydrides as the storage, or purification medium.

Note: This ECCN 1B58B does not control tritium, tritium compounds, and mixtures

containing tritium, or products or devices thereof. Tritium is subject to the export licensing authority of the Nuclear Regulatory Commission.

1C10A “Fibrous and filamentary materials” that may be used in organic “matrix”, metallic “matrix” or carbon “matrix” “composite” structures or laminates.

#### Requirements

*Validated License Required:*

QSTVWYZ.

*Unit:* kilograms.

*Reason for Control:* NS, MP (see

*Note).*

*GLV:* \$1500, except \$0 for NP items (see *Note).*

*GCT:* Yes, except NP items (see *Note).*

*GFW:* No.

*GNSG:* Yes, except Bulgaria, Romania, or Russia, for NP only (see *Note).*

Notes: NP controls apply to 1C10.a (all aramid “fibrous and filamentary materials”), 1C10.b. (all carbon “fibrous and filamentary materials”), 1C10.c. (all glass “fibrous and filamentary materials”), and 1C10.e.1.

\* \* \* \* \*

1C19A Zirconium, nickel powder and porous nickel metal, lithium, beryllium metal, wet-proofed platinized catalysts, and hafnium.

#### Requirements

*Validated License Required:*

QSTVWYZ.

*Unit:* Kilograms.

*Reason for Control:* NS, NP (see

*Notes).*

*GLV:* \$0.

*GCT:* No.

*GFW:* No.

*GNSG:* Yes, except Bulgaria, Romania, or Russia, for NP only (see *Notes).*

Notes: 1. NP controls apply to entire entry, except shipments of zirconium foil or strip having a thickness not exceeding 0.10 mm.  
2. NS controls apply to entire entry, except for zirconium metal, alloys, or compounds in shipments of 5 kg or less and shipments of 200 kg or less of zirconium foil or strip having a thickness not exceeding 0.10 mm.

#### List of Items Controlled

- a. Zirconium, with a hafnium content of less than 1 part hafnium to 500 parts zirconium by weight, in the form of:
  - a.1. Zirconium metal;
  - a.2. Alloys containing more than 50% zirconium by weight;
  - a.3. Compounds;
  - a.4. Manufactures wholly of zirconium metal, alloys, or compounds described in 1C19.a.1, a.2, or a.3;
  - a.5. Waste and scrap from zirconium metal, alloys, compounds, or manufactures wholly thereof controlled by 1C19.a.1, a.2, a.3, or a.4.

Note 1: This ECCN 1C19 does not control zirconium in the form of foil having a thickness not exceeding 0.10 mm (0.004 in.).

Note 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).

b. Nickel powder and porous nickel metal, as follows:

- b.1. Powder with a nickel purity content of 99.0% or more and a mean particle size of less than 10 micrometers measured by the ASTM B 330 standard, except filamentary nickel powders;
- b.2. Porous nickel metal produced from materials controlled for export by 1C19.b.1, except single porous nickel metal sheets not exceeding 1000 cm<sup>2</sup>, per sheet.

Note: 1C19.b.2 controls porous nickel metal formed by compacting and sintering nickel powder, described in 1C19.b.1, to form a metal material with fine pores interconnected throughout the structure.

c. Lithium (isotopically enriched in lithium-6), as follows:

- c.1. Metal, hydrides, or alloys containing lithium enriched in the 6 isotope (<sup>6</sup>Li) to a concentration higher than the one existing in nature (7.5% on an atom percentage basis);
- c.2. Any other materials containing lithium enriched in the 6 isotope (including compounds, mixtures, and concentrates), except lithium enriched in the 6 isotope incorporated in thermoluminescent dosimeters.
- d. Beryllium, as follows:
  - d.1. Beryllium metal;
  - d.2. Alloys containing more than 50% beryllium by weight;
  - d.3. Beryllium compounds;
  - d.4. Manufactures of beryllium metal, alloys, or compounds described in 1C19.d.1, d.2, or d.3;
  - d.5. Waste and scrap from beryllium metal, alloys, compounds, or manufactures thereof described in 1C19.d.1, d.2, d.3, or d.4.

Note: 1C19.d does not control:

- 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; and
- c. Beryl (silicate of beryllium and aluminum) in the form of emeralds or aquamarines.

e. Wet-proofed 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 heavy water production.

f. Hafnium, as follows:

- f.1. Hafnium metal;
- f.2. Alloys and compounds of hafnium containing more than 60 percent hafnium by weight;

f.3. Manufactures of hafnium metal, alloys, or compounds described in f.1 or f.2.

1C50B "Fibrous or filamentary materials" not controlled by 1C10.

#### Requirements

*Validated License Required:*  
QSTVWYZ.

*Unit:* Kilograms.  
*Reason for Control:* NP, FP (see Note).  
*GLV:* \$0.  
*GCT:* No.  
*GFW:* No.  
*GNSG:* Yes.

Note: FP controls apply to Iran and Syria for the items described in 1C50.b.

#### List of Items Controlled

"Fibrous or filamentary materials" not controlled by 1C10, as follows:

- a. Carbon or aramid "fibrous and filamentary materials" having:
  - a.1. A "specific modulus" of  $12.7 \times 10^6$  m or greater; or
  - a.2. A "specific tensile strength" of  $23.5 \times 10^6$  m or greater;

Note: 1C50.a does not include 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:

- b.1. A "specific modulus" of  $3.18 \times 10^6$  m or greater; and
- b.2. A "specific tensile strength" of  $7.62 \times 10^4$  m or greater;

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" described in 1C50.a or .b;

Note: The resin forms the matrix of the composite.

d. Composite structures in the form of tubes with an inside diameter greater than 75 mm (3 in.), but less than 400 mm (16 in.), made with "fibrous or filamentary materials" described in 1C50.a or carbon prepreg materials described in 1C50.c.

Technical Note: 1. For the purpose of this entry, the term "fibrous or filamentary materials" means continuous monofilaments, strands, rovings, yarns, tows or tapes.

#### Definitions

*Filament or Monofilament* is the smallest increment of fiber, usually several  $\mu$ m 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 stands.

*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.

2. *Specific modulus* is the Young's modulus in N/m<sup>2</sup> divided by the specific weight in M/m<sup>3</sup>, measured at a temperature of 23±2° C and a relative humidity of 50±5 percent.

3. *Specific tensile strength* is the ultimate tensile strength in N/m<sup>2</sup> divided by specific weight in N/m<sup>3</sup>, measured at a temperature of 23±2° C and a relative humidity of 50±5 percent.

1C54B Alpha-emitting radionuclides having an alpha half-life of 10 days or greater but less than 200 years, compounds or mixtures containing any of these radionuclides with a total alpha activity of 1 curie per kilogram (37 GBq/kg) or greater, and products or devices containing any of the forgoing.

