

§ 71.1 [Amended]

2. The incorporation by reference in 14 CFR 71.1 of the Federal Aviation Administration Order 7400.9A, Airspace Designations and Reporting Points, dated June 17, 1993, and effective September 16, 1993, is amended as follows:

Paragraph 5000: General

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ASW NM D Roswell, NM [Modify]

Roswell Industrial Air Center, NM
(lat. 33°05' N., long. 104°31'50" W.)

That airspace extending upward from the surface to and including 6,200 feet MSL within a 5-mile radius of Roswell Industrial Air Center. This Class D airspace area is effective during the specific dates and times established in advance by a Notice to Airmen. The effective date and time will thereafter be continuously published in the Airport/Facility Directory.

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Paragraph 6004: Class E Airspace Areas Designated As an Extension to a Class D Surface Area

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ASW NM E4 Roswell, NM [New]

Roswell Industrial Air Center, NM
(lat. 33°18'05" N., long. 104°31'50" W.)

That airspace extending upward from the surface within 3.7 miles each side of the Chisum very high omni-directional radio range/tactical air navigation (VORTAC) 290° radial extending from the 5.0-mile radius to 14.8 miles northwest of the airport. This Class E airspace area is effective during the specific dates and times established in advance by a Notice to Airmen. The effective date and time will thereafter be continuously published in the Airport/Facility Directory.

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Issued in Fort Worth, TX, on February 15, 1994.

Larry D. Gray,

*Acting Manager, Air Traffic Division,
Southwest Region.*

[FR Doc. 94-5416 Filed 3-8-94; 8:45 am]

BILLING CODE 4910-13-M

14 CFR Part 91

[Docket No. 27583; Amendment No. 91-238]

Special Visual Flight Rules (SVFR); Denver, CO

AGENCY: Federal Aviation
Administration (FAA), DOT.

ACTION: Final rule; delay of effective date.

SUMMARY: On January 19, 1994, the FAA published a final rule to amend appendix D, part 91 of the Federal Aviation Regulations to accurately reflect the name of the new Denver, Colorado, airport. The new Denver

International Airport, which will replace the Denver Stapleton Airport, was scheduled to open in March 1994. Opening of the Denver International Airport has been postponed to May 15, 1994. In view of the postponement, this action delays the rule's effective date until May 15, 1994.

EFFECTIVE DATE: Effective March 9, 1994, the effective date of the final rule at 59 FR 2918, as corrected at 59 FR 6547, is delayed until May 15, 1994.

FOR FURTHER INFORMATION CONTACT:

Ms. Ellen Crum, Air Traffic Rules Branch (ATP-230), Airspace-Rules and Aeronautical Information Division, 800 Independence Avenue, SW., Washington, DC 20591, telephone (202) 267-8783.

SUPPLEMENTARY INFORMATION: On January 19, 1994, the FAA published a technical amendment intending to indicate in sections 1 and 3 of appendix D, 14 CFR part 91 that, on March 9, the new Denver International Airport will open, replacing the Stapleton International Airport (Amendment No. 91-236; 59 FR 2918). In the amendment, however, the FAA inadvertently indicated that the word "Stapleton" should be replaced with the word "International." The FAA issued a correcting amendment on February 11, 1994 (59 FR 6547).

The official opening of the Denver International Airport has now been delayed until May 15, 1994. Accordingly, the effective date of the technical amendment, as subsequently corrected, should be postponed to coincide with the opening of the new airport.

Because the public needs to be made aware of this postponement immediately, notice and public procedures are impracticable and good cause exists for making the postponement effective in less than 30 days.

In consideration of the foregoing, effective March 9, 1994, the effective date of the final rule amending the name of the new Denver, Colorado, airport in appendix D of 14 CFR part 91 (59 FR 2918; January 19, 1994) and the effective date of the final rule correction (59 FR 6547, February 11, 1994) are delayed from March 9 to May 15, 1994.

Issued in Washington, DC, on March 4, 1994.

Willis C. Nelson,

*Assistant Manager, Airspace-Rules and
Aeronautical Information Division.*

[FR Doc. 94-5459 Filed 3-8-94; 8:45 am]

BILLING CODE 4910-13-M

DEPARTMENT OF COMMERCE**Bureau of Export Administration**

**15 CFR Parts 771, 772, 773, 774, 778,
786, 787, and 799**

[Docket No. 940124-4024]

RIN 0694-AA66

Commerce Control List; Items Controlled for Nuclear Nonproliferation Reasons

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 Department of Commerce export controls. 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 "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.

This rule also establishes a new General License GNSG that 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.

DATES: This rule is effective March 9, 1994. Comments must be received by April 8, 1994.

ADDRESSES: Written comments (six copies) should be sent to Willard Fisher, Office of Technology and Policy Analysis, Bureau of Export Administration, Department of Commerce, P.O. Box 273, Washington, DC 20044.

FOR FURTHER INFORMATION CONTACT: For questions of a technical nature, the following persons in the Office of Technology and Policy Analysis are available:

Category 1: Jeff Tripp—(202) 482-1309
Category 2: Surendra Dhir—(202) 482-5695

Category 3: Robert Lerner—(202) 482-1641

Category 4: Joseph Young—(202) 482-0706

Category 5: Dale Jensen—(202) 482-0730

Category 6: Joseph Chuchla—(202) 482-1641

Categories 7 and 9: Bruce Webb—(202) 482-3806

Category 8: Steve Clagett—(202) 482-8550

For questions on the nuclear nonproliferation policies and requirements in the EAR, contact Andrew Parr, Office of Technology and Policy Analysis, Telephone: (202) 482-2342.

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 nonproliferation 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 "Guidelines for Transfers of Nuclear-Related Dual-Use Equipment, Material, and Related Technology" (the Annex), as published by the International Atomic Energy Agency in INFCIRC/254/Revision 1/Part 2. The adherents to INFCIRC/254/Revision 1/Part 2, which includes the Nuclear Suppliers Guidelines, have agreed to establish export licensing procedures for the transfer of items identified in the Annex.

Sections 771.2(c)(7) and 778.3 prohibit the use of any general license, except General License GTDA or General License G-DEST as it applies to ECCN 0A98I, to effect the export of any commodity, software, or technology where the exporter knows or has reason to know that the items being exported will be used directly or indirectly in any of the nuclear activities described in these sections. Exports of commodities to Canada or to any country listed in Supplement No. 2 to part 773 are excluded from this prohibition.

This interim rule revises the list of prohibited nuclear activities contained in § 771.2(c)(7) and § 778.3, and the licensing factors contained in § 778.4, to be consistent with the "Guidelines for Transfers of Nuclear-Related Dual-Use Equipment, Material, and Related Technology" (the Guidelines). Section 778.3 is revised to include prohibitions

against "nuclear explosive activities" and "unsafeguarded nuclear fuel-cycle activities", as defined in the Guidelines, and § 771.2(c)(7) is revised to refer exporters to the prohibitions in § 778.3. The licensing factors in § 778.4 are revised to conform with the licensing factors contained in the export licensing procedures required by the Guidelines.

This rule establishes an end-user certification requirement that applies to individual validated license applications to export items subject to nuclear non-proliferation controls. Prior to submitting an application for such items, the exporter is required to obtain and retain on file a statement on the importer's letterhead and signed by the importer, or on a Form BXA-629P (Statement by Ultimate Consignee and Purchaser), where appropriate, certifying that the items will not be used in any of the nuclear activities described in § 778.3 and that prior written authorization will be obtained from the Office of Export Licensing before such items are transferred or reexported, unless the items are destined for Canada or would be eligible for export from the United States to the new country of destination under General License GNSG as described below.

This rule establishes a new General License GNSG that permits items (i.e., commodities, software, and technical data) that are controlled for nuclear non-proliferation reasons to be exported to countries whose governments have subscribed to the Annex (NSG member countries). Not all items controlled for nuclear nonproliferation reasons are eligible for export to these countries. Items that are controlled for national security reasons (i.e., items controlled by entries ending in the code letter "A") are not eligible for export under General License GNSG to Bulgaria, Poland, Romania, or Russia. Items that are subject to missile technology controls (see § 778.7) are not eligible for export to any destination under this general license. In addition, items that are controlled for nuclear non-proliferation reasons are no longer eligible for export under General Licenses GFW, GCT, GLV, GTDR, or GTDU, but must meet the eligibility requirements for General License GNSG, instead. This change will significantly increase the validated license requirements for items that were previously eligible for export under General Licenses GFW or GTDR (including GTDR without written assurance, i.e., GTDU), but will result in only a small increase in validated license requirements for items that were previously eligible for General License GCT. Items that are eligible for export under General License GNSG are

indicated in the GNSG paragraph for each CCL entry that contains eligible items. Entries that contain no eligible items do not have a GNSG paragraph.

Section 774.2 is amended to authorize permissive reexports of items eligible for General License GNSG to, among, and from Canada and countries eligible for General License GNSG, except reexports to Bulgaria, Poland, Romania, or Russia of items controlled for national security reasons and reexports to countries listed in Supplement No. 4 to part 778.

This rule adds the following countries to Supplement No. 3 to part 773 (Computer—Consignee Destinations (List B)): Bahrain, Egypt, Hungary, Kuwait, Malawi, Qatar, Saudi Arabia, South Africa, and the Yemen Arab Republic. These changes are made because these countries are parties to the Nuclear Nonproliferation Treaty.

While this rule maintains nuclear nonproliferation controls on most of the items that were previously included on the Nuclear Referral List, there are a few significant deletions. ECCN 3A52B (previously 3A52E) is amended to revise nuclear non-proliferation controls on oscilloscopes and transient recorders, resulting in a significant decrease in the number of such items that remain subject to these controls. As a result of this change, Supplement No. 4 to part 773 is amended to remove the entry for ECCN 3A52, which described oscilloscopes with lower performance levels that were eligible for the distribution license procedure. Most of the oscilloscopes previously listed in Supplement No. 4 are no longer controlled by ECCN 3A52B. Paragraph (l) of Supplement No. 1 to part 773 is revised to remove the reference to the oscilloscopes previously listed in Supplement No. 4, thereby making all oscilloscopes and transient recorders that are currently controlled by 3A52B ineligible for the special license procedures.

This rule significantly expands the kinds of technology that are subject to nuclear non-proliferation controls. The Nuclear Suppliers Group has agreed to establish export licensing procedures for the transfer of technology required for the development, production, or use of any commodity listed on the NSG Annex. Previously, only a limited amount of technology required a validated license for nuclear non-proliferation reasons. The NSG member countries have agreed not to control technology that is publicly available or that arises during or as a result of fundamental research. Such technology continues to be eligible for export in

accordance with the requirements for General License GTDA (see § 779.3).

Only a limited amount of software is subject to nuclear nonproliferation controls. As agreed by the member countries of the Nuclear Suppliers Group, the only software that is subject to nuclear nonproliferation controls is software specifically identified in the NSG Annex.

While this rule significantly increases 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 should limit the economic impact on U.S. exporters.

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 March 23, 1994 may be exported under the previous general license provisions up to and including April 6, 1994. Any such items not actually exported before midnight April 6, 1994, require a validated export license in accordance with this regulation.

Summary of ECCNs Added, Revised, or Removed 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:

- 1A44B Crucibles made of materials resistant to liquid actinide metals
- 1A45B Specialized packings for use in separating heavy water
- 1A46B Aluminum and titanium alloys in the form of tubes or solid forms
- 1A47B Maraging steel
- 1B50B Furnaces
- 1C19A Items on the International Atomic Energy List (e.g., zirconium, nickel powder, lithium, beryllium, wet-proofed platinized catalysts, hafnium)
- 1C51B High purity bismuth
- 1C52B High purity calcium
- 1C53B High purity magnesium
- 1C54B Alpha-emitting radionuclides
- 1C55B Helium isotopically enriched in the helium-3 isotope
- 1C56B Chlorine trifluoride
- 1C57B Boron and boron compounds

2A19A Commodities on the International Atomic Energy List—NP controls are retained only on 2A19.b (neutron generator systems) and 2A19.c (valves)

- 2A52B Vacuum pumps
- 2B01A Numerical control units
- 2B06A Dimensional inspection or measuring systems or equipment
- 2B50B Spin-forming and flow-forming machines
- 2B51B Centrifuge rotor fabrication, assembly, and straightening equipment
- 2B53B Centrifugal multiplane balancing machines
- 2D01A Software for equipment controlled by 2A01, 2A02, 2A03, 2A04, 2A05, 2A06, 2B01, 2B02, 2B03, 2B04, 2B05, 2B06, 2B07, 2B08, or 2B09

2D19A Software for 2A19

2E01A Technology for 2A01, 2A02, 2A03, 2A04, 2A05, 2A06, 2B01, 2B02, 2B03, 2B04, 2B05, 2B06, 2B07, 2B08, 2B09, 2D01, or 2D02

2E02A Technology for 2A01, 2A02, 2A03, 2A04, 2A05, 2A06, 2B01, 2B02, 2B03, 2B04, 2B05, 2B06, 2B07, 2B08, or 2B09

2E03A Other technology—NP controls added to 2E03.a.1 and a.3

- 3A43B Switching devices
- 3A46B Firing sets and high-current pulse generators
- 3A48B Multistage light gas gun or other high-velocity gun systems
- 3A49B Denotators and multipoint initiation systems
- 3A50B Inverters, converters, frequency changers, and generators
- 3A51B Mass spectrometers
- 6A02A Optical sensors—NP controls removed
- 6A05A Lasers