#### Requirements

*Validated License Required:*  
QSTVWYZ.

*Unit:* Millicuries.  
*Reason for Control:* NP.  
*GLV:* \$0.  
*GCT:* No.  
*GFW:* No.  
*GNSG:* Yes.

Technical Note: This ECCN does not control products or devices containing less than 3.7 GBq (100 millicuries) of alpha activity.

Note: See 10 CFR Part 110 for alpha-emitting radionuclides subject to the export licensing authority of the Nuclear Regulatory Commission.

1C55B Helium-3 or helium isotopically enriched in the helium-3 isotope, mixtures containing helium-3, and products or devices containing any of the foregoing.

#### Requirements

*Validated License Required:*  
QSTVWYZ.

*Unit:* Liters.  
*Reason for Control:* NP.  
*GLV:* \$0.  
*GCT:* No.  
*GFW:* No.  
*GNSG:* Yes.

Note: 1C55 does not control a product or device containing less than 1g of helium-3.

1C58B Radium-226, radium-226 compounds, or mixtures containing radium-226, and products or devices containing any of the foregoing.

#### Requirements

*Validated License Required:*  
QSTVWYZ.  
*Unit:* \$ value.

*Reason for Control:* NP.

*GLV:* \$0.  
*GCT:* No.  
*GFW:* No.  
*GNSG:* Yes.

Technical Note: This ECCN does not control radium contained in medical applicators, or a product or device containing not more than 0.37 GBq (10 millicuries) of radium-226 in any form.

1D01A "Software" specially designed or modified for the "development", "production", or "use" of equipment controlled by 1B01, 1B02, 1B03, 1B16, 1B17, or 1B18.

#### Requirements

*Validated License Required:*  
QSTVWYZ.

*Unit:* \$ value.  
*Reason for Control:* NS, MT, NP (see Notes).  
*GTDR:* Yes, except MT and NP (see Notes).

*GTDU:* No.  
*GNSG:* Yes, except Bulgaria, Romania, or Russia, for NP only (see Notes).

Notes: 1. MT controls apply to software for the "development", "production", or "use" of equipment controlled by 1B01 (except 1B01.d.4 and 1B01.f) and 1B18.a.

2. NP controls apply to software for the "development", "production", or "use" of filament winding machines described in 1B01.a that are capable of winding cylindrical rotors with diameters between 75 mm (3 in.) and 400 mm (16 in.) and lengths of 600 mm (24 in.) or greater.

\* \* \* \* \*

1E01A Technology according to the General Technology Note for the "development" or "production" of equipment or materials controlled by 1A01.b, 1A01.c, 1A02, 1A03, 1B01, 1B02, 1B03, 1B18, 1C01, 1C02, 1C03, 1C04, 1C05, 1C06, 1C07, 1C08, 1C09, 1C10, 1C18 or 1C50.

#### Requirements

*Validated License Required:*  
QSTVWYZ.

*Reason for Control:* NS, NP, MT, FP (see Notes).  
*GTDR:* Yes, except NP, MT, and FP (see Notes).

*GTDU:* No.  
*GNSG:* Yes, except Bulgaria, Romania, or Russia, for NP only (see Notes).

Notes: 1. NP controls apply to exports to all destinations of technology for the "development" or "production" of the following:

a. Filament winding machines controlled by 1B01.a that are capable of winding cylindrical rotors having a diameter between 3 inches and 16 inches and a length of 24 inches or greater;

b. "Fibrous or filamentary materials" controlled by 1C10 or 1C50.



2. MT controls apply to technology for items controlled for missile technology reasons by 1A02 or 1B01 (except 1B01.d.4 and f).

3. FP controls apply to all technology described in this entry for Iran and Syria.

Related ECCNs: See 1E40B for NP controls on technology for the "use" of filament winding machines controlled by 1B01A.a.

\* \* \* \* \*

1E19A Technology according to the General Technology Note for the "development", "production", or "use" of equipment or materials controlled by 1B16, 1B17, or 1C19.

**Requirements**

*Validated License Required:*

QSTVWYZ.

*Reason for Control:* NS, NP (see Note).

*GTDR:* No.

*GTDU:* No.

*GNSG:* Yes, except Bulgaria, Romania, or Russia, for NP only (see Note).

Note: NP controls apply to technology for the "development", "production", or "use" of plants controlled by 1B16, equipment controlled by 1B17, or materials controlled by 1C19.

\* \* \* \* \*

1E41B Technology for the "development", "production", or "use" of items controlled by 1A44B, 1A45B, 1A46B, 1A47B, 1A48B, 1A50B, 1B41B, 1B42B, 1B50B, 1B51B, 1B52B, 1B53B, 1B54B, 1B55B, 1B57B, 1B58B, 1B59B, 1C49B, 1C50B, 1C51B, 1C52B, 1C53B, 1C54B, 1C55B, 1C56B, 1C57B, or 1C58B or for the "use" of items controlled by 1C10.

**Requirements**

*Validated License Required:* QSTVWYZ.

*Reason for Control:* NP, FP (see Note).

*GTDR:* No.

*GTDU:* No.

*GNSG:* Yes.

Note: FP controls apply to Iran and Syria for technology for the "development", "production", or "use" of glass "fibrous and filamentary materials" controlled by 1C50.b.

4. In Category 2 (Materials Processing), ECCNs 2A48B and heading, 2A49E, 2A50B, 2A52B and heading, 2B01A, 2B08A, 2B41B, 2B50B, 2D01A, 2D49E, 2D50B, 2E49E, and 2E50B are revised, and ECCNs 2A19A, 2B06A, 2B07A, 2B09A, 2D19A, 2E01A, 2E02A, 2E03A, and 2E19A are amended by revising the Requirements sections as follows:

2A19A Commodities on the International Atomic Energy List (e.g., power generating and/or propulsion equipment, neutron generator systems, and valves for

gaseous diffusion separation process).

**Requirements**

*Validated License Required:*

QSTVWYZ.

*Unit:* Number; \$ value for parts and accessories.

*Reason for Control:* NS and NP (see Note).

*GLV:* \$0.

*GCT:* No.

*GFW:* No.

*GNSG:* Yes for 2A19.b and c, except to Bulgaria, Romania, or Russia.

Note: NP controls apply to items described in 2A19.b or c.

\* \* \* \* \*

2A48B Valves not controlled by 2A19.c that are 5 mm (0.2 in.) or greater in nominal size, with a bellows seal, wholly made of or lined with aluminum, aluminum alloy, nickel, or alloy containing 60 percent or more nickel, either manually or automatically operated.

**Requirements**

*Validated License Required:*

QSTVWYZ.

*Unit:* \$ value.

*Reason for Control:* NP.

*GLV:* \$0.