6A43B Cameras and components not controlled by 6A03—includes radiation-hardened television cameras previously controlled by 2A50.f (6A43.c)

6A44B Photomultiplier tubes

6E01A Technology for development of items controlled by 6A01, 6A02, 6A03, 6A04, 6A05, 6A06, 6A07, 6A08, 6B04, 6B05, 6B07, 6B08, 6C02, 6C04, 6C05, 6D01, 6D02, or 6D03—NP controls added

6E02A Technology for production of items controlled by 6A01, 6A02, 6A03, 6A04, 6A05, 6A06, 6A07, 6A08, 6B04, 6B05, 6B07, 6B08, 6C02, 6C04, or 6C05—NP controls added

9B26B Other vibration test equipment—to clarify that NP controls apply to 9B26.a

9D24B Software, n.e.s., for the "development", "production", or "use" of propulsion systems and equipment controlled by 9A21, 9A22, 9A23, 9B21, 9B25, 9B26, or 9B27, and "software", n.e.s., for the "use" of equipment controlled by 9B01, 9B02, 9B03, 9B04, 9B06, or 9B07

9E21B Technology for the "development", "production", or "use" of equipment controlled by 9A21, 9A22, 9B21, 9B23, 9B24, 9B25, 9B26, or 9B27, or "software" controlled by 9D24, and technology for the "use" of equipment controlled by 9B01, 9B02, 9B03, 9B04, 9B06, or 9B07

II. The following ECCNs are amended to revise the countries subject to nuclear nonproliferation controls:

- 1C10A "Fibrous and filamentary materials"
- 1A50E Parts made of tungsten, tungsten carbide, or tungsten alloys—now controlled by 1A50B
- 2B08A Assemblies, units or inserts specially designed for machine tools, or for equipment controlled by 2B06 or 2B07
- 2B09A Printed circuit boards with mounted components and software therefor capable of upgrading numerical control units, machine tools, or feed-back devices
- 3A01A Electronic devices and components

III. The following ECCNs are amended to revise the items and countries subject to nuclear nonproliferation controls:

- 1B51E Instruments capable of measuring pressures—now controlled under 1B51B
- 1C50B Fibrous and filamentary materials not controlled by 1C10
- 2B41E Numerically controlled machine tools not controlled by 2B01—now controlled by 2B41B
- 3A41E Capacitors not controlled by 3A01.e.2—now controlled by 3A42B
- 3A42E Superconducting solenoidal electromagnetics—now controlled by 3A42B
- 3A52E Oscilloscopes—now controlled by 3A52B

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

- 1B41B Filament winding machines not controlled by 1B01
- 1B42B Electromagnetic isotope separators
- 1B52B Water-hydrogen sulfide exchange tray columns
- 1B53B Hydrogen-cryogenic distillation columns
- 1B54B Ammonia synthesis converters
- 1B58B Facilities or plants, and related equipment, for the production, recovery, extraction, concentration, or handling of tritium
- 1B59B Pumps for circulating solutions of diluted or concentrated potassium amide catalyst
- 1C49B Platinized catalysts not controlled by 1C19.e
- 1C58B Tritium, tritium compounds, and mixtures containing tritium
- 1C59B Radium-226
- 1D41B Software not controlled by 1D01, for filament winding machines controlled by 1B41
- 1D50B Software for computer control and monitoring systems for furnaces controlled by 1B50.b
- 1E19A Technology for equipment or materials controlled by 1B16, 1B17, or 1C19
- 1E40B Technology for the "use" of certain filament winding machines controlled by 1B01.a

- 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
- 2A44B Specialized instruments for hydrodynamic experiments
- 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
- 2D41B Software for numerically controlled machine tools controlled by 2B41
- 2E40B Technology for the "use" of hot "isostatic presses" controlled by 2B04, dimensional inspection or measuring systems or equipment controlled by 2B06.a, b, or c, robots and "end-effectors" controlled by 2B07.b, or equipment controlled by 2B08 or 2B09
- 2E41B Technology for numerically controlled machine tools controlled by 2B41
- 2E44B Technology for specialized instruments for hydrodynamic experiments controlled by 2A44
- 2E48B Technology for valves controlled by 2A48
- 2E50B Technology for 2A52, 2A53, 2B50, or 2B51 (other technology in this entry previously controlled by 2E50C or 2E52B)
- 3A53B High-voltage direct current power supplies
- 3A54B Direct current high-power supplies
- 3A55B Flash x-ray generators and electron accelerators not controlled by 3A01—electron accelerators were previously controlled by 2A54B
- 3E40B Technology for items controlled by 3A41, 3A42, 3A43, 3A44, 3A46, 3A48, 3A49, 3A50, 3A51, 3A52, 3A53, 3A54, or 3A55—technology for mass spectrometers (3A51) was previously controlled by 3E51B
- 3E41B Technology for the use of flash discharge type X-ray systems, including tubes, controlled by 3A01.e.5
- 6A50B Lasers, laser amplifiers, and oscillators
- 6E40B Technology for the use of equipment controlled by 6A03 or 6A05 for NP reasons
- 6E41B Technology for equipment controlled by 6A43, 6A44, or 6A50

V. Certain items previously controlled by the following ECCNs are removed from the CCL:

- 1A49E Tantalum sheet
- 2A55B Compressors and blowers
- 2B40B Vibration test equipment
- 2B46B Dimensional inspectional systems or devices not controlled by 2B06
- 2B54B Mechanical testing devices for simultaneous centrifugal and vibrational testing
- 2D46C Software for equipment controlled by 2B46
- 3A45E Pulse amplifiers
- 3A47E Electronic equipment for time delay generation or time interval measurement
- 3D51B Software for mass spectrometers (3A51)
- 6A42B Electron tubes

VI. The following ECCNs are removed from the CCL and some or all of the items previously controlled by these entries are transferred to other ECCNs:

- 1A51E Corrosion-resistant sensing elements for pressure-measuring equipment—moved to 1B51B
- 1B19A Plants specially designed for the production of uranium hexafluoride—moved from 1B19.a to 1B16A
Electrolytic cells for the production of fluorine—moved from 1B19.b to 1B16A
- 2A54B Electron accelerators—moved to 3A55B
- 2D50C Software for equipment controlled by 2A50 or 2A51—software for 2A50 now controlled by 2D50B; software for 2A51 is no longer controlled on the CCL
- 2D53C Software for equipment controlled by 2B50—now controlled by 2D50B
- 2E50C Technology for equipment controlled by 2A50 or 2A51—now controlled by 2E50B
- 2E52B Technology for equipment controlled by 2A52 or 2B53—now controlled by 2E50B (2A52 has been completely revised, so the technology is different from that previously controlled by 2E52B)
- 3E51B Technology for mass spectrometers (3A51) is now controlled by 3E40B

VII. Certain items previously controlled by the following ECCNs are transferred to other ECCNs:

- 2A50B Radiation hardened TV cameras previously controlled by 2A50.f are transferred to 6A43.c

VIII. Commerce will retain unilateral nuclear nonproliferation controls on the following items until multilateral agreement is reached or until other agencies assume jurisdiction:

- 1A48B Depleted uranium
- 1B19A Plants specially designed for the production of uranium hexafluoride—moved from 1B19.a to 1B16A
- 2A49E The following items, previously controlled by 2A50 and requiring a validated license to Country Groups QSTVWYZ, now require a validated license only to Country Groups S & Z, South African military and police, and countries listed in Supplement No. 4 to Part 778:
Generators, turbine generator sets, steam turbines, heat exchangers, and heat exchanger type condensers previously controlled by 2A50.c and process control systems therefor
- 2A50B Reactor and power plant simulators and analytical models for reactor and power plant simulators previously controlled by 2A50B
- Commodities previously controlled by 2A50B that are specially designed or prepared for use with nuclear power plants

Process control systems, except those controlled by 2A49E, intended for use with nuclear reactors

- 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 Software for equipment controlled by 2A49E
- 2E49E 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)

IX. ECCN 2B24B is revised to transfer to new ECCN 2B44B any items that are controlled for NP reasons only. The items remaining in 2B24 are subject to both NP and MT controls. ECCNs 2D44B and 2E44B are added to control software and technology for the items transferred to new ECCN 2B44B.

Rulemaking Requirements

1. This rule was reviewed by the Office of Management and Budget under Executive Order 12866.

2. 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 0694-0002, 0694-0005, 0694-0006, 0694-0010, 0607-0018, 0694-0015, 0694-0021, 0694-0023, and 0694-0064.

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

4. Because a notice of proposed rulemaking and an opportunity for public comment are not required to be given for this rule by section 553 of the Administrative Procedure Act (5 U.S.C. 553) or by any other law, under section 3(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.

5. 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 foreign and military 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.

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 at the earliest possible time to permit the fullest consideration of their views. Comments on the contract sanctity provisions contained in this rule are especially encouraged.

The period for submission of comments will close April 8, 1994. The Department will consider all comments received 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 requires comments in written form. Oral comments must 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 Margaret Cornejo, Bureau of Export Administration Freedom of Information Officer, at the above address or by calling (202) 482-5653.

List of Subjects

15 CFR Parts 771, 772, 773, 774, 786, and 799

Exports, Reporting and recordkeeping requirements.

15 CFR Part 778

Exports, Nuclear energy, Reporting and recordkeeping requirements.

15 CFR Part 787

Boycotts, Exports, Law enforcement, Penalties, Reporting and recordkeeping requirements.

Accordingly, parts 771, 772, 773, 774, 778, 786, 787, and 799 of the Export Administration Regulations (15 CFR parts 730-799) are amended as follows:

1. The authority citation for 15 CFR parts 771, 772, 774, 786, 787, and 799 continues to read as follows:

Authority: 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 (extended by Pub. L. 103-10, 107 Stat. 40); sec. 125, Pub. L. 99-64, 99 Stat. 156 (46 U.S.C. 4666c); 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. 12735 of November 16, 1990 (55 FR 48587, November 20, 1990), as continued by Notice of November 12, 1993 (58 FR 60361, November 15, 1993); E.O. 12867 of September 30, 1993 (58 FR 51747, October 4, 1993); and E.O. 12868 of September 30, 1993 (58 FR 51749, October 4, 1993).

2. The authority citation for 15 CFR parts 773 and 778 continues to read as follows:

Authority: Pub. L. 90-351, 82 Stat. 197 (18 U.S.C. 2510 *et seq.*), 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); Pub. L. 96-72, 93 Stat. 503 (50 U.S.C. App. 2401 *et seq.*), as amended (extended by Pub. L. 103-10, 107 Stat. 40); 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. 12735 of November 16, 1990 (55 FR 48587, November 20, 1990), as continued by Notice of November 12, 1993 (58 FR 60361, November 15, 1993); E.O. 12867 of September 30, 1993 (58 FR 51747, October 4, 1993); and E.O. 12868 of September 30, 1993 (58 FR 51749, October 4, 1993).

PART 771—[AMENDED]

1. Section 771.2(c)(7) is revised to read as follows:

§ 771.2 General provisions.

(c) * * *

(7) The exporter knows, or has reason to know, that the commodity will be used in any destination other than Canada and the countries listed in Supplement No. 2 to part 773 of this subchapter, either directly or indirectly in any of the activities described in § 778.3(b) of this subchapter, whether or not the commodity is specially designed or modified for such activities;

§§ 771.4, 771.6, 771.9, 771.10, 771.12, 771.18 [Amended]

2. Sections 771.4, 771.6, 771.9, 771.10, 771.12, and 771.18 are amended by redesignating footnotes 4 through 6 and footnotes 8 through 13 as footnotes 2 through 4 and footnotes 5 through 10, respectively.

3. Section 771.24 (formerly reserved) is added to read as follows:

§ 771.24 General License GNSG.

(a) *Scope.* A general license designated GNSG is established authorizing exports to eligible countries of commodities, software, and technology described in paragraph (c) of this section. Exports may be made under General License GNSG only when intended for use or consumption within the importing country, reexport among and consumption within eligible countries, or reexport in accordance with other provisions of the Export Administration Regulations (15 CFR parts 730-799).

(b) *Eligible countries.* The countries that are eligible to receive exports under this general license are Australia, Austria, Belgium, Bulgaria, the Czech Republic, Denmark, Finland, France, the Federal Republic of Germany, Greece, Hungary, Ireland, Italy, Japan, Luxembourg, the Netherlands, Norway, Poland, Portugal, Romania, Russia, the Slovak Republic, 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 of this subchapter).

(c) *Eligible commodities, software, and technology.* The commodities, software, and technology 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. Items that are subject to the missile technology controls described in § 778.7 of this subchapter 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, Poland, 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 commodities, software, and technology controlled by entries that do not end in the code letter "A".

(d) *Restrictions on items re-directed enroute.* Items exported under the provisions of this section may not be re-directed enroute to a new country of destination without prior authorization from the Office of Export Licensing, U.S. Department of Commerce, unless the new ultimate country of destination is also a GNSG-eligible country.

(e) *Export clearance—(1) Shipper's Export Declaration.* When making a shipment that contains items eligible for General License GNSG, the exporter must place the general license symbol "GNSG" in the appropriate space on the SED.

(2) *Destination Control Statement.* In accordance with § 786.6 of this subchapter, the exporter is required to enter an appropriate Destination Control Statement on all commercial documents (e.g., the bill of lading, the airway bill, and the commercial invoice) covering an export from the United States under General License GNSG. In using the destination control statements listed in § 786.6(d) of this subchapter, Statement Nos. 1 and 2 may be completed to show the eligible countries listed in paragraph (b) of this section, instead of an individual country of destination, and Statement No. 2 may be completed to show distribution or resale in the eligible countries listed in paragraph (b) of this section.

(f) *Recordkeeping requirements.* Records of transactions involving exports under General License GNSG must be maintained in accordance with the recordkeeping requirements of § 787.13 of this subchapter.

PART 772—[AMENDED]

1. Section 772.4(a)(1)(iv) is revised to read as follows:

§ 772.4 How to apply for a validated license.

(a) * * *
(1) * * *

(iv) *Supporting documents.*

Supplement No. 1 to part 772 contains instructions on how to prepare export license applications when supporting documents are required. Part 775 of this subchapter provides general guidance on when supporting documents are required for export license applications. Section 778.2 of this subchapter describes the end-user certification that is required for license applications containing items that are subject to nuclear non-proliferation controls.

2. Supplement No. 1 to part 772 is amended by revising Item 2b to read as follows:

Supplement No. 1 to Part 772—Instructions for Preparing Applications for a Validated License

* * * * *

Item 2b. Identify document(s) on file by placing an (X) in the appropriate block(s). Documents for Country Groups S and V (except the People's Republic of China) that may be retained on file by the applicant in accordance with part 775 of this subchapter, and end-user certificates for applications containing items subject to nuclear non-proliferation controls (§ 778.2(b) of this subchapter) that may be retained on file for Country Groups S and V, are to be retained by the applicant consistent with the provisions of § 787.13 of this subchapter. Applicants retaining end-user certificates on file for Country Groups S and V, in accordance with § 778.2(b) of this subchapter, must check the block marked "Other" in Item 2b and enter the words "Nuclear certification on file" in Item 15 (Additional Information). If the certification is made on the the Form BXA-629P, instead of the importer's letterhead, the applicant must also check the block marked "BXA-629P" in Item 2b. Except where specifically authorized in this paragraph or elsewhere in the regulations in this subchapter (i.e., the Export Administration Regulations), supporting documentation must be submitted with the application.

PART 773—[AMENDED]

Supplement No. 1 to Part 773 [Amended]

1. Supplement No. 1 to part 773 is amended by removing paragraph (l)(3).

Supplement No. 3 to Part 773 [Amended]

2. Supplement No. 3 to part 773 is amended by adding in alphabetical order the countries "Bahrain", "Egypt", "Hungary", "Kuwait", "Malawi",

"Qatar", "Saudi Arabia", "South Africa", and "Yemen Arab Republic".

Supplement No. 4 to Part 773 [Amended]

3. Supplement No. 4 to Part 773 is amended by removing the entry for ECCN 3A52.

PART 774—[AMENDED]

1. Section 774.2 is amended:
a. By revising paragraph (i)(3);
b. By revising paragraph (j); and
c. By revising paragraph (k)(1); and
d. By adding a new paragraph (n) to read as follows:

§ 774.2 Permissive reexports.²

* * * * *
(i) * * *

(3) The commodities being reexported are not subject to:

(i) Nuclear nonproliferation controls (see the Reason for Control paragraph for the appropriate ECCNs); or

(ii) Foreign policy controls on crime control and detection instruments and equipment described § 776.14 of this subchapter; and

* * * * *

(j) Reexports of commodities, except commodities subject to nuclear nonproliferation controls (see the Reason for Control paragraph for the appropriate ECCNs), from a COCOM participating country, Austria, Finland, Hong Kong, Sweden, Ireland, New Zealand; or Switzerland to the People's Republic of China that:

(1) Are licensed for shipment by that country; and

(2) Meet the requirements set forth in Advisory Notes for the People's Republic of China or for Country Groups Q, W, and Y in the Commerce Control List (Supplement No. 1 to § 799.1 of this subchapter).

(k) * * *

(1) *Except:*

(i) Supercomputers;
(ii) Commodities subject to nuclear nonproliferation controls (see the Reason for Control paragraph under the appropriate ECCNs); and

(iii) Electronic, mechanical or other devices, as described in ECCN 5A80, primarily useful for surreptitious interception of wire or oral communications.

* * * * *

(n) Reexports of commodities, software, and technology eligible for General License GNSG (see § 771.24 of this subchapter) to, among, and from Canada and countries eligible for General License GNSG, except:

(1) Reexports from countries that are not members of COCOM of

² See § 774.9 for effect on foreign laws.

commodities, software, or technology controlled by entries that end in the code letter "A" to destinations in Country Groups Q, W, Y, and the People's Republic of China;

(2) Reexports to Country Group Z and countries listed in Supplement No. 4 to part 778 of this subchapter.

PART 778—[AMENDED]

1. Sections 778.2, 778.3, and 778.4 are revised to read as follows:

§ 778.2 Nuclear-related commodities, software, and technology (The Nuclear Referral List).

(a) *Commodities, software, and technology controlled for nuclear reasons.* Section 309(c) of the Nuclear Non-Proliferation Act of 1978 required the President to publish procedures concerning export controls on items under the jurisdiction of the Department of Commerce that could be of significance for nuclear explosive purposes if used for activities other than those authorized at the time of export. Those entries on the Commerce Control List (Supplement No. 1 to § 799.1 of this subchapter) that have "NP" in the "Reason for Control" paragraph contain items that could be of significance for nuclear explosive purposes and are therefor subject to validated licensing requirements and the procedures established under this part and under section 309(c) of the Nuclear Non-Proliferation Act of 1978. The procedures established pursuant to section 309(c) are reprinted in Supplement No. 1 to this part 778. The items on the Commerce Control List that are subject to nuclear non-proliferation controls are referred to as "The Nuclear Referral List" and include items contained in the Annex to the "Guidelines for Transfers of Nuclear-Related Dual-Use Equipment, Material, and Related Technology" (the Annex), as published by the International Atomic Energy Agency in INFCIRC/254/Revision 1/Part 2. The adherents to INFCIRC/254/Revision 1/Part 2, which includes the Nuclear Suppliers Guidelines, have agreed to establish export licensing procedures for the transfer of items identified in the Annex. In addition, any item not on the Nuclear Referral List that requires a validated license for reasons other than short supply and is intended for a nuclear related end-use or end-user is also subject to these procedures. The entries on the Commerce Control List indicate the countries for which validated licenses are required.

(b) *End-user certification.* Prior to submitting an application to export commodities, software, and technology

subject to nuclear non-proliferation controls, the exporter must obtain and retain on file, in accordance with the requirements of § 787.13 of this subchapter, a statement on the importer's letterhead and signed by the importer, or on a Form BXA-629P (Statement by Ultimate Consignee and Purchaser), when required by § 775.2 of this subchapter, certifying the following (as used in the following certification, the term "replicas" refers to items produced abroad based on a physical examination of the item originally exported, matching it in all critical design and performance parameters):

(1) The items to be exported, or replicas thereof, will not be used in any of the activities described in § 778.3; and

(2) Written authorization will be obtained from the Office of Export Licensing, U.S. Department of Commerce, prior to reexporting the items or replicas, unless they are destined for Canada or would be eligible for export from the United States to the new country of destination under General License GNSG (see § 771.24 of this subchapter).

(c) *Processing of applications.* Applications for the export of commodities and technical data described in paragraph (a) of this section will be processed in accordance with the interagency review procedures established pursuant to section 309(c) of the Nuclear Non-Proliferation Act reprinted as Supplement No. 1 to this part, and the applicable provisions of the regulations in this subchapter.

§ 778.3 Additional validated license requirements for exports with certain nuclear end-uses.

(a) *Additional validated license requirements.* In addition to the validated license requirements for commodities and technical data referred to in § 778.2 of this subchapter, a validated license is required for the following.

(1) *Technology.* A validated license is required for exports to all destinations, including Canada, of any technical data not exportable under the provisions of General License GTDA (except "operation technical data" and "sales technical data" for export to and use in Canada or the countries listed in Supplement No. 2 to part 773 of this subchapter) where the exporter knows or has reason to know that the data will be used directly or indirectly in the activities listed in paragraph (b) of this section.

(2) *Commodities and software.* A validated license is required for exports to all destinations, except Canada and

the countries listed in Supplement No. 2 to part 773 of this subchapter, of any commodity, or any software not exportable under the provisions of General License GTDA, where the exporter knows or has reason to know that the commodity or software will be used directly or indirectly in the activities listed in paragraph (b) of this section, whether or not the item is specially designed or modified for such activities.

(3) *Exporters informed by BXA.* BXA may inform an exporter, either individually or through amendment to the regulations in this subchapter, that an individual validated license is required because BXA has determined that there is an unacceptable risk of use in or diversion to any of the activities described in paragraph (b) of this section. The absence of any such notification does not excuse the exporter from compliance with the validated license requirements of this section.

(b) *Activities requiring a validated license.* The validated license requirements described in paragraph (a) of this section apply to any of the following activities:

(1) *Nuclear explosive activities.* Nuclear explosive activities, including research on or development, design, manufacture, construction, testing or maintenance of any nuclear explosive device, or components or subsystems of such a device;^{1 2}

(2) *Unsafe/unprotected nuclear activities.* Activities including research on or development, design, manufacture, construction, operation, or maintenance of any nuclear reactor, critical facility, facility for the fabrication of nuclear fuel, facility for the conversion of nuclear material from one chemical form to another, or separate storage installation, where there is no obligation to accept International Atomic Energy Agency (IAEA) safeguards at the relevant facility or installation, when it contains any source or special fissionable material (regardless of whether or not it contains such material

¹ Commodities and technical data specifically designed or specifically modified for use in designing or fabricating nuclear weapons or nuclear explosive devices are subject to export licensing or other requirements of the Office of Defense Trade Controls, U.S. Department of State, or the licensing or other restrictions specified in the Atomic Energy Act of 1954, as amended. Similarly, commodities and technical data specifically designed or specifically modified for use in devising, carrying out, or evaluating nuclear weapons tests or nuclear explosions (except such items as are in normal commercial use for other purposes) are subject to the same requirements.

² Also see § 779.5(e) of this subchapter for special provisions relating to technical data for maritime nuclear propulsion plants and other commodities.

at the time of export), or where any such obligation is not met;

(3) *Safeguarded and unsafeguarded nuclear activities.* Safeguarded and unsafeguarded nuclear fuel cycle activities, including research on or development, design, manufacture, construction, operation or maintenance of any of the following facilities, or components for such facilities:³

(i) Facilities for the chemical processing of irradiated special nuclear or source material;

(ii) Facilities for the production of heavy water;

(iii) Facilities for the separation of isotopes of source and special nuclear material; or

(iv) Facilities for the fabrication of nuclear reactor fuel containing plutonium.

§ 778.4 Export licensing factors.

To fulfill the considerations set forth in § 778.1, the following factors are among those used to determine what action should be taken on individual applications subject to §§ 778.2 and 778.3:

(a) Whether the commodities, software, or related technology to be transferred are appropriate for the stated end-use and whether that stated end-use is appropriate for the end-user;

(b) The significance for nuclear purposes of the particular commodity, software, or technology;

(c) Whether the commodities, software, or technology to be exported are to be used in research on or for the development, design, manufacture, construction, operation, or maintenance of any reprocessing or enrichment facility;

(d) The types of assurances or guarantees against use for nuclear explosive purposes or proliferation given in the particular case;

(e) Whether the end-user has been engaged in clandestine or illegal procurement activities;

(f) Whether an application for a license to export to the end-user has previously been denied, or whether the end-user has previously diverted items received under a general or validated license to unauthorized activities;

(g) Whether the export would present an unacceptable risk of diversion to a nuclear explosive activity or unsafeguarded nuclear fuel-cycle activity described in § 778.3; and

(h) The nonproliferation credentials of the importing country, based on consideration of the following factors:

(1) Whether the importing country is a party to the Nuclear Non-Proliferation Treaty (NPT) or to the Treaty for the Prohibition of Nuclear Weapons in Latin America (Treaty of Tlateloloc), or to a similar international legally-binding nuclear nonproliferation agreement;

(2) Whether the importing country has all of its nuclear activities, or nuclear facilities or installations that are operational, or being designed or constructed, under International Atomic Energy Agency (IAEA) safeguards or equivalent full scope safeguards;

(3) Whether there is an agreement for cooperation in the civil uses of atomic energy between the U.S. and the importing country;

(4) Whether the actions, statements, and policies of the government of the importing country are in support of nuclear nonproliferation and whether that government is in compliance with its international obligations in the field of nonproliferation;

(5) The degree to which the government of the importing country cooperates in nonproliferation policy generally (e.g., willingness to consult on international nonproliferation issues);

(6) Intelligence data on the importing country's nuclear intentions and activities.

PART 786—[AMENDED]

§ 786.6 [Amended]

1. Section 786.6(a)(1)(ii) is amended by adding the term "GNSG," immediately following the term "GFW,".

2. In § 786.6(c)(2), the phrase "General License GCT" is revised to read "General Licenses GCT and GNSG" everywhere it appears.

PART 787—[AMENDED]

787.13 [Amended]

1. Section 787.13(c) is amended by adding the reference "771.24," immediately following the reference "771.22," in the second sentence.

PART 799—[AMENDED]

Supplement No. 1 to § 799.1 [Amended]

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

1. In Category 1, ECCNs 1A44B, 1A45B, 1A46B, 1A47B, and 1A48B are revised, ECCNs 1A49E, 1A50E, and 1A51E are removed, and a new ECCN 1A50B is added immediately following ECCN 1A48B, as follows:

1A44B—Crucibles made of materials resistant to liquid actinide metals.