*GCT:* No.

*GFW:* No.

*GNSG:* Yes.

Technical Note: For valves with different inlet and outlet diameter, the nominal size parameter above refers to the smallest diameter.

Note: See 10 CFR Part 110 for valves subject to the export licensing authority of the Nuclear Regulatory Commission.

2A49E Generators and other equipment specially designed, prepared, or intended for use with nuclear plants.

**Requirements**

*Validated License Required:* SZ, and countries listed in Supplement No. 4 to Part 778.

*Unit:* \$ value.

*Reason for Control:* NP.

*GLV:* \$0.

*GCT:* No.

*GFW:* No.

**List of Items Controlled**

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 2A49.a.

Note: See 10 CFR Part 110 for nuclear equipment subject to the export licensing

authority of the Nuclear Regulatory Commission.

2A50B Equipment related to nuclear material handling and processing and to nuclear reactors.

**Requirements**

*Validated License Required:*

QSTVWYZ.

*Unit:* \$ value.

*Reason for Control:* NP.

*GLV:* \$0.

*GCT:* No.

*GFW:* No.

*GNSG:* Yes.

**List of Items Controlled**

a. Reactor and power plant simulators and analytical models for reactor and power plant simulators, models or mock-ups;

b. Process control systems, except those controlled by 2A49.b, intended for use with nuclear reactors;

c. High density (lead glass or other) radiation shielding windows greater than 0.09 m<sup>2</sup> on cold area and with a density greater than 3 g/cm<sup>3</sup> and a thickness of 100 mm or greater; and specially designed frames therefor;

d. Casks that are specially designed for transportation of high level radioactive material and that weigh more than 1,000 kg;

e. Remote manipulators that can be used to provide remote actions in radiochemical separation operations and "hot cells", as follows:

1. Having a capability of penetrating 0.6 m or more (2 ft. or more) of hot cell wall ('through-the-wall' operation); or

2. Having a capability of bridging over the top of a hot cell wall with a thickness of 0.6 m or more (2 ft. or more) ('over-the-wall' operation).

Note: Remote manipulators provide translation of human operator actions to a remote operating arm and terminal fixture.

They may be of a 'master/slave' type or operated by joystick or keypad.

f. Commodities, parts and accessories specially designed or prepared for use with nuclear plants (e.g., snubbers, airlocks, reactor and fuel inspection equipment), except items licensed by the Nuclear Regulatory Commission pursuant to 10 CFR, part 110.

Note: See 10 CFR part 110 for nuclear equipment subject to the export licensing authority of the Nuclear Regulatory Commission.

2A52B Vacuum pumps with an input throat size of 38 cm (15 in.) or greater with a pumping speed of 15,000 liters/second or greater and capable of producing an ultimate vacuum better than 10<sup>-4</sup> Torr (1.33 × 10<sup>-4</sup> mbar).



## Requirements

*Validated License Required:*

QSTVWYZ.

*Unit:* \$ value.*Reason for Control:* NP.*GLV:* \$0.*GCT:* No.*GFW:* No.*GNSG:* Yes.

Technical Notes: 1. The ultimate vacuum is determined at the input of the pump with the input of the pump blocked off.

2. The pumping speed is determined at the measurement point with nitrogen gas or air.

Note: See 10 CFR part 110 for vacuum pumps for gaseous diffusion separation process subject to the export licensing authority of the Nuclear Regulatory Commission.

2B01A "Numerical control" units, specially designed "motion control boards" for "numerical control" applications on machine tools, "numerically controlled" machine tools and specially designed components therefor.

## Requirements

*Validated License Required:*

QSTVWYZ.

*Unit:* Number; \$ value for parts and accessories.

*Reason for Control:* NS and NP (See Note).

*GLV:* \$0.*GCT:* No.*GFW:* No.

*GNSG:* Yes, *except* Bulgaria, Romania, or Russia.

Note: NP controls apply to entire entry except 2B01.a and .b unless controlled software in 2D01 or 2D02.b resides there in, 2B01.c.1.b.1 (turning machines only), c.1.b.2, c.1.b.3, c.1.b.4, c.1.b.5.a, c.2 and c.4, milling machines with greater than 2 meters travel and worse than 30 micron accuracy, or crankshaft and camshaft grinding machines.

## List of Items Controlled

Technical Notes: 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.

Note: 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. Axis nomenclature shall be in accordance with International Standard ISO 841, 'Numerical Control Machines—Axis and Motion Nomenclature'.

a. "Numerical control" units for machine tools, as follows, and specially designed components therefor:

a.1. Having more than four interpolating axes that can be coordinated simultaneously for "contouring control"; or

a.2. Having two, three or four interpolating axes that can be

coordinated simultaneously for "contouring control" and one or more of the following:

a.2.a. Capable of "real-time processing" of data to modify the tool path during the machining by 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;

a.2.b. Capable of receiving directly (on-line) and processing computer-aided-design (CAD) data for internal preparation of machine instructions; or

a.2.c. Capable, without modification, according to the manufacturer's technical specifications, of accepting additional boards that would permit increasing the number of interpolating axes that can be coordinated simultaneously for "contouring control", above the control levels specified in 2B01, even if they do not contain these additional boards;

b. "Motion control boards" specially designed for machine tools and having any of the following characteristics:

b.1. Providing interpolation in more than four axes;

b.2. Capable of "real time processing" as described in 2B01.a.2.a; or

b.3. Capable of receiving and processing CAD data as described in 2B01.a.2.b;

Note: 2B01.a does not control "numerical control" units and "motion control boards" if:

a. Modified for and incorporated in uncontrolled machines; or

b. Specially designed for uncontrolled machines.

c. Machine tools, as follows, for removing or cutting metals, ceramics or composites, which, according to the manufacturer's technical specifications, can be equipped with electronic devices for simultaneous "contouring control" in two or more axes:

Technical Note: a. The c-axis on jig grinders used to maintain grinding wheels normal to the work surface is not considered a contouring rotary axis.

b. Not counted in the total number of contouring axes are secondary parallel contouring axes, e.g., a secondary rotary axis, the center line of which is parallel to the primary rotary axis.

c. Axis nomenclature shall be in accordance with International Standard ISO 841, "Numerical control Machines Axis and Motion Nomenclature."

d. Rotary axes do not necessarily have to rotate over 360°. A rotary axis can be driven by a linear device, e.g., a screw or a rack-and-pinion.

c.1. Machine tools for turning, grinding, milling or any combination thereof that:

c.1.a. Have two or more axes that can be coordinated simultaneously for "contouring control"; and

c.1.b. Have any of the following characteristics:

c.1.b.1. Two or more contouring rotary axes;

c.1.b.2. One or more contouring "tilting spindles";

Note: 2B01.c.1.b.2 applies to machine tools for grinding or milling only.

c.1.b.3. "Camming" (axial displacement) in one revolution of the spindle less (better) than 0.0006 mm total indicator reading (TIR);

Note: 2B01.c.1.b.3 applies to machine tools for turning only.

c.1.b.4. "Run out" (out-of-true running) in one revolution of the spindle less (better) than 0.0006 mm total indicator reading (TIR);

c.1.b.5. The "positioning accuracies", with all compensations available, are less (better) than:

c.1.b.5.a. 0.001° on any rotary axis; or

c.1.b.5.b.1. 0.004 mm along any linear axis (overall positioning) for grinding machines;

c.1.b.5.b.2. 0.006 mm along any linear axis (overall positioning) for milling or turning machines; or

Note: 2B01.c.1.b.5.b.2 does not control milling or turning machine tools with a positioning accuracy along one linear axis, with all compensations available, equal to or greater (worse) than 0.005 mm.