Requirements

Validated License Required:
QSTVWYZ
Unit: \$ value
Reason for Control: NP
GLV: \$0
GCT: No
GFW: No
GNSG: Yes

List of Items Controlled

- a. Crucibles with a volume greater than 150 ml, but less than 8 liters, and made of or coated with any of the following materials having a purity of 98% or greater:
- a.1. Calcium fluoride (CaF₂);
 - a.2. Calcium zirconate (*metazirconate*) (Ca₂ZrO₃);
 - a.3. Cerium sulfide (Ce₂S₃);
 - a.4. Erbium oxide (*erbia*) (Er₂O₃);
 - a.5. Hafnium oxide (*hafnia*) (HfO₂);
 - a.6. Magnesium oxide (MgO);
 - a.7. Nitrided niobium-titanium-tungsten alloy (approximately 50% Nb, 30% Ti, and 20% W);
 - a.8. Yttrium oxide (*yttria*) (Y₂O₃);
 - a.9. Zirconium oxide (*zirconia*) (ZrO₂);
- b. Crucibles with a volume greater than 50 ml, but less than 2 liters, and made of or lined with tantalum having a purity of 99.9% or greater;
- c. Crucibles with a volume greater than 50 ml, but less than 2 liters, and made of or lined with tantalum (having a purity of 98% or greater) coated with tantalum carbide, nitride, boride, or any combination thereof.

1A45B—Specialized packings for use in separating heavy water from ordinary water that are made of phosphor bronze mesh or copper (both chemically treated to improve wettability) and are designed for use in vacuum distillation towers.

Requirements

Validated License Required:
QSTVWYZ
Unit: \$ value
Reason for Control: NP
GLV: \$0
GCT: No
GFW: No
GNSG: Yes

1A46B—Aluminum and titanium alloys in the form of tubes or 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

³ Such activities may also require a specific authorization from the Secretary of Energy pursuant to section 57.b(2) of the Atomic Energy Act of 1954, as amended, as implemented by the Department of Energy's regulations published in 10 CFR part 810.

GCT: No
GFW: No
GNSG: Yes

List of Items Controlled

Alloys in the form of tubes or 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 (0.46×10^9 N/m²) or more at 293 K (20 °C);

b. Titanium alloys capable of an ultimate tensile strength of 900 MPa, (0.9×10^9 N/m²) (130,500 lbs./in²) 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.

1A47B Maraging steel capable of an ultimate tensile strength of 2050 MPa (2.050×10^9 N/m²) (300,000 lbs./in²) or more at 293 K (20 °C), except forms in which no linear dimension exceeds 75 mm (3 inches).

Requirements

Validated License Required:

QSTVWYZ

Unit: \$ value

Reason for Control: NP, MT (see Note)

GLV: \$0

GCT: No

GFW: No

GNSG: Yes, except MT (see Note)

Note: MT controls apply to maraging steels controlled by this ECCN that also meet the specifications of ECCN 1A27.

Technical Note: Steels "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.

1A48B Depleted uranium (any uranium containing less than 0.711% of the isotope U-235) in shipments of more than 1,000 kilograms in the form of shielding contained in X-ray units, radiographic exposure or teletherapy devices, radioactive thermoelectric generators, or packaging for the transportation of radioactive materials.

Requirements

Validated License Required:

QSTVWYZ

Unit: Kilograms

Reason for Control: NP

GLV: \$0

GCT: No

GFW: No

GNSG: Yes

Note 1: Depleted uranium fabricated into commodities solely to take advantage of high density unrelated to radioactivity (e.g., aircraft, ship or other counterweights; and shipments of 1,000 kilograms or less in the

form of shielding contained in X-ray units, radiographic exposure or teletherapy devices, radioactive thermoelectric generators, or packaging for the transportation of radioactive materials; is controlled by ECCN 1A96G.

Note 2: Depleted uranium in fabricated forms for use in munitions requires export authorization from the U.S. Department of State, Office of Defense Trade Controls (see Supp. No. 2 to part 770 of this subchapter).

Note 3: All forms of depleted uranium not specifically described in ECCN 1A48 or in Notes 1 and 2 of this ECCN require export authorization from the Nuclear Regulatory Commission (see 10 CFR Part 110).

1A50B Parts made of tungsten, tungsten carbide, or tungsten alloys (greater than 90% tungsten) having a mass greater than 20 kilograms and a hollow cylindrical symmetry (including cylinder segments) with an inside diameter greater than 10 cm. (4 in.), but less than 30 cm. (12 in.), except parts specifically designed for use as weights or gamma-ray collimators.

Requirements

Validated License Required:

QSTVWYZ

Unit: Kilograms

Reason for Control: NP

GLV: \$0

GCT: No

GFW: No

GNSG: Yes

2. In Category 1, ECCN 1B01A is amended by revising the Requirements section and the Related ECCNs note immediately following ECCN 1B01A is revised to read as follows:

1B01A Equipment for the production of fibers, prepregs, preforms or composites controlled by 1A02 or 1C10, as follows, and specially designed components and accessories therefor.

Requirements

Validated License Required:

QSTVWYZ

Unit: \$ value

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

GLV: \$0 for 1B01.a; \$5,000 for all other items

GCT: Yes, except MT and NP (see Notes)

GFW: No

GNSG: No

Notes: 1. MT controls apply to all items described in this entry, except those in 1B01.d.4.

2. NP controls apply to the following items:
a. Filament winding machines described in 1B01.a that are capable of winding cylindrical rotors having a diameter between 75 mm (3 in.) and 400 mm (16 in.) and lengths of 600 mm (24 in.) or greater; and
b. Coordinating and programming controls and precision mandrels for these filament winding machines.

* * * * *

Related ECCNs: See 1B21B for MT controls on equipment, not controlled by 1B01A, for the production of fibers, prepregs, preforms, or composites. See 1B41B for NP controls on filament winding machines not controlled by 1B01A.

3. In Category 1, new ECCNs 1B16A and 1B17A are added immediately following ECCN 1B03A to read as follows:

1B16A Plants for the production of uranium hexafluoride (UF₆) and specially designed or prepared equipment (including UF₆ purification equipment), and specially designed parts and accessories therefor.

Requirements

Validated License Required:

QSTVWYZ

Unit: \$ value

Reason for Control: NS, NP (items appear on International Atomic Energy List)

GLV: \$0

GCT: No

GFW: No

GNSG: Yes, except Bulgaria, Poland, Romania, or Russia

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 (items appear on International Atomic Energy List)

GLV: \$0

GCT: No

GFW: No

GNSG: Yes, except Bulgaria, Poland, Romania, or Russia

4. In Category 1, ECCN 1B19A is removed.

5. In Category 1, new ECCNs 1B41B and 1B42B are added immediately following ECCN 1B30B, to read as follows:

1B41B Filament winding machines not controlled by 1B01, controls, and mandrels.

Requirements

Validated License Required:

QSTVWYZ

Unit: \$ value

Reason for Control: NP

GLV: \$0

GCT: No

GFW: No
GNSG: Yes

List of Items Controlled

- a. Filament winding machines not controlled by 1B01:
- In which the motions for positioning, wrapping, and winding fibers are coordinated and programed in two or more axes;
 - Specially designed to fabricate composite structures or laminates from fibrous and filamentary materials; and
 - Capable of winding cylindrical rotors with diameters equal to or greater than 75 mm (3 in.) and less than or equal to 400 mm (16 in.) and lengths of 600 mm (24 in.) or greater;
- b. Coordinating and programing controls for filament winding machines controlled by 1B01.a or 1B41.a;
- c. Precision mandrels.

1B42B Electromagnetic isotope separators designed for, or equipped with, single or multiple ion sources capable of providing a total ion beam current of 50 mA or greater.

Requirements

Validated License Required:

QSTVWYZ

Unit: \$ value

Reason for Control: NP

GLV: \$0

GCT: No

GFW: No

GNSG: Yes

Technical Notes: 1. This ECCN controls separators capable of enriching stable isotopes, as well as those for uranium. A separator capable of separating the isotopes of lead with a one-mass unit difference is inherently capable of enriching the isotopes of uranium with a three-unit mass difference.

2. This ECCN controls separators where the ion sources and collectors are in the magnetic field and separators where the ion sources and collectors are external to the magnetic field.

3. A single 50 mA ion source will produce less than 3 g of separated HEU per year from natural abundance feed.

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

6. In Category 1, ECCN 1B50B is revised to read as follows:

1B50B Vacuum and controlled environment 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 power supplies specially designed for induction furnaces with a power supply 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 cm³; and less than or equal to 20,000 cm³, 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).

7. In Category 1, ECCN 1B51E is removed and a new ECCN 1B51B is added immediately following ECCN 1B50B, to read as follows:

1B51B Instruments designed for vacuum service that are capable of measuring absolute or differential pressures to an accuracy of plus or minus 1 torr in the pressure range of 0 to 100 torr absolute where all wetted surfaces, including pressure sensing elements, are constructed of or protected by corrosion-resistant materials such as nickel, nickel alloys, phosphor bronze, stainless steel, aluminum, or aluminum alloys and specially designed or modified component parts therefor.

Requirements

Validated License Required:

QSTVWYZ

Unit: \$ value

Reason for Control: NP

GLV: \$0

GCT: No

GFW: No

GNSG: Yes

8. In Category 1, new ECCNs 1B52B, 1B53B, 1B54B, 1B58B, and 1B59B are added immediately following ECCN 1B51B, to read as follows:

1B52B Water-hydrogen sulfide exchange tray columns constructed from fine carbon steel (such as ASTM A516) with a diameter of 1.8 m (6 ft.) or greater and made to operate at a nominal pressure of 2 Mpa (300 psi) or greater.

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 Note: Internal contactors of the columns are segmented trays with an effective assembled diameter of 1.8 m (6 ft.) or greater, such as sieve trays, valve trays, bubble cap trays, and turbogrid trays designed to facilitate countercurrent contacting and constructed of materials resistant to corrosion by hydrogen sulfide/water mixtures, such as 304 L or 316 stainless steel.

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:

- Designed to operate at internal temperatures of -238° C (35 K) or less;
- Designed to operate at internal pressure of 0.5 to 5 Mpa (5 to 50 atmospheres);
- Constructed of fine-grain stainless steels of the 300 series with low sulfur content or equivalent cryogenic and H₂-compatible materials; and
- With internal diameters of 1 m or greater and effective lengths of 5 m or greater.

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

1B54B Ammonia synthesis converters.

Requirements

Validated License Required:

QSTVWYZ

Unit: \$ value

Reason for Control: NP

GLV: \$0

GCT: No

GFW: No

GNSG: Yes

Technical Note: The ammonia synthesis converters controlled by this ECCN are ammonia 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 that column.

1B58B Facilities or plants, and related equipment, for the production, recovery, extraction, concentration, or handling of tritium.

Requirements

Validated License Required:

QSTVWYZ

Unit: \$ value

Reason for Control: NP

GLV: \$0

GCT: No

GFW: No

GNSG: Yes

List of Items Controlled

Facilities or plants for the production, recovery, extraction, concentration, or handling of tritium, and related equipment as follows:

a. Hydrogen or helium refrigeration units capable of cooling to -250°C (23 K) or less, with heat removal capacity greater than 150 watts;

b. Hydrogen isotope storage and purification systems using metal hydrides as the storage or purification medium.

Note: This ECCN 1B58B does not control tritium compounds. Tritium is subject to the export licensing authority of the Nuclear Regulatory Commission.

1B59B Pumps for circulating solutions of diluted or concentrated potassium amide catalyst in liquid ammonia (KNH_2/NH_3).

Requirements

Validated License Required:

QSTVWYZ

Unit: \$ value

Reason for Control: NP

GLV: \$0

GCT: No

GFW: No

GNSG: Yes

List of Items Controlled

Pumps for circulating solutions of diluted or concentrated potassium amide catalyst in liquid ammonia (KNH_2/NH_3), with all of the following characteristics:

a. Airtight (i.e., hermetically sealed);
b. Operating pressure, as follows:
b.1. For concentrated potassium amide solutions (1% or greater),

operating pressure of 1.5 to 60 MPa [15 to 600 atmospheres (atm)]; or

b.2. For dilute potassium amide solutions (less than 1%), operating pressure of 20 to 60 MPa [200 to 600 atmospheres (atm)]; and

c. A capacity greater than 8.5 m³/h (5 cubic feet per minute).

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

9. In Category 1, ECCN 1C10A is amended by revising the Requirements section to read as follows:

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, NP

GLV: \$0

GCT: No

GFW: No

GNSG: Yes, except Bulgaria, Poland, Romania, or Russia

* * * * *

10. In Category 1, the Related ECCNs note that follows ECCN 1C10A is amended by revising the reference "1C50E" to read "1C50B".

11. In Category 1, ECCN 1C19A is revised to read as follows:

1C19A Items on the International Atomic Energy List (e.g., zirconium, nickel powder and porous nickel metal, lithium, beryllium metal, wet-proofed platinumized 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, Poland, Romania, or Russia

Notes: 1. Zirconium metal, alloys, or compounds in shipments of 5 kg or less are controlled for NP only.

2. Shipments of more than 200 kg of zirconium foil or strip having a thickness not exceeding 0.10 mm are controlled for NS only.