Technical Note: The positioning accuracy of "numerically controlled" machine tools is to be determined and presented in accordance with ISO/DIS 230/2, paragraph 2.13, in conjunction with the requirements below:

a. Test conditions (paragraph 3):

1. For 12 hours before and during measurements, the machine tool and accuracy measuring equipment will be kept at the same ambient temperature. During the premeasurement time, the slides of the machine will be continuously cycled identically to the way they will be cycled during the accuracy measurements;

2. The machine shall be equipped with any mechanical, electronic, or software compensation to be exported with the machine;

3. Accuracy of measuring equipment for the measurements shall be at least four times more accurate than the expected machine tool accuracy;

4. Power supply for slide drives shall be as follows:

a. Line voltage variation shall not be greater than ±10% of nominal rated voltage;

b. Frequency variation shall not be greater than ±2 Hz of normal frequency;

c. Lineouts or interrupted service are not permitted.

b. Test program (paragraph 4):

1. Feed rate (velocity of slides) during measurement shall be the rapid traverse rate;

Note: In the case of machine tools that generate optical quality surfaces, the feed rate shall be equal to or less than 50 mm per minute.

2. Measurements shall be made in an incremental manner from one limit of the axis travel to the other without returning to the starting position for each move to the target position;

3. Axes not being measured shall be retained at mid travel during test of an axis.

c. Presentation of test results (paragraph 2): The results of the measurement must include:

1. "Positioning accuracy" (A); and
2. The mean reversal error (B).

Note 1: 2B01.c.1 does not control cylindrical external, internal, and external-internal grinding machines having all of the following characteristics:

- a. Not centerless (shoe-type) grinding machines;
- b. Limited to cylindrical grinding;
- c. A maximum workpiece outside diameter or length of 150 mm;
- d. Only two axes which can be coordinated simultaneously for "contouring control"; and
- e. No contouring c axis.

Note 2: 2B01.c.1 does not control machines designed specifically as jig grinders having both of the following characteristics:

- a. Axes limited to x, y, c and a, where the c-axis is used to maintain the grinding wheel normal to the work surface and the a-axis is configured to grind barrel cams; and
- b. A spindle "run out" not less (not better) than 0.0006 mm.

Note 3: 2B01.c.1 does not control tool or cutter grinding machines having all of the following characteristics:

- a. Shipped as a complete system with "software" specially designed for the production of tools or cutters;
- b. No more than two rotary axes that can be coordinated simultaneously for "contouring control";
- c. "Run out" (out-of-true running) in one revolution of the spindle not less (not better) than 0.0006 mm total indicator reading (TIR); and
- d. The "positioning accuracies", with all compensations available, are not less (not better) than:

1. 0.004 mm along any linear axis for overall positioning; or
2. 0.001° on any rotary axis.

c.2. Electrical discharge machines (EDM):

c.2.a. Of the wire feed type that have five or more axes that can be coordinated simultaneously for "contouring control";

c.2.b. Non-wire EDMs that have two or more contouring rotary axes and that can be coordinated simultaneously for "contouring control";

c.3. Other machine tools for removing metals, ceramics or composites:

- c.3.a. By means of:
  - c.3.a.1. Water or other liquid jets, including those employing abrasive additives;
  - c.3.a.2. Electron beam; or
  - c.3.a.3. "Laser" beam; and

c.3.b. Having two or more rotary axes that:

c.3.b.1. Can be coordinated simultaneously for "contouring control"; and

c.3.b.2. Have a "positioning accuracy" of less (better) than 0.003°; 2B06A Dimensional inspection or measuring systems or equipment.

Requirements

*Validated License Required:* QSTVWYZ.

*Unit:* Number.

*Reason for Control:* NS and NP (see Note).

*GLV:* \$0.

*GCT:* Yes, for 2B06.d only.

*GFW:* No.

*GNSG:* Yes for 2B06.a, b, and c, except Bulgaria, Romania, or Russia.

Note: NP controls apply to items described in 2B06.a, b or c.

\* \* \* \* \*

2B07A "Robots" or "end-effectors" and specially designed controllers therefor.

Requirements

*Validated License Required:* QSTVWYZ.

*Unit:* \$ value.

*Reason for Control:* NS and NP (see Note).

*GLV:* \$5,000, except for \$0 for NP (see Note).

*GCT:* Yes, except NP (see Note).

*GFW:* No.

*GNSG:* Yes, except Bulgaria, Romania, or Russia, for NP only (see Note)

Note: NP controls apply to 2B07.b robots, to specially designed or rated as radiation hardened robots to withstand greater than  $5 \times 10^4$  grays (Silicon) ( $5 \times 10^6$  rad (Silicon)) without operational degradation, and to specially designed controllers and "end-effectors" therefor.

\* \* \* \* \*

2B08A Assemblies, units or inserts specially designed for machine tools, or for equipment controlled by 2B06 or 2B07.

Requirements

*Validated License Required:* QSTVWYZ.

*Unit:* \$ value.

*Reason for Control:* NS.

*GLV:* \$0.

*GCT:* No.

*GFW:* No.

List of Items Controlled

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. Linear position feedback units, e.g., inductive type devices, graduated scales, infrared systems or "laser" systems, having with compensation an overall "accuracy" less (better) than  $(800 + (600 \times L \times 10^{-3}))$ nm (L equals the effective length in millimeters of the linear measurement);

c. Rotary position feedback units, e.g., inductive-type devices, graduated scales, "laser", or infrared systems, having with compensation an "accuracy" less (better) than 0.00025° of arc;

d. Slide way assemblies consisting of a minimal assembly of ways, bed and slide having all of the following characteristics:

- d.1. A yaw, pitch or roll of less (better) than 2 seconds of arc total indicator reading (reference: ISO/DIS 230-1) over full travel;
- d.2. A horizontal straightness of less (better) than 2 micrometer per 300 mm length; and
- d.3. A vertical straightness of less (better) than 2 micrometer over full travel per 300 mm length;

e. Single point diamond cutting tool inserts, having all of the following characteristics:

- e.1. Flawless and chip-free cutting edge when magnified 400 times in any direction;
- e.2. Cutting radius out-of-roundness less (better) than 0.002 mm total indicator reading (TIR) (also peak-to-peak); and
- e.3. Cutting radius from 0.1 to 5 mm inclusive;

Note: This ECCN 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.

2B09A Specially designed printed circuit boards with mounted components and software therefor, or "compound rotary tables" or "tilting spindles", capable of upgrading, according to the manufacturer's specifications, "numerical control" units, machine tools or feed-back devices to or above the levels specified in ECCNs 2B01, 2B02, 2B03, 2B04, 2B05, 2B06, 2B07, and 2B08.

Requirements

*Validated License Required:* QSTVWYZ.

*Unit:* \$ value.

*Reason for Control:* NS.

*GLV:* \$0.

*GCT:* No.

*GFW:* No.

\* \* \* \* \*

2B41B "Numerically controlled" machine tools not controlled by ECCN 2B01A.

#### Requirements

*Validated License Required:* QSTVWYZ.

*Unit:* Number; \$ value for parts and accessories.

*Reason for Control:* NP.

*GLV:* \$0.

*GCT:* No.

*GFW:* No.

*GNSG:* Yes.

#### List of Items Controlled

Numerically controlled machine tools for vertical or horizontal turning, milling, or boring that, according to the manufacturer's technical specifications, can be equipped with "numerical control" units controlled for export under ECCN 2B01A (even if not equipped with such units at the time of delivery) and that have:

a. Turning machines or combination turning/milling machines which are capable of machining diameters greater than 2.5 m.

2B50B Flow forming machines and spin forming machines capable of flow forming functions, and mandrels.

#### Requirements

*Validated License Required:* QSTVWYZ.

*Unit:* Number; \$ value for parts and accessories.

*Reason for Control:* NP, MT (see Notes).

*GLV:* \$0.

*GCT:* No.

*GFW:* No.

*GNSG:* Yes, for 2B50.a and .b only.

Notes: 1. MT controls apply to items described by 2B50.a.2, except those that are not usable in the production of propulsion components and equipments (e.g., motor cases) for "missile" systems.

2. NP controls apply to items described by 2B50.a.1 and .b.

#### List of Items Controlled

a. Spin-forming and flow-forming machines, and specially designed components therefor, that according to the manufacturer's technical specifications, can be equipped with "numerical control" units or a computer control; *and*

1. Have three or more rollers (active or guiding); *and*

Note: This entry includes machines which have only a single roller designed to deform metal plus two auxiliary rollers which support the mandrel, but do not participate directly in the deformation process.

2. Have two or more axes that can be coordinated simultaneously for "contouring control".

b. Rotor-forming mandrels designed to form cylindrical rotors of inside diameter between 75 mm (3 in.) and 400 mm (16 in.).

Note: The only spin-forming machines controlled by this ECCN 2B50B are those capable of flow forming functions.

2D01A "Software" specially designed or modified for the "development", "production" or "use" of equipment controlled by 2A01, 2A02, 2A03, 2A04, 2A05, 2A06, 2B01, 2B02, 2B03, 2B04, 2B05, 2B06, 2B07, 2B08, or 2B09.

#### Requirements

*Validated License Required:* QSTVWYZ.

*Unit:* \$ value.

*Reason for Control:* NS, MT, and NP (see Notes).

*GTDR:* Yes, except MT and NP (see Notes).

*GTDU:* No.

*GNSG:* Yes for software for 2B01, 2B06.a, .b, and .c, and 2B07.b and .c, (see Notes), *except* to Bulgaria, Romania, or Russia. "Software" (including documentation) for "numerical control" units must be:

a. In machine executable form only; *and*

b. Limited to the minimum necessary for the use (i.e., installation, operation, and maintenance) of the units.

Notes: 1. MT controls apply to "software" specially designed or modified for the "development", "production", or "use" of equipment described in 2B04.

2. NP controls apply to "software" described in this ECCN for the "development", "production", or "use" of equipment described in ECCNs 2B01, 2B04, 2B06.a, .b, and .c, and 2B07.b and .c. Specially designed "software" for the systems described in 2B06.c includes "software" for simultaneous measurements of wall thickness and contour.

2D19A "Software" for the "development", "production", or "use" of equipment controlled by 2A19.

#### Requirements

*Validated License Required:* QSTVWYZ.

*Unit:* \$ value.

*Reason for Control:* NS, NP (see Note).

*GTDR:* No.

*GTDU:* No.

*GNSG:* Yes, *except* Bulgaria, Romania, or Russia, for NP only (see Note)

Note: NP controls apply to Country Groups QSTVWYZ for "software" for the "development", "production", or "use" of

neutron generator systems and valves described in 2A19.b and c, respectively.

\* \* \* \* \*

2D49E "Software" specially designed or modified for the "development", "production" or "use" of equipment controlled by 2A49E.

#### Requirements

*Validated License Required:* SZ, and countries listed in Supp. No. 4 to Part 778.

*Unit:* \$ value.

*Reason for Control:* NP.

*GTDR:* No.

*GTDU:* Yes, except destinations listed under *Validated License Required:*

2D50B "Software" specially designed or modified for the "development", "production" or "use" of equipment controlled by 2A50 or 2B50.

#### Requirements

*Validated License Required:* QSTVWYZ.

*Unit:* \$ value.

*Reason for Control:* NP, MT (see Notes).

*GTDR:* No.

*GTDU:* No

*GNSG:* Yes, for NP only (see Note).

Note: 1. NP controls apply to "software" specially designed or modified for the "development", "production" or "use" of items controlled by 2A50 and 2B50.a and .b.

2. MT controls apply to "software" specially designed or modified for the "development", "production" or "use" of items controlled by 2B50.a, except those that are not usable in the production of propulsion components and equipments (e.g., motor cases) for "missile" systems.

2E01A Technology according to the General Technology Note for the "development" of equipment or "software" controlled by 2A01, 2A02, 2A03, 2A04, 2A05, 2A06, 2B01, 2B02, 2B03, 2B04, 2B05, 2B06, 2B07, 2B08, 2B09, 2D01, or 2D02.

#### Requirements

*Validated License Required:* QSTVWYZ.

*Reason for Control:* NS, MT, NP (see Notes).

*GTDR:* Yes, except MT and NP (see Notes).

*GTDU:* No.

*GNSG:* Yes for NP, *except* technology for 2B04 (see Notes) and *except* Bulgaria, Romania, or Russia.

Notes: 1. MT controls apply to technology for the "development" of commodities controlled by 2B04.