List of Items Controlled

a. Zirconium, as follows:

a.1. Zirconium metal;

a.2. Alloys containing more than 50% zirconium by weight;

a.3. Compounds in which the ratio of hafnium content to zirconium content is less than 1 part to 500 parts by weight;

a.4. Manufactures 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 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 or strip having a thickness not exceeding 0.10 mm (0.004 in.), in shipments of 200 kg or less.

Note 2: This ECCN does not control zirconium tubes. 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% or more and a mean particle size of less than 10 micrometers measured by the ASTM B 330 standard;

b.2. Porous nickel metal produced from materials controlled for export by 1C19.b.1, except single porous nickel metal sheets not exceeding 930 cm² intended for use in batteries for civil applications;

Note: 1C19.b.2 controls porous nickel metal manufactured from nickel powder, described in 1C19.b.1, that has been compacted and sintered 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 (⁶Li) 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 percent beryllium by weight;

d.3. Compounds containing beryllium;

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 metal windows for X-ray machines or oxide shapes in fabricated or semi-fabricated forms

specially designed for electronic component parts or as substrates for electronic circuits.

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.

Advisory Note 1: (Not eligible for General License GFW) Licenses are likely to be approved for export to satisfactory end-users in Country Groups QWY and the PRC of the following:

a. Finished parts made of zirconium metal or alloys, specially designed for an identified civil research or power reactor facility, provided that:

1. None of the parts contains fissile materials; and
2. The importing country has agreed to the application of the Safeguards of the International Atomic Energy Agency (IAEA) in connection with the nuclear reactor facility;
- b. Contained zirconium metal, or parts made therefrom, in individual shipments not exceeding 100 kg, when intended for use in, or in support of, an identified civil research or power reactor facility, in connection with which it is contemplated that IAEA Safeguards would be applied.

N.B.: The provisions of this Advisory Note 1 notwithstanding, current law prohibits approval to nuclear production or utilization facilities in the People's Republic of China.

Advisory Note 2: (Not eligible for General License GFW) Licenses are likely to be approved for export to satisfactory end-users in Country Groups QWY and the PRC of nickel powder in uncompact powder form for non-nuclear civil applications.

N.B.: The provisions of this Advisory Note 2 notwithstanding, current law prohibits approval to nuclear production or utilization facilities in the People's Republic of China.

12. In Category 1, ECCN 1C50E is removed and new ECCNs 1C49B and 1C50B are added immediately following ECCN 1C31B, to read as follows:

1C49B Platinized catalysts not controlled by 1C19.e that are 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.

Requirements

Validated License Required:

QSTVWYZ

Unit: Kilograms

Reason for Control: NP

GLV: \$0

GCT: No

GFW: No

GNSG: Yes

1C50B "Fibrous and 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 and filamentary materials" not controlled by 1C10, as follows:

- a. Carbon or aramid "fibrous and filamentary materials" having:
 - a.1. A "specific modulus" of 12.7×10^6 m or greater; or
 - a.2. A "specific tensile strength" of 23.5×10^4 m or greater;
- b. Glass "fibrous and filamentary materials" having:
 - b.1. A "specific modulus" of 3.18×10^6 m or greater; and
 - b.2. A "specific tensile strength" of 7.62×10^4 m or greater;
- c. 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 and filamentary materials" described in 1C50.a or b.

Note: Specific modulus is the Young's modulus in N/m^2 divided by the specific weight in N/m^3 , measured at a temperature of $23 \pm 2^\circ C$ and a relative humidity of 50 ± 5 percent. Specific tensile strength is the ultimate tensile strength in N/m^2 divided by specific weight in N/m^3 , measured at a temperature of $23 \pm 2^\circ C$ and a relative humidity of 50 ± 5 percent.

13. In Category 1, ECCNs 1C51B, 1C52B, 1C53B, 1C54B, 1C55B, 1C56B, and 1C57B are revised and new ECCN 1C58B is added immediately following ECCN 1C57B to read as follows:

1C51B High purity (99.99% or greater) bismuth with very low silver content (less than 10 parts per million).

Requirements

Validated License Required:

QSTVWYZ

Unit: Kilograms

Reason for Control: NP

GLV: \$0

GCT: No

GFW: No

GNSG: Yes

1C52B High purity calcium containing both less than 1,000 parts per million by weight of metallic impurities other than magnesium and less than 10 parts per million of boron.

Requirements

Validated License Required:

QSTVWYZ

Unit: Kilograms

Reason for Control: NP

GLV: \$0

GCT: No

GFW: No

GNSG: Yes

1C53B High purity magnesium containing both less than 200 parts per million by weight of metallic impurities other than calcium and less than 10 parts per million of boron.

Requirements

Validated License Required:

QSTVWYZ

Unit: Kilograms

Reason for Control: NP

GLV: \$0

GCT: No

GFW: No

GNSG: Yes

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

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 devices that contain less than 100 millicuries (3.7 GBq) of alpha activity per device.

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

1C55B Helium isotopically enriched in the helium-3 isotope, in any form, whether or not mixed with other materials, or contained in any equipment or device, except products or devices containing less than 1 g of helium-3.

Requirements

Validated License Required:

QSTVWYZ

Unit: Liters

Reason for Control: NP

GLV: \$0

GCT: No

GFW: No
GNSG: Yes

1C56B Chlorine trifluoride (ClF₃).

Requirements

Validated License Required:
QSTVWYZ
Unit: Kilograms
Reason for Control: NP
GLV: \$0
GCT: No
GFW: No
GNSG: Yes

1C57B Boron and boron compounds, mixtures, and "loaded" materials in which the boron-10 isotope is more than 20% by weight of the total boron content.

Requirements

Validated License Required:
QSTVWYZ
Unit: Kilograms
Reason for Control: NP
GLV: \$0
GCT: No
GFW: No
GNSG: Yes

1C58B Radium-226.

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.

14. In Category 1, a new ECCN 1C93F is added immediately following ECCN 1C88D, to read as follows:

1C93F Fibrous and filamentary materials, not controlled by 1C10 or 1C50, for use in composite structures and with a specific modulus of 3.18×10^6 m or greater and a specific tensile strength of 7.62×10^4 m or greater.

Requirements

Validated License Required: SZ, Iran, Syria, South Africa military and police
Unit: Kilograms
Reason for Control: FP
GLV: \$0
GCT: No
GFW: No

15. In Category 1, ECCN 1D01A is revised to read as follows:

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, Poland, 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.

16. In Category 1, new ECCNs 1D41B and 1D50B are added immediately following ECCN 1D23B to read as follows:

1D41B "Software", not controlled by 1D01, specially designed or modified for the "development", "production", or "use" of filament winding machines controlled by 1B41.

Requirements

Validated License Required:
QSTVWYZ
Unit: \$ value
Reason for Control: NP
GTDR: No
GTDU: No
GNSG: Yes

1D50B "Specially designed software" for computer control and monitoring systems specially configured for vacuum and controlled atmosphere metallurgical melting and casting furnaces controlled by 1B50.b.

Requirements

Validated License Required:
QSTVWYZ
Unit: \$ value
Reason for Control: NP
GTDR: No
GTDU: No
GNSG: Yes

17. In Category 1, ECCN 1D93F is revised to read as follows:

1D93F "Software" specially designed for the "development", "production", or "use" of fibrous and filamentary materials controlled by 1C50.b or 1C93F.

Requirements

Validated License Required: SZ, Iran, Syria, and South Africa military and police
Unit: \$ value
Reason for Control: FP
GTDR: No
GTDU: Yes
18. In Category 1, ECCN 1E01A is revised and a Related ECCNs paragraph is added immediately following ECCN 1E01A to read as follows:

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.

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, Poland, 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 and filamentary materials" controlled by 1C10.

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. FP controls apply to technology for items controlled by 1B18.a for the Republic of South Africa only.

Related ECCNs: See 1E40B for NP controls on technology for the "use" of filament winding machines controlled by 1B01.a.

19. In Category 1, new ECCN 1E19A is added immediately following ECCN 1E02A to read as follows:

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, Poland, Romania, or Russia

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.

20. In Category 1, new ECCNs 1E40B and 1E41B are added immediately following ECCN 1E25B, as follows:

1E40B Technology for the "use" of 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.

Requirements

Validated License Required:
 QSTVWYZ
Reason for Control: NP
GTDR: No
GTDU: No
GNSG: Yes

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, 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.

21. In Category 1, ECCN 1E94F is revised to read as follows:

1E94F Technology for the "development", "production", or "use" of fibrous and filamentary materials controlled by 1C93F or fluorocarbon electronic cooling fluids controlled by 1C94F.

Requirements

Validated License Required: SZ, Iran, Syria, and South Africa military and police
Reason for Control: FP
GTDR: No
GTDU: Yes

22. In Category 2, ECCNs 2A19A, 2A50B, 2A51B, 2A52B, and 2A53B are revised, new ECCNs 2A44B, 2A48B, and 2A49E are added immediately following ECCN 2A19A, and ECCNs 2A54B and 2A55B are removed, to read 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, Poland, Romania, or Russia

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

List of Items Controlled

a. Power generating and/or propulsion equipment specially designed for use with military nuclear reactors;

Notes: 1. 2A19.a does not control conventional power generating equipment that, although designed for use in a particular nuclear station, could in principle be used in conjunction with conventional systems.

2. 2A19.a does not affect the controls maintained by the Office of Defense Trade Controls, Department of State, as indicated in ITAR Category VI, Part a.

b. Neutron generator systems, including tubes, designed for operation without an external vacuum system, and utilizing electrostatic acceleration to induce a tritium-deuterium nuclear reaction, and specially designed parts and components therefor;

c. Valves, specially designed or prepared for gaseous diffusion separation process, that are wholly made of or lined with aluminum, aluminum alloys, nickel, or alloy containing 60 percent by weight or more nickel, 40 mm (1.6 in.) or more in diameter, with bellows seals, and specially designed parts and components therefor.

Note: See 10 CFR Part 110 for specially designed or prepared valves for gaseous diffusion separation process subject to the export licensing authority of the Nuclear Regulatory Commission.

Advisory Note: Licenses are likely to be approved for exports to satisfactory end-uses in Country Groups QWY and the People's Republic of China of neutron generator systems, including tubes, controlled by 2A19.b, provided that they are for civil use.

N.B.: The provisions of this Advisory Note notwithstanding, current law prohibits approval to nuclear production or utilization facilities in the People's Republic of China.

2A44B Specialized instruments for hydrodynamic experiments.

Requirements

Validated License Required:
 QSTVWYZ
Unit: \$ value
Reason for Control: NP
GLV: \$0
GCT: No
GFW: No
GNSG: Yes

List of Items Controlled

Specialized instruments, as follows, for hydrodynamic experiments:

- Velocity interferometers for measuring velocities in excess of 1 km per second during time intervals less than 10 μ s (e.g., VISARs, doppler laser interferometers, DLIs);
- Manganin gauges for pressures greater than 100 kilobars; or
- Quartz pressure transducers for pressures greater than 100 kilobars.

2A48B Valves not controlled by 2A19.c that are 5 mm (0.2 in.) or greater in diameter, 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, and specially designed parts and accessories therefor.

Requirements

Validated License Required:
 QSTVWYZ
Unit: \$ value
Reason for Control: NP
GLV: \$0
GCT: No
GFW: No
GNSG: Yes

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, South African military and police, and countries listed in Supp. 4 to part 778 of this subchapter
Unit: \$ value
Reason for Control: NP
GLV: \$0
GCT: No
GFW: No

List of Items Controlled

- Generators, turbine-generator sets, steam turbines, heat exchangers, and heat exchanger type condensers designed or intended for use in a nuclear reactor;
- 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 0.3 m (1 ft.) on a side and with a density greater than 3 g/cm³ 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 provide mechanical translation of human operator actions by electrical, hydraulic, or mechanical means to an operating arm and terminal fixture that can be used to provide remote actions in radiochemical separation operations and "hot cells". The manipulators have a capability to penetrate 0.6 m or more (2 ft. or more) of a cell wall or, alternatively, bridge over the top of a cell wall with a thickness of 0.6 m or more (2 ft. or more);

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.

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.

Requirements

Validated License Required:

QSTVWYZ

Unit: Kgs. for pressure tubes, pipes, and fittings; Number for valves; \$ value for parts

Reason for Control: NP

GLV: \$0

GCT: No

GFW: No

GNSG: Yes

List of Items Controlled

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, as follows:

a. Pressure tube, pipe, and fittings of 200 mm (8 inches) or more inside diameter, and suitable for operation at pressures of 3.4 MPa (500 psi) or greater;

b. Pipe valves having all of the following characteristics:

b.1. A pipe size connection of 8 inches or more inside diameter;

b.2. Rated at 1,500 psi or more;

c. Parts, n.e.s.

Note: See 10 CFR part 110 for piping, fittings, and valves 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^{-4} Torr (0.76×10^{-4} mbar).

Requirements

Validated License Required:

QSTVWYZ

Unit: \$ value

Reason for Control: NP

GLV: \$0

GCT: No

GFW: No

GNSG: Yes

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

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.

2A53B Pumps designed to move molten metals by electromagnetic forces.