2. NP controls apply to technology for the "development" of commodities controlled by 2B01, 2B04, 2B06.a, .b, and .c, and 2B07.b

and .c, and technology for the "development" of "software" controlled by 2D01 for NP reasons.

Related ECCNs: See 2E40B for NP controls on technology for the "use" of equipment controlled by 2B04, 2B06.a, b, or c, or 2B07.b.

\* \* \* \* \*

2E02A Technology according to the General Technology Note for the "production" of equipment controlled by 2A01, 2A02, 2A03, 2A04, 2A05, 2A06, 2B01, 2B02, 2B03, 2B04, 2B05, 2B06, 2B07, 2B08, or 2B09.

**Requirements**

*Validated License Required:* QSTVWYZ.

*Reason for Control:* NS, MT, NP (see Notes).

*GTDR:* Yes, except MT and NP (see Notes).

*GTDU:* No.

*GNSG:* Yes for NP, except technology for 2B04 (see Notes) and except Bulgaria, Romania, or Russia.

Notes: 1. MT controls apply to technology for the "production" of commodities controlled by 2B04.

2. NP controls apply to technology for the "production" of commodities controlled by 2B01, 2B04, 2B06.a, .b, and .c, and 2B07 .b and .c.

Related ECCNs: See 2E40B for NP controls on technology for the "use" of equipment controlled by 2B04, 2B06.a, b, or c, or 2B07.b.

\* \* \* \* \*

2E03A Other technology.

**Requirements**

*Validated License Required:* QSTVWYZ.

*Reason for Control:* NS, NP (see Note).

*GTDR:* Yes, except 2E03.a, a.3, b, and d.

*GTDU:* No.

*GNSG:* Yes except Bulgaria, Romania, or Russia, for 2E03.a and a.3 only (see Note).

Note: NP controls apply to technology described in 2E03.a or a.3.

\* \* \* \* \*

2E19A Technology for the "development", "production", or "use" of equipment controlled by 2A19.

**Requirements**

*Validated License Required:* QSTVWYZ.

*Reason for Control:* NS, NP (see Note).

*GTDR:* No.

*GTDU:* No.

*GNSG:* Yes except Bulgaria, Romania, or Russia.

Note: NP controls apply to Country Groups QSTVWYZ for technology for the "development", "production", or "use" of

neutron generator systems and valves described in 2A19.b and c, respectively.

\* \* \* \* \*

2E49E Technology for the "development", "production", or "use" of equipment controlled by 2A49E.

**Requirements**

*Validated License Required:* SZ and countries listed in Supp. No. 4 to Part 778.

*Reason for Control:* NP.

*GTDR:* No.

*GTDU:* Yes, except destinations listed under *Validated License Required*.

2E50B Technology for the "development", "production" or "use" of equipment controlled by 2A50 or 2B50.

**Requirements**

*Validated License Required:* QSTVWYZ.

*Reason for Control:* NP, MT (see Notes).

*GTDR:* No.

*GTDU:* No.

*GNSG:* Yes, for NP only.

Notes: 1. MT controls apply to "technology" specially designed or modified for the "development", "production" or "use" of items described by 2B50.a.2, except those that are not usable in the production of propulsion components and equipments (e.g., motor cases) for "missile" systems.

2. NP controls apply to "technology" specially designed or modified for the "development", "production" or "use" of items controlled by 2B50.a.1 and .b.

5. In Category 3, (Electronics Design, Development and Production), ECCNs 3A01A, 3D01A, and 3E01A are amended by revising the Requirements sections to read as follows:

3A01A Electronic devices and components.

**Requirements**

*Validated License Required:* QSTVWYZ.

*Unit:* Number.

*Reason for Control:* NS, MT, NP (see Notes).

*GLV:* \$1,500: 3A01.c; \$3,000: 3A01.b.1 to b.3, 3A01.d to 3A01.f; \$5,000: 3A01.a, 3A01.b.4 to b.7.

*GCT:* Yes, except 3A01.a.1.a and 3A01.e.5 (see Notes).

*GFW:* Yes, except 3A01.a.1.a,

3A01.b.1 and b.3 to b.7, 3A01.c to f.

*GNSG:* Yes, except Bulgaria, Romania, or Russia, for NP only (see Notes).

Notes: 1. MT controls apply to 3A01.a.1.a.

2. NP controls apply to 3A01.e.5.

\* \* \* \* \*

3D01A "Software" specially designed for the "development" or

"production" of equipment controlled by 3A01.b to 3A01.f, 3A02, and 3B01.

**Requirements**

*Validated License Required:* QSTVWYZ.

*Unit:* \$ value.

*Reason for Control:* NS, NP (see Note).

*GTDR:* Yes, except 3A01.e.5 (see Note).

*GTDU:* No.

*GNSG:* Yes, except Bulgaria, Romania, or Russia, for "software" for 3A01.e.5 only (see Note).

Note: NP controls apply to "software" for the "development" or "production" of items controlled by 3A01.e.5.

\* \* \* \* \*

3E01A Technology according to the General Technology Note for the "development" or "production" of equipment or materials controlled by 3A01, 3A02, 3B01, 3C01, 3C02, 3C03, or 3C04.

**Requirements**

*Validated License Required:* QSTVWYZ.

*Unit:* \$ value.

*Reason for Control:* NS, MT, and NP (see Notes).

*GTDR:* Yes, except MT and NP.

*GTDU:* No.

*GNSG:* Yes, except Bulgaria, Romania, or Russia, for technology for 3A01.e.5 only (see Notes).

Note 1: MT controls apply to technology specially designed for the "development" or "production" of items described in 3A01.a.1.a.

Note 2: NP controls apply to technology specially designed for the "development" or "production" of items described in 3A01.e.5.

Note 3: 3E01 does not control technology for the "development" or "production" of:

- a. Microwave transistors operating at frequencies below 31 GHz;
- b. Integrated circuits controlled by 3A01.a.3 to a.11, having both of the following characteristics:

- 1. Using technology of one micrometer or more, and
- 2. Not incorporating multi-layer structures.

N.B.: This Note does not preclude the export of multilayer technology for devices incorporating a maximum of two metal layers and two polysilicon layers.

\* \* \* \* \*

In Category 6 (Sensors), ECCN 6A43B is revised, and ECCNs 6A03A, 6A05A, 6E01A and 6E02A are amended by revising the Requirements sections as follows:

6A03A Cameras.

**Requirements**

*Validated License Required:* QSTVWYZ.

*Unit:* Number.

*Reason for Control:* NS, FP and NP (see Notes).

*GLV:* \$1,500, except \$0 for 6A03.a.2 through a.5, b.1, b.3 and b.4.

*GCT:* Yes, except NP and FP (see Notes).

*GFW:* No.

*GNSG:* Yes, except Bulgaria, Romania, or Russia, for NP only (see Notes).