Requirements

Validated License Required:

QSTVWYZ

Unit: Number; \$ value for parts and accessories

Reason for Control: NP

GLV: \$0

GCT: No

GFW: No

GNSG: Yes

23. In Category 2, ECCN 2B01A is revised to read as follows:

2B01A "Numerical control" units, "motion control boards" specially designed for "numerical control" applications on machine tools, 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

GLV: \$0

GCT: No

GFW: No

GNSG: Yes, except Bulgaria, Poland, Romania, or Russia

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:

a.2.a. Capable of "real-time processing" of data to modify, during the machining operation, tool path, feed rate and spindle data by either:

a.2.a.1. Automatic calculation and modification of part program data for machining in two or more axes by means of measuring cycles and access to source data; or

a.2.a.2. "Adaptive control" with more than one physical variable measured and processing by means of a computing model (strategy) to change one or more machining instructions to optimize the process; or

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 which would permit an increase above the control levels specified in 2B01, in the number of interpolating axes that can be coordinated simultaneously for

"contouring control", even if they do not contain these additional boards;

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

- a. Modified for and incorporated in uncontrolled machines; or
- b. Specially designed for uncontrolled machines.

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

- b.1. Interpolation in more than four axes;
- b.2. Capable of "real time processing" as described in 2B01.a.2.a; or
- b.3. Capable of receiving and processing CAD data as described in 2B01.a.2.b;

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

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;

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

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 turning or milling machines; or

Note: 2B01.c.1.b.5 does not control milling or turning machine tools with a positioning accuracy along one 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 in the same manner that the accuracy measurements will be taken;

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 exceed $\pm 10\%$ of nominal rated voltage;

b. Frequency variation shall not exceed ± 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 feedrate 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).

c.1.b.6.a. A "positioning accuracy" less (better) than 0.007 mm; and

c.1.b.6.b. A slide motion from rest for all slides within 20% of a motion command input for inputs of less than 0.5 micrometer;

Technical Note: Minimum increment of motion test (slide motion from rest): The test is conducted only if the machine tool is equipped with a control unit the minimum increment of which is less (better) than 0.5 micrometer. Prepare the machine for testing in accordance with ISO 230.2 paragraphs 3.1, 3.2, 3.3. Conduct the test on each axis (slide) of the machine tool as follows:

1. Move the axis over at least 50% of the maximum travel in plus and minus directions twice at maximum feed rate, rapid traverse rate or jog control;

2. Wait at least 10 seconds;

3. With manual data input, input the minimum programmable increment of the control unit;

4. Measure the axis movement;

5. Clear the control unit with the servo null, reset or whatever clears any signal (voltage) in the servo loop;

6. Repeat steps 2 to 5 five times, twice in the same direction of the axis travel and three times in the opposite direction of travel for a total of six test points;

7. If the axis movement is between 80% and 120% of the minimum programmable input for four of the six test points, the machine is controlled. For rotary axes, the measurement is taken 200 mm from the center of rotation.

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) of the wire feed type that have five or more axes that can be coordinated simultaneously for "contouring control";

c.3. Electrical discharge machines (EDM) of the non-wire type that have two or more rotary axes that can be coordinated simultaneously for "contouring control";

c.4. Machine tools for removing metals, ceramics or composites:

c.4.a. By means of:

c.4.a.1. Water or other liquid jets, including those employing abrasive additives;

c.4.a.2. Electron beam; or

c.4.a.3. "Laser" beam; and

c.4.b. Having two or more rotary axes that:

c.4.b.1. Can be coordinated simultaneously for "contouring control"; and

c.4.b.2. Have a "positioning accuracy" of less (better) than 0.003°.

Technical Note: Machines capable of being simultaneously coordinated for "contouring control", in two or more rotary axes or one or more tilting spindles, remain controlled regardless of the number of simultaneously coordinated contouring axes that can be controlled by the "numerical control" unit attached to the machine.

24. In Category 2, ECCN 2B04A and the Related ECCNs paragraph immediately following ECCN 2B04A are revised to read as follows:

2B04A Hot "isostatic presses", as follows, and specially designed dies, moulds, components, accessories and controls therefor.

Requirements

Validated License Required:
QSTVWYZ

Unit: Number; \$ value for parts and accessories

Reason for Control: NS, MT, NP
GLV: \$0
GCT: No
GFW: No
GNSG: No

List of Items Controlled

a. Having a controlled thermal environment within the closed cavity and possessing a chamber cavity with an inside diameter of 406 mm or more; and

b. Having:

- b.1. A maximum working pressure exceeding 207 MPa;
- b.2. A controlled thermal environment exceeding 1,773 K (1,500° C); or
- b.3. A facility for hydrocarbon impregnation and removal of resultant gaseous degradation products.

Technical Note: The inside chamber dimension is that of the chamber in which both the working temperature and the working pressure are achieved and does not include fixtures. That dimension will be the smaller of either the inside diameter of the pressure chamber or the inside diameter of the insulated furnace chamber, depending on which of the two chambers is located inside the other.

Related ECCNs: See 2B24B for MT/NP controls on "isostatic presses" not controlled by 2B04A. See 2B44B for NP controls on "isostatic presses not controlled by 2B04A or 2B24B.

25. In Category 2, ECCNs 2B06A, 2B07A, 2B08A, and 2B09A are revised to read as follows:

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 to Bulgaria, Poland, Romania, or Russia

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

List of Items Controlled

a. Computer controlled, "numerically controlled" or "stored program controlled" dimensional inspection machines, having both of the following characteristics:

a.1. Two or more axes; and
a.2. A one dimensional length "measurement uncertainty" equal to or less (better) than $(1.25+L/1,000)$ micrometer tested with a probe with an "accuracy" of less (better) than 0.2 micrometer (L is the measured length in mm);

b. Linear and angular displacement measuring instruments, as follows:

b.1. Linear measuring instruments having any of the following characteristics:

b.1.a. Non-contact type measuring systems with a "resolution" equal to or less (better) than 0.2 micrometer within a measuring range up to 0.2 mm;

b.1.b. Linear voltage differential transformer systems with both of the following characteristics:

b.1.b.1. "Linearity" equal to or less (better) than 0.1% within a measuring range up to 5 mm; and
b.1.b.2. Drift equal to or less (better) than 0.1% per day at a standard ambient test room temperature ± 1 K; or

b.1.c. Measuring systems having both of the following characteristics:

b.1.c.1. Containing a "laser"; and
b.1.c.2. Maintaining, for at least 12 hours, over a temperature range of ± 1 K around a standard temperature and at a standard pressure;

b.1.c.2.a. A "resolution" over their full scale of 0.1 micrometer or less (better); and

b.1.c.2.b. A "measurement uncertainty" equal to or less (better) than $(0.2+L/2,000)$ micrometer (L is the measured length in mm);

b.2. Angular measuring instruments having an "angular position deviation" equal to or less (better) than 0.00025°;

Note: 2B06.b.2 does not control optical instruments, such as autocollimators, using

collimated light to detect angular displacement of a mirror.

c. Systems for simultaneous linear-angular inspection of hemishells, having both of the following characteristics:

c.1. "Measurement uncertainty" along any linear axis equal to or less (better) than 3.5 micrometer per 5 mm; and

c.2. "Angular position deviation" equal to or less (better) than 0.02°;

d. Equipment for measuring surface irregularities, by measuring optical scatter as a function of angle, with a sensitivity of 0.5 nm or less (better).

Technical Notes: 1. Machine tools that can be used as measuring machines are controlled if they meet or exceed the criteria specified for the machine tool function or the measuring machine function.

2. A machine described in 2B06 is controlled if it exceeds the control threshold anywhere within its operating range.

3. The probe used in determining the "measurement uncertainty" of a dimensional inspection system shall be as described in VDI/VDE 2617 Parts 2, 3, and 4.

4. All measurement values in 2B06 represent permissible positive and negative deviations from the target value, i.e., not total band.

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.

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

Requirements

Validated License Required:
QSTVWYZ

Unit: \$ value

Reason for Control: NS and NP (see Note)

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

GCT: Yes, except NP (see Note)

GFW: No

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

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

List of Items Controlled

a. Capable in real time of full three-dimensional image processing or full three-dimensional scene analysis to generate or modify "programs" or to generate or modify numerical program data;

Note: The scene analysis limitation does not include approximation of the third dimension by viewing at a given angle, or

limited grey scale interpretation for the perception of depth or texture for the approved tasks (2½ D).

b. Specially designed to comply with national safety standards applicable to explosive munitions environments (i.e. meeting electrical code ratings for high explosives); or

c. Specially designed or rated as radiation-hardened beyond that necessary to withstand normal industrial (i.e., non-nuclear industry) ionizing radiation.

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 and NP

GLV: \$0

GCT: No

GFW: No

GNSG: Yes, except Bulgaria, Poland, Romania, or Russia

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 mm of the linear measurement);

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

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 from 0.1 to 5 mm inclusive; and

e.3. Cutting radius out-of-roundness less (better) than 0.002 mm total indicator reading (TIR) (also peak-to-peak).

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 and NP

GLV: \$0

GCT: No

GFW: No

GNSG: Yes, except Bulgaria, Poland, Romania, or Russia

26. In Category 2:

a. ECCNs 2B24B, 2B50B, 2B51B, and 2B53B are revised;

b. ECCNs 2B40B, 2B41E, 2B46B, and 2B54B are removed; and

c. New ECCNs 2B41B and 2B44B are added immediately following ECCN 2B24B to read as follows:

2B24B "Isostatic presses" not controlled 2B04A and specially designed dies and molds, and controls therefor.

Requirements

Validated License Required:

QSTVWYZ

Unit: Number

Reason for Control: MT and NP

GLV: \$0

GCT: No

GFW: No

GNSG: No

List of Items Controlled

"Isostatic presses" having all of the following characteristics:

a. Capable of achieving a maximum working pressure of 10,000 psi (69 MPa) or greater;

b. Designed to achieve and maintain a controlled thermal environment of 600 °C or greater; and

c. Possessing a chamber cavity with an inside diameter of 254 mm (10 in.) or greater.

Technical Note: The inside chamber dimension is that of the chamber in which

both the working temperature and the working pressure are achieved and does not include fixtures. That dimension will be the smaller of either the inside diameter of the pressure chamber or the inside diameter of the insulated furnace chamber, depending on which of the two chambers is located inside the other.

2B41B "Numerically controlled" machine tools for vertical or horizontal turning, milling or boring 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. Two or more axes that can be coordinated simultaneously for contouring control; and

b. Capable of machining diameters of 2 m or greater.

2B44B "Isostatic presses", not controlled by 2B04A or 2B24B, capable of achieving a maximum working pressure of 10,000 psi (69 MPa) or greater and having a chamber cavity with an inside diameter in excess of 152 mm (6 inches) and specially designed dies and molds, and controls therefor.

Requirements

Validated License Required:

QSTVWYZ

Unit: Number

Reason for Control: NP

GLV: \$0

GCT: No

GFW: No

GNSG: Yes

Technical Note: The inside chamber dimension is that of the chamber in which both the working temperature and the working pressure are achieved and does not include fixtures. That dimension will be the smaller of either the inside diameter of the pressure chamber or the inside diameter of the insulated furnace chamber, depending on which of the two chambers is located inside the other.

2B50B Spin-forming and flow-forming machines and precision rotor-forming mandrels.**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. Spin-forming and flow-forming machines that:

a.1. According to the manufacturer's technical specifications, can be equipped with "numerical control" units or a computer control; and

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

b. Precision 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 combining the functions of spin-forming and flow-forming.**2B51B Centrifuge rotor fabrication, assembly, and straightening equipment and bellows-forming mandrels and dies.****Requirements***Validated License Required:***QSTVWYZ***Unit:* \$ value*Reason for Control:* NP*GLV:* \$0*GCT:* No*GFW:* No*GNSG:* Yes**List of Items Controlled**

a. Rotor assembly equipment (e.g., precision mandrels, clamps, and shrink fit machines) for assembly of gas centrifuge rotor tube sections, baffles, and end caps;

b. Rotor straightening equipment for alignment of gas centrifuge rotor tube sections to a common axis;

Technical Note: The rotor straightening equipment controlled by 2B51B normally will consist of precision measuring probes linked to a computer that subsequently controls the action of, for example, pneumatic rams used for aligning the rotor tube sections.

c. Bellows-forming mandrels and dies for producing single-convolution bellows (bellows made of high-strength aluminum alloys, maraging steel, or high-strength filamentary materials) that have all of the following dimensions:

- c.1. 75-mm to 400-mm (3-in. to 16-in.) inside diameter;
- c.2. 12.7 mm (0.5 in.) or more in length; and
- c.3. Single convolution depth of more than 2 mm (0.08 in.).

Note: This ECCN does not control centrifuge rotor tube sections, baffles, bellows, and end caps. These items are subject to the export licensing authority of the Nuclear Regulatory Commission (see 10 CFR part 110).**2B53B Centrifugal multiplane balancing machines, fixed or portable, horizontal or vertical.****Requirements***Validated License Required:***QSTVWYZ***Unit:* \$ value*Reason for Control:* NP*GLV:* \$0*GCT:* No*GFW:* No*GNSG:* Yes**List of Items Controlled**

Centrifugal multiplane balancing machines, fixed or portable, horizontal or vertical, as follows:

a. Designed for balancing flexible rotors having all of the following characteristics:

a.1. A length of 600 mm (24 in.) or more;

a.2. A swing or journal diameter of 75 mm (3 in.) or more;

a.3. Mass capability from 0.9 kg (2 lb.) to 23 kg (50 lb.); and

a.4. Capable of balancing speed of more than 5,000 rpm.

b. Designed for balancing hollow cylindrical rotor components, and having all of the following characteristics:

b.1. A journal diameter of 75 mm (3 in.) or more;

b.2. Mass capability from 0.9 kg (2 lb.) to 23 kg (50 lb.);

b.3. Capable of balancing to a residual imbalance of 0.010 kg-mm/kg per plane or better; and

b.4. Belt drive type.