Notes: 1. FP controls for regional stability apply to items controlled in 6A03.b.3 and b.4.

2. NP controls apply to items controlled in 6A03.a.2, a.3, a.4, a.5 and b.1.

3. The items listed in 6A03.b.3 and b.4 are subject to the United Nations Security Council arms embargo against Rwanda described in § 785.4(a) of this subchapter.

\* \* \* \* \*

6A05A "Lasers", components and optical equipment, as follows.

#### Requirements

*Validated License Required:*

QSTVWYZ.

*Unit:* Number; \$ value for parts and accessories.

*Reason for Control:* NS, NP (see Note).

*GLV:* \$0 for NP items (see Note); \$3,000 for all other items.

*GCT:* Yes, except NP (see Note).

*GFW:* Yes, except NP (see Note), for items in Advisory Notes 5.3 and 5.4.

*GNSG:* Yes, except Bulgaria, Romania, or Russia, for NP only (see Note).

Note: NP controls apply to lasers described in 6A05.a.1.c, a.2.a, a.4.c, a.6 (argon ion lasers only), a.7.b, c.1.b, c.2.c.2, c.2.c.3, c.2.d.2, and d.2.c.

Related ECCNs: See 6A50B for NP controls on lasers, laser amplifiers, and oscillators not controlled by 6A05A.

\* \* \* \* \*

6A43B Cameras and components not controlled by ECCN 6A03A.

#### Requirements

*Validated License Required:*

QSTVWYZ.

*Unit:* Number; \$ value for parts and accessories.

*Reason for Control:* NP.

*GLV:* \$0.

*GCT:* No.

*GFW:* No.

*GNSG:* Yes.

#### List of Items Controlled

a. Mechanical rotating mirror cameras, as follows; and specially designed components therefor:

a.1. Framing cameras with recording rates greater than 225,000 frames per second;

a.2. Streak cameras with writing speeds greater than 0.5 mm per microsecond;

Technical Note: Components of such cameras include their synchronizing

electronics units and rotor assemblies consisting of turbines, mirrors, and bearings.

b. Electronic streak and framing cameras and tubes, as follows:

b.1. Electronic streak cameras capable of 50 ns or less time resolution and streak tubes therefor;

b.2. Electronic (or electrically shuttered) framing cameras capable of 50 ns or less frame exposure time;

b.3. Framing tubes and solid state imaging devices for use with cameras described in 6A43.b.2, as follows:

b.3.a. Proximity focused image intensifier tubes having a photocathode deposited on a transparent conductive coating to decrease photocathode sheet resistance;

b.3.b. Gated silicon intensifier target (SIT) vidicon tubes, where a fast system allows gating the photoelectrons from the photocathode before they impinge on the SIT plate;

b.3.c. Kerr or pocket cell electro-optical shuttering; or

b.3.d. Other framing tubes and solid-state imaging devices having a fast-image gating time of less than 50 ns specially designed for cameras controlled by 6A43.b.2;

c. Radiation-hardened Television cameras, or lenses therefor, specially designed or rated as radiation hardened to withstand greater than  $5 \times 10^4$  grays (Silicon) ( $5 \times 10^6$  rad (Silicon)) without operational degradation.

6E01A Technology according to the General Technology Note for the "development" of equipment, materials or "software" controlled by 6A01, 6A02, 6A03, 6A04, 6A05, 6A06, 6A07, 6A08, 6B04, 6B05, 6B07, 6B08, 6C02, 6C04, 6C05, 6D01, 6D02, or 6D03.

#### Requirements

*Validated License Required:*

QSTVWYZ.

*Reason for Control:* NS, MT, NP, and FP (see Notes).

*GTDR:* Yes, except MT, NP, and FP (see Notes).

*GTDU:* No.

*GNSG:* Yes, except Bulgaria, Romania, or Russia, for NP only (see Notes).

Notes: 1. MT controls apply to technology for the "development" of equipment controlled by 6A02.a, a.3, or a.4, 6A07.b or c, or 6A08. MT controls on technology for 6A08 equipment apply only when the equipment is designed for airborne applications and is usable in the systems described in § 778.7(a) of this subchapter.

2. FP controls for regional stability apply to technology for the "development" of items controlled by 6A02.a, a.2, a.3, or c and 6A03.b.3 and b.4 (see § 776.16(b) of this subchapter).

3. FP controls for human rights apply to all destinations except Australia, Japan, New

Zealand, and members of NATO for technology for the "development" of police-model infrared viewers controlled by 6A02.c (see § 776.14 of this subchapter).

4. NP controls apply to technology for the "development" of equipment controlled by 6A03.a.2, a.3, a.4, a.5, or b.1 or 6A05.a.1.c., a.2.a, a.4.c, a.6 (argon ion lasers only), a.7.b, c.1.b, c.2.c.2, c.2.c.3, c.2.d.2, or d.2.c.

5. Technology for the "development" of items controlled by 6A02.a, a.2, a.3, or c and 6A03.b.3 or b.4 is subject to the United Nations Security Council arms embargo against Rwanda described in § 785.4(a) of this subchapter.

Related ECCNs: See 6E21B for MT controls on technology for the "development" of equipment controlled by 6A22, 6A28, 6A29, or 6A30. See 6E40B for NP controls on technology for the "use" of cameras or lasers controlled by 6A03 or 6A05, respectively. See 6E41B for NP controls on technology for the "development", "production", or "use" of cameras or lasers controlled by 6A43 or 6A50, respectively.

\* \* \* \* \*

6E02A Technology according to the General Technology Note for the "production" of equipment or materials controlled by 6A01, 6A02, 6A03, 6A04, 6A05, 6A06, 6A07, 6A08, 6B04, 6B05, 6B07, 6B08, 6C02, 6C04, or 6C05.

#### Requirements

*Validated License Required:*

QSTVWYZ.

*Reason for Control:* NS, MT, NP, and FP (see Notes).

*GTDR:* Yes, except MT, NP, and FP (see Notes).

*GTDU:* No.

*GNSG:* Yes, except Bulgaria, Rumania, or Russia, for NP only (see Notes).

#### Notes:

1. MT controls apply to technology for the "production" of equipment controlled by 6A02.a, a.3, or a.4, 6A07.b or c, or 6A08. MT controls on technology for 6A08 equipment apply only when the equipment is designed for airborne applications and is usable in the systems described in § 778.7(a) of this subchapter.

2. FP controls for regional stability apply to technology for the "development" of items controlled by 6A02.a, a.2, a.3, or c and 6A03.b.3 and b.4 (see § 776.16(b) of this subchapter).

3. FP controls for human rights apply to all destinations except Australia, Japan, New Zealand, and members of NATO for technology for the "development" of police-model infrared viewers controlled by 6A02.c (see § 776.14 of this subchapter).