27. In Category 2, ECCN 2D01A is revised to read as follows:

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, 2B07, and 2B09 (see Notes), except to Bulgaria, Poland, 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, 2B07, and 2B09. Specially designed "software" for the systems described in 2B06.c includes "software" for simultaneous measurements of wall thickness and contour.

28. In Category 2:

a. ECCNs 2D19A and 2D24B are revised;

b. ECCNs 2D46C, 2D50C, 2D52B, and 2D53C are removed; and

c. New ECCNs 2D41B, 2D44B, 2D49E, 2D50B, and 2D53B are added immediately following ECCN 2D24B to read as follows:

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, Poland, Romania, or Russia*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.**2D24B "Software" for the "development", "production", or "use" of commodities controlled by 2B24.****Requirements***Validated License Required:***QSTVWYZ***Unit:* \$ value*Reason for Control:* MT and NP*GTDR:* No*GTDU:* No*GNSG:* No

2D41B "Software" specially designed or modified for the "development", "production", or "use" of "numerically controlled" machine tools controlled by ECCN 2B41B.

Requirements

Validated License Required:
QSTVWYZ

Unit: \$ value
Reason for Control: NP
GTDR: No
GTDU: No
GNSG: Yes, provided that "software" (including documentation) for "numerical control" units is:

- a. Exported in machine executable form only; and
- b. Limited to the minimum necessary for the use (i.e., installation, operation, and maintenance) of the units.

2D44B "Software" for the "development", "production", or "use" of commodities controlled by 2B44.

Requirements

Validated License Required:
QSTVWYZ

Unit: \$ value
Reason for Control: NP
GTDR: No
GTDU: No
GNSG: Yes

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

Requirements

Validated License Required: SZ,
South African military and police, and countries listed in Supp. 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
GTDR: No
GTDU: No
GNSG: Yes

2D53B "Software" specially designed or modified for the "development", "production", or "use" of centrifugal balancing machines controlled by 2B53.

Requirements

Validated License Required:
QSTVWYZ

Unit: \$ value
Reason for Control: NP
GTDR: No
GTDU: No
GNSG: Yes

29. In Category 2, ECCNs 2E01A and 2E02A are revised and Related ECCNs paragraphs are added immediately following ECCNs 2E01A and 2E02A to read as follows:

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, Poland, 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, 2B07.b and .c, 2B08, and 2B09 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, 2B07.b, 2B08, or 2B09.

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, Poland, 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, 2B07.b and .c, 2B08, and 2B09.

Related ECCNs: See 2E40B for NP controls on technology for the "use" of equipment controlled by 2B04, 2B06.a, b, or c, 2B07.b, 2B08, or 2B09.

30. In Category 2, ECCN 2E03A is amended by revising the Requirements section to read as follows:

2E03A Other technology.

Requirements

Validated License Required:
QSTVWYZ

Reason for Control: NS, NP (see Note)
GTDR: Yes, except 2E03.a.1, a.3, b, and d

GTDU: No
GNSG: Yes, except Bulgaria, Poland, Romania, or Russia, for 2E03.a.1 and a.3 only (see Note)

Note: NP controls apply to technology described in 2E03.a.1 or a.3.

31. In Category 2, ECCN 2E19A is revised to read as follows:

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, Poland, 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.

32. In Category 2, ECCN 2E24B is revised, ECCNs 2E50C and 2E52B are removed, and new ECCNs 2E40B, 2E41B, 2E44B, 2E48B, 2E49E, 2E50B, 2E51B, 2E52B, and 2E53B are added immediately following ECCN 2E24B, as follows:

2E24B Technology for the "development", "production", or "use" of commodities controlled by 2B24.

Requirements

Validated License Required:
QSTVWYZ

Unit: \$ value
Reason for Control: MT, NP
GTDR: No
GTDU: No
GNSG: No

2E40B Technology for the "use" of hot "isostatic presses" controlled by 2B04, dimensional inspection or measuring systems or equipment controlled by 2B06.a, b, or c, robots and "end-effectors" controlled by 2B07.b, or equipment controlled by 2B08 or 2B09.

Requirements

Validated License Required:
QSTVWYZ

Reason for Control: NP
GTDR: No
GTDU: No
GNSG: Yes

2E41B Technology for the "development", "production", or "use" of "numerically controlled" machine tools controlled by 2B41 or for the "use" of equipment controlled by 2B01.

Requirements

Validated License Required:
QSTVWYZ
Reason for Control: NP
GTDR: No
GTDU: No
GNSG: Yes

2E44B Technology for the "development", "production", or "use" of specialized instruments for hydrodynamic experiments controlled by 2A44 or "isostatic presses" controlled by 2B44.

Requirements

Validated License Required:
QSTVWYZ
Reason for Control: NP
GTDR: No
GTDU: No
GNSG: Yes

2E48B Technology for the "development", "production" or "use" of valves controlled by 2A48.

Requirements

Validated License Required:
QSTVWYZ
Reason for Control: NP
GTDR: No
GTDU: No
GNSG: Yes

2E49E Technology for the "development", "production" or "use" of equipment controlled by 2A49.

Requirements

Validated License Required: SZ,
South African military and police, and
countries listed in Supp. 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
GTDR: No
GTDU: No
GNSG: Yes

2E51B Technology for the "development", "production" or "use" of equipment controlled by 2A51 or 2B51.

Requirements

Validated License Required:
QSTVWYZ
Reason for Control: NP
GTDR: No
GTDU: No
GNSG: Yes

2E52B Technology for the "development", "production" or "use" of equipment controlled by 2A52.

Requirements

Validated License Required:
QSTVWYZ
Reason for Control: NP
GTDR: No
GTDU: No
GNSG: Yes

2E53B Technology for the "development", "production" or "use" of equipment controlled by 2A53 or 2B53.

Requirements

Validated License Required:
QSTVWYZ
Reason for Control: NP
GTDR: No
GTDU: No
GNSG: Yes

33. In Category 3, ECCN 3A01A is amended by revising the Requirements section 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 and 3A01.e.5 (see Notes)

GFW: Yes, except 3A01.a.1, 3A01.b.1 and b.3 to b.7, 3A01.c to f

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

Notes: 1. MT controls apply to 3A01.a.1.
2. NP controls apply to 3A01.e.5.

* * * * *

34. In Category 3:
a. ECCNs 3A41E, 3A42E, 3A45E, and 3A47E are removed;

b. New ECCNs 3A41B and 3A42B are added immediately following ECCN 3A22B;

c. ECCNs 3A43B, 3A44B, 3A46B, 3A48B, 3A49B, 3A50B, and 3A51B are revised;

d. ECCN 3A52E is removed; and
e. New ECCNs 3A52B, 3A53B, 3A54B, and 3A55B are added immediately following ECCN 3A51B, as follows:

3A41B Capacitors not controlled by 3A01.e.2.

Requirements

Validated License Required:
QSTVWYZ
Unit: Number
Reason for Control: NP
GLV: \$0
GCT: No
GFW: No
GNSG: Yes

List of Items Controlled

- a. Capacitors with a voltage rating greater than 1.4 kV having all of the following characteristics:
a.1. Energy storage greater than 10 J;
a.2. Capacitance greater than 0.5 μ F;
and
a.3. Series inductance less than 50 nH; or
b. Capacitors with a voltage rating greater than 750 V having both of the following characteristics:
b.1. Capacitance greater than 0.25 μ F;
and
b.2. Series inductance less than 10 nH.

Note: The energy storage capacity (E) is determined by the formula: $E = \frac{1}{2} CV^2$. The capacitance (C) must be in farads, and the voltage (V) in volts for the formula to give an answer in joules (J). Normally high-voltage capacitors are measured in microfarads or nanofarads.

3A42B Superconducting solenoidal electromagnets other than those described in 3A01.a.3.

Requirements

Validated License Required:
QSTVWYZ
Unit: Number
Reason for Control: NP
GLV: \$0
GCT: No
GFW: No
GNSG: Yes

List of Items Controlled

- Superconducting solenoidal electromagnets with all of the following characteristics:
a. Capable of creating magnetic fields of more than 2 T (20 kilogauss);
b. Having an inner diameter greater than 300 mm (12 in.);
c. Having a length divided by diameter (L/D) greater than 2; and
d. Capable of creating a magnetic field uniform to better than 1% over the central 50% of the inner volume.

Note: 3A42B does not control magnets that are specially designed for and exported as

parts of medical nuclear magnetic resonance (NMR) imaging systems. Such parts may be exported in separate shipments from different sources, provided that the related export control documents clearly specify that the parts are for the medical NMR imaging systems that are being exported.

3A43B Switching devices.

Requirements

Validated License Required:

QSTVWYZ

Unit: Number

Reason for Control: NP

GLV: \$0

GCT: No

GFW: No

GNSG: Yes

List of Items Controlled

a. Cold-cathode tubes (including gas krytron tubes and vacuum sprayon tubes), whether gas filled or not, operating similarly to a spark gap, containing three or more electrodes, and having all of the following characteristics:

a.1. Anode peak voltage rating of 2500 V or more;

a.2. Anode peak current rating of 100 A or more; and

a.3. Anode delay time of 10 microseconds or less;

b. Triggered spark-gaps having an anode delay time of 15 microseconds or less and rated for a peak current of 500 A or more;

c. Modules or assemblies with a fast switching function having all of the following characteristics:

c.1. Anode peak voltage rating greater than 2,000 V;

c.2. Anode peak current rating of 500 A or more; and

c.3. Turn-on time of 1 μ s or less.

3A44B High-speed pulse generators with output voltages greater than 6 volts into a less than 55-ohm resistive load, and with pulse transition times less than 500 picoseconds (defined as the time interval between 10 percent and 90 percent voltage amplitude).

Requirements

Validated License Required:

QSTVWYZ

Unit: Number

Reason for Control: NP

GLV: \$0

GCT: No

GFW: No

GNSG: Yes

3A46B Firing sets and equivalent high-current pulse generators (for detonators controlled by 3A49).

Requirements

Validated License Required:

QSTVWYZ

Unit: Number

Reason for Control: NP

GLV: \$0

GCT: No

GFW: No

GNSG: Yes

List of Items Controlled

a. Explosive detonator firing sets designed to drive multiple detonators of the type controlled under ECCN 3A49B;

b. Modular electrical pulse generators (pulsers) designed for portable, mobile, or ruggedized use (including xenon flash-lamp drivers) having all the following characteristics:

b.1. Capable of delivering their energy in less than 15 μ s;

b.2. Having an output greater than 100 A;

b.3. Having a "risetime" of less than 10 μ s into loads of less than 40 ohms;

Technical Note: "Risetime" is defined as the time interval from 10 percent to 90 percent current amplitude when driving a resistive load.

b.4. Enclosed in a dust-tight enclosure;

b.5. No dimension greater than 25.4 cm (10 in.);

b.6. Weight less than 25 kg (55 lb.); and

b.7. Specified for use over an extended temperature range (-50 °C to 100 °C) or specified as suitable for aerospace use.

3A48B Multistage light gas gun or other high-velocity gun systems (coil, electromagnetic, electrothermal, or other advanced systems) capable of accelerating projectiles to 2 kilometers per second or greater.

Requirements

Validated License Required:

QSTVWYZ

Unit: Number

Reason for Control: NP

GLV: \$0

GCT: No

GFW: No

GNSG: Yes

3A49B Detonators and multipoint initiation systems (exploding bridge wire, slapper, etc.).

Requirements

Validated License Required:

QSTVWYZ

Unit: Number

Reason for Control: NP

GLV: \$0

GCT: No

GFW: No

GNSG: Yes

List of Items Controlled

a. Electrically driven explosive detonators of the types described as

"exploding bridge" (EB), "exploding bridgewire" (EBW), "exploding foil," or "slapper" (see the Technical Note following this List for a more detailed description);

b. Arrangements using single or multiple detonators designed to nearly simultaneously initiate an explosive surface (over greater than 5,000 mm²) from a single firing signal (with an initiation timing spread over the surface of less than 2.5 μ s).

Technical Note: The detonators controlled by this ECCN 3A49B utilize a small electrical conductor (bridge, bridgewire, or foil) that explosively vaporizes when a fast, high-current electrical pulse is passed through it. In nonslapper types, the exploding conductor starts a chemical detonation in a contacting high-explosive material such as PETN (pentaerythritoltetranitrate). In slapper detonators, the explosive vaporization of the electrical conductor drives a "flyer" or "slapper" across a gap, and the impact of the slapper on an explosive starts a chemical detonation. The slapper in some designs is driven by magnetic force. The term "exploding foil" detonator may refer to either an EB or a slapper-type detonator. Also, the word "initiator" is sometimes used in place of the word "detonator."

Note: Detonators using only primary explosives, such as lead azide, are not controlled by this ECCN 3A49B.

3A50B Inverters, converters, frequency changers, or generators having all of the characteristics described in this entry.

Requirements

Validated License Required:

QSTVWYZ

Unit: Number

Reason for Control: NP

GLV: \$0

GCT: No

GFW: No

GNSG: Yes

List of Items Controlled

Inverters, converters, frequency changers, or generators having all of the following characteristics:

a. A multiphase output capable of providing power of 40 W or more;

b. Capable of operating in the frequency range between 600 and 2,000 Hz;

c. Total harmonic distortion below 10 percent; and

d. Frequency control better than 0.1 percent.