4. NP controls apply to technology for the "development" of equipment controlled by 6A03.a.2, a.3, a.4, a.5, or b.1 or 6A05.a.1.c., a.2.a, a.4.c, a.6 (argon ion lasers only), a.7.b, c.1.b, c.2.c.2, c.2.c.3, c.2.d.2, or d.2.c.

5. Technology for the "development" of items controlled by 6A02.a, a.2, a.3, or c and

6A03.b.3 or b.4 is subject to the United Nations Security Council arms embargo against Rwanda described in § 785.4(a) of this subchapter.

Related ECCNs: See 6A22B for MT controls on technology for the "production" of equipment controlled by 6A22, 6A28, 6A29, or 6A30. See 6E40B for NP controls on technology for the "use" of cameras or lasers controlled by 6A03 or 6A05, respectively. See 6E41B for NP controls on technology for the "development", "production", or "use" of cameras or lasers controlled by 6A43 or 6A50, respectively.

\* \* \* \* \*

7. In Category 9 (Propulsion systems and transportation equipment), ECCN 9B26B is revised, as follows:

9B26B Vibration test systems, equipment, and components therefor.

**Requirements**

*Validated License Required:*  
QSTVWYZ.

*Unit:* \$ Value.  
*Reason for Control:* MT, NP (See Notes).

*GLV:* \$0 for 9B26.a; \$3,000 for 9B26.b.  
*GCT:* No.  
*GFW:* No.  
*GNSG:* No.

Notes: 1. NP controls apply to 9B26.a, and in paragraph 9B26.a NP controls only apply to *electrodynamic* vibration test systems meeting all of the parameters in paragraph 9B26.a.1.

2. MT controls apply to 9B26.a and .b, and in paragraph 9B26.a MT controls only apply to vibration test systems employing feedback or closed loop techniques and incorporating a digital controller, capable of vibrating a system at 10 g RMS or more *over the entire range* 20 Hz to 2,000 Hz and imparting forces of 50 kN (11,250 lbs.), measured "bare table", or greater.

**List of Items Controlled**

- a. Vibration test systems and components therefor, as follows:
  - a.1. Vibration test systems employing feedback or closed loop techniques and incorporating a digital controller, capable of vibrating a system at 10 g RMS or more between 20 Hz and 2,000 Hz and imparting forces of 50 kN (11,250 lbs.), measured "bare table", or greater;
  - a.2. Digital controllers, combined with specially designed vibration test software, with a real-time bandwidth greater than 5 kHz and designed for use with vibration test systems described in 9B26.a.1;
  - a.3. Vibration thrusters (shaker units), with or without associated amplifiers, capable of imparting a force of 50 kN (11,250 lbs.), measured "bare table", or greater, which are usable for the vibration test systems described in 9B26.a.1;

a.4. 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 of 50 kN, measured "bare table", or greater, and usable in vibration test systems described in 9B26a.1.

Note: The term "digital control" refers to equipment, the functions of which are, partly or entirely, automatically controlled by stored and digitally coded electrical signals.

b. Environmental chambers and anechoic chambers.

b.1. Environmental chambers and anechoic chambers capable of simulating the following flight conditions:

- b.1.a. Altitude of 15,000 meters or greater; or
- b.1.b. Temperature of at least minus 50 degrees C to plus 125 degrees C; and either
- b.1.c. Vibration environments of 10 g RMS or greater between 20 Hz and 2,000 Hz imparting forces of 5 kN or greater, for environmental chambers; or
- b.1.d. Acoustic environments at an overall sound pressure level of 140 dB or greater (referenced to  $2 \times 10^{-5}$  N per square meter) or with a rated power output of 4 kilowatts or greater, for anechoic chambers.

Dated: January 24, 1996.

Sue E. Eckert,  
*Assistant Secretary for Export Administration.*

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**DEPARTMENT OF THE TREASURY**

**Customs Service**

**19 CFR Part 4**

[T.D. 93-96]

RIN 1515-AB31

**Reporting Requirements for Vessels, Vehicles, and Individuals; Correction**

**AGENCY:** Customs Service, Treasury.

**ACTION:** Correcting amendments.

**SUMMARY:** This document contains corrections to the final regulations (T.D. 93-96), which were published on Tuesday, December 21, 1993 (58 FR 67312). The regulations related to the reporting requirements for vessels, vehicles, and individuals.

**EFFECTIVE DATE:** February 1, 1996.

**FOR FURTHER INFORMATION CONTACT:** Larry L. Burton, Attorney, Entry and Carrier Rulings Branch (202) 482-6933.

**SUPPLEMENTARY INFORMATION:**

**Background**

On Tuesday, December 21, 1993, Customs published a document in the Federal Register (T.D. 93-96, 58 FR 67312), that amended the Customs Regulations to implement certain provisions of the Customs Enforcement Act of 1986, a part of the Anti-Drug Abuse Act of 1986, designed to strengthen Federal efforts to improve the enforcement of Federal drug laws and enhance the interdiction of illegal drug shipments. The regulatory changes pertained to the arrival, entry, and departure reporting requirements applicable to vessels, vehicles, and individuals, and informed the public regarding applicable penalty, seizure and forfeiture provisions for violation of the provisions.

As set forth in the Federal Register, the document contained an error in an amendatory instruction resulting in the inadvertent removal of two paragraphs from § 4.30(a). At the time the document was published, § 4.30(a) consisted of three paragraphs: introductory paragraph (a), paragraph (a)(1), and paragraph (a)(2). The amendatory instruction which was in error stated that paragraph (a) was being revised, rather than stating that introductory paragraph (a) was being revised. Because only the text of introductory paragraph (a) followed that instruction, paragraphs (a)(1) and (a)(2) were deleted from future editions of the Customs Regulations (19 CFR). The intent of Customs was to revise the language of introductory paragraph (a), but to retain paragraphs (a)(1) and (a)(2). This document corrects that error by reinserting those two paragraphs.

**List of Subjects in 19 CFR Part 4**

Cargo vessels, Coastal zone, Customs duties and inspection, Fishing vessels, Harbors, Imports, Maritime carriers, Passenger vessels, Reporting and recordkeeping requirements, Seamen, Vessels, Yachts.

**Amendments to the Regulations**

Accordingly, Title 19, Chapter I, part 4 of the Customs Regulations (19 CFR part 4) is corrected by making the following amendments:

**PART 4—VESSELS IN FOREIGN AND DOMESTIC TRADES**

1. The general authority citation for part 4 and the specific authority citation for § 4.30 continue to read as follows:

Authority: 5 U.S.C. 301; 19 U.S.C. 66, 1431, 1433, 1434, 1624; 46 U.S.C. App. 3, 91;  
\* \* \* \* \*