Note: Frequency changers specially designed or prepared to supply "motor stators" (see Technical Note) and having the characteristics described in 3A50.b and d, together with a total harmonic distortion of less than 2 percent and an efficiency of greater than 80 percent, require export authorization from the Nuclear Regulatory Commission (see 10 CFR Part 110).

Technical Note: "Motor stators" are specially designed or prepared ring-shaped

stators for high-speed multiphase AC hysteresis (or reluctance) motors for synchronous operation within a vacuum in the frequency range of 600 Hz to 2,000 Hz, and a power range of 50 VA to 1,000 VA. The stators consist of multiphase windings on a laminated low-loss iron core comprising thin layers typically 2.0 mm (.008 in.) thick or less.

3A51B Mass spectrometers.

Requirements

Validated License Required:

QSTVWYZ

Unit: Number

Reason for Control: NP

GLV: \$0

GCT: No

GFW: No

GNSG: Yes

List of Items Controlled

Mass spectrometers capable of measuring ions of 230 atomic mass units or greater and having a resolution of better than 2 parts in 230, and ion sources therefor, as follows:

- Inductively coupled plasma mass spectrometers (ICPMS);
- Glow discharge mass spectrometers (GDMS);
- Thermal ionization mass spectrometers (TIMS);
- Electron bombardment mass spectrometers that have a source chamber constructed from or lined with or plated with materials resistant to UF₆;
- Molecular beam mass spectrometers that:
 - Have a source chamber constructed from or lined with or plated with stainless steel or molybdenum and have a cold trap capable of cooling to 193 K (-80 °C) or less; or
 - Have a source chamber constructed from or lined with or plated with materials resistant to UF₆; or
 - Mass spectrometers equipped with a microfluorination ion source designed for use with actinides or actinide fluorides.

Note: Specially designed or prepared magnetic or quadrupole mass spectrometers that have the following characteristics and are capable of taking "on-line" samples of feed, product, or tails from UF₆ gas streams require export authorization from the Nuclear Regulatory Commission (see 10 CFR part 110):

- Unit resolution for mass greater than 320;
- Ion sources constructed of or lined with nichrome or monel or nickel-plated;
- Electron bombardment ionization sources;
- Having a collector system suitable for isotopic analysis.

3A52B Oscilloscopes, transient recorders, and specially designed components therefor.

Requirements

Validated License Required:

QSTVWYZ

Unit: Number

Reason for Control: NP

GLV: \$0

GCT: No

GFW: No

GNSG: Yes

List of Items Controlled

Oscilloscopes, transient recorders, and specially designed components therefor (e.g., plug-in units, external amplifiers, preamplifiers, sampling devices, and cathode ray tubes (CRTs)) having any of the following characteristics:

- Non-modular analog oscilloscopes having a bandwidth of 1 GHz or greater;

Technical Note: Bandwidth as used in 3A52.a is the band of frequencies over which the deflection on the CRT does not fall below 70.7% of that at the maximum point measured with a constant input voltage to the oscilloscope amplifier.

- Modular analog oscilloscope systems having either of the following:
 - Mainframes with a bandwidth of 1 GHz or greater; or
 - Plug-in modules with an individual bandwidth of 4 GHz or greater;
- Analog sampling oscilloscopes for the analysis of recurring phenomena with an effective bandwidth greater than 4 GHz;
- Digital oscilloscopes and transient recorders using analog-to-digital conversion techniques capable of storing transients by sequentially sampling one-shot input signals at successive intervals of less than 1 nanosecond (greater than 1 giga-sample per second), digitizing to 8 bits or greater resolution, and storing 256 or more samples.

3A53B High-voltage direct current power supplies capable of continuously producing, over a time period of 8 hours, 20,000 V or greater with a current output of 1 amp or greater and with a current or voltage regulation better than 0.1 percent.

Requirements

Validated License Required:

QSTVWYZ

Unit: \$ value

Reason for Control: NP

GLV: \$0

GCT: No

GFW: No

GNSG: Yes

3A54B Direct current high-power supplies capable of continuously producing, over a time period of 8 hours, 100 V or greater with a current output of 500 amps or greater and with a current or voltage regulation better than 0.1 percent.

Requirements

Validated License Required:

QSTVWYZ

Unit: \$ value

Reason for Control: NP

GLV: \$0

GCT: No

GFW: No

GNSG: Yes

3A55B Flash x-ray generators and electron accelerators not controlled by 3A01.

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

Flash x-ray generators and pulsed electron accelerators with a peak energy of 500 keV or greater, as follows, except accelerators that are component parts of devices designed for purposes other than electron beam or x-ray radiation (electron microscopy), and those designed for medical purposes:

- Having an accelerator peak electron energy of 500 keV or greater, but less than 25 MeV (million electron volts), and with a figure of merit (K) of 0.25 or greater:
 - Where K is defined as: $K = 1.7 \times 10^3 V^{2.65} Q$;
 - Where V is the peak electron energy in million electron volts; and
 - Where Q is:
 - The total accelerated charge in coulombs, if the accelerator beam pulse duration is less than or equal to 1 microsecond;
 - The maximum accelerated charge in 1 microsecond, if the accelerator beam pulse duration is greater than 1 microsecond;

Note: Q equals the integral of "i" with respect to "t", over the lesser of 1 microsecond or the time duration of the beam pulse ($Q = \int i dt$), where "i" is beam current in amperes and "t" is time in seconds.

- Having an accelerator peak electron energy of 25 MeV or greater and a peak power greater than 50 MW.

Note: Peak power = (peak potential in volts) × (peak beam current in amperes).

Technical Notes: 1. Time duration of beam pulse: In machines based on microwave

accelerating cavities, the time duration of the beam pulse is the lesser of 1 microsecond or the duration of the bunched beam packet resulting from one microwave modulator pulse.

2. Peak beam current: In machines based on microwave accelerating cavities, the peak beam current is the average current in the time duration of a bunched beam packet.

3. The formula for "K" can be expressed as a table that shows the accelerated charge "Q", which is related to a specific energy "V" for $K = 0.25$. Any device for which "Q" exceeds the value in the table is subject to control under this ECCN 3A55B.

V (MeV)	Q (coulomb)
0.50	920.0×10^{-6}
0.75	320.0×10^{-6}
1.0	150.0×10^{-6}
3.0	8.0×10^{-6}
5.0	2.0×10^{-6}
8.0	0.6×10^{-6}
10.0	0.3×10^{-6}
15.0	0.1×10^{-6}
20.0	0.05×10^{-6}
25.0	0.03×10^{-6}

35. In Category 3, ECCN 3D01A is revised to read as follows:

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, Poland, 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.

36. In Category 3, ECCN 3D51B is removed.

37. In Category 3, ECCN 3E01A is revised to read as follows:

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, Poland, Romania, or Russia, for technology for 3A01.e.5 only (see Notes)

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

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

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 3 does not preclude the export of multilayer technology for devices incorporating a maximum of two metal layers and two polysilicon layers.

38. In Category 3, new ECCNs 3E40B and 3E41B are added immediately following ECCN 3E22B to read as follows:

3E40B Technology for the "development", "production", or "use" of items controlled by 3A41, 3A42, 3A43, 3A44, 3A46, 3A48, 3A49, 3A50, 3A51, 3A52, 3A53, 3A54, or 3A55.

Requirements

Validated License Required:

QSTVWYZ

Reason for Control: NP

GTDR: No

GTDU: No

GNSG: Yes

3E41B Technology for the "use" of flash discharge type X-ray systems, including tubes, controlled by 3A01.e.5.

Requirements

Validated License Required:

QSTVWYZ

Reason for Control: NP

GTDR: No

GTDU: No

GNSG: Yes

39. In Category 3, ECCN 3E51B is removed.

40. In Category 4, ECCNs 4D01A and 4D02A are revised to read as follows:

4D01A "Software" specially designed or modified for the "development", "production" or "use" of equipment or materials controlled by 4A01, 4A02, 4A03, 4A04, 4B01, 4B02, 4B03, or 4C01 or "software" controlled by 4D01, 4D02, or 4D03.

Requirements

Validated License Required:

QSTVWYZ

Unit: \$ value

Reason for Control: NS, MT, FP (see Notes)

GTDR: Yes, except MT and FP, and

except "software" for supercomputers as defined in § 776.11(a) (no supercomputer restriction for Japan); see Notes

GTDU: No

Notes: 1. MT controls apply to "software" specially designed or modified for the "development," "production" or "use" of equipment controlled for MT by 4A01, 4A02, and 4A03.

2. FP controls apply to all destinations except Australia, Japan, New Zealand and members of NATO, for "software" specially designed or modified for the "development", "production", or "use" of computers for computerized fingerprint equipment.

3. FP controls apply to all destinations, except Japan, for "software" specially designed or modified for the "development", "production", or "use" of supercomputers (see § 776.11 of this subchapter).

4D02A "Software" specially designed or modified to support "technology" controlled by 4E01 or 4E02.

Requirements

Validated License Required:

QSTVWYZ

Unit: \$ value

Reason For Control: NS, MT, FP (see Notes)

GTDR: Yes, except MT and FP, and except "software" specially designed or modified to support technology for supercomputers as defined in § 776.11(a) (no supercomputer restriction for Japan); see Notes

GTDU: No

Notes: 1. MT controls apply to "software" specially designed or modified to support technology for the "development," "production" or "use" of equipment controlled for MT by 4A01, 4A02 and 4A03.

2. FP controls apply to all destinations, except Japan, for "software" specially designed or modified to support technology for the "development", "production", or "use" of supercomputers (see § 776.11 of this subchapter).

41. In Category 4, ECCN 4E01A is revised to read as follows:

4E01A Technology, according to the General Technology Note, for the "development", "production", or "use" of equipment or materials controlled by 4A01, 4A02, 4A03, 4A04, 4B01, 4B02, 4B03, or 4C01 or "software" controlled by 4D01, 4D02, or 4D03.

Requirements

Validated License Required:

QSTVWYZ

Reason for Control: NS, MT, FP (see Notes)

GTDR: Yes, except MT and FP, and except technology for supercomputers as defined in § 776.11(a) (no supercomputer restriction for Japan); see Notes

GTDU: No

Notes: 1. MT controls apply to certain items controlled by 4A01, 4A02, 4A03, 4D01, or 4D02. See *Reason for Control* paragraphs in these entries to determine which items are subject to MT controls.

2. FP controls apply, for all destinations except Australia, Japan, New Zealand, and members of NATO, to technology for the "development", "production", or "use" of computers controlled by 4A03 for computerized fingerprint equipment.

3. FP controls apply to all destinations, except Japan, for technology for the "development", "production", or "use" of supercomputers (see § 776.11 of this subchapter).

42. In Category 6, ECCNs 6A02A and 6A03A are amended by revising the Requirements section of each ECCN and the Related ECCNs paragraph that follows ECCN 6A03A is revised to read as follows:

6A02A Optical Sensors.

Requirements

Validated License Required:
QSTVWYZ

Unit: Number; \$ value for parts and accessories

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

GLV: \$3,000, except \$0 for 6A01.a.1, a.2, a.3, and c

GCT: Yes, except MT and FP (see Notes)

GFW: No

Notes:

1. FP controls for regional stability apply to items controlled by 6A02.a.1, a.2, a.3, and c (see § 776.16(b) of this subchapter).

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

3. MT controls apply to optical detectors described in 6A02.a.1, a.3, and a.4 that are specially designed or rated as electromagnetic (including "laser") and ionized-particle radiation resistant.

* * * * *

Related ECCNs: * * *

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 and b.1

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

GFW: No

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

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

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

* * * * *

Related ECCNs: See 6A43B for NP controls on cameras and components not controlled by 6A03A.

43. In Category 6, ECCN 6A05A is amended by revising the Requirements section and a Related ECCNs paragraph is added immediately following ECCN 6A05A to read as follows:

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, Poland, 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.

44. In Category 6, ECCN 6A42B is removed, ECCNs 6A43B and 6A44B are revised, and a new ECCN 6A50B is added immediately following ECCN 6A44B to read as follows:

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 having recording rates or writing speeds, as follows:

a.1. Mechanical 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;

a.3. Parts for cameras described in 6A43.a.1 and a.2, including synchronizing electronics specially designed for this purpose and specially designed rotor assemblies (including 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 pockel 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. Television cameras specially designed or rated as radiation-hardened to withstand greater than 5×10^4 grays (Si) without operational degradation and specially designed lenses used therein.

6A44B Photomultiplier tubes.

Requirements

Validated License Required:
QSTVWYZ

Unit: Number

Reason for Control: NP

GLV: \$0

GCT: No

GFW: No

GNSG: Yes

List of Items Controlled

Photomultiplier tubes having the following characteristics:

a. An anode pulse rise time of less than 1 ns; and

b. A photocathode area of greater than 20 cm².

6A50B Lasers, laser amplifiers, and oscillators.

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. Argon ion lasers with greater than 40 W average output power operating at

wavelengths between 400 nm and 515 nm;

b. Neodymium-doped (other than glass) lasers:

b.1. Having an output wavelength between 1,000 nm and 1,100 nm, being pulse-excited and Q-switched with a pulse duration equal to or greater than 1 ns, and having a single-transverse mode output having an average output power exceeding 40 W;

b.2. Operating at a wavelength between 1,000 nm and 1,100 nm and incorporating frequency doubling giving an output wavelength between 500 nm and 550 nm with an average power at the doubled frequency (new wavelength) of greater than 40 W;

c. Tunable pulsed dye laser amplifiers and oscillators, except single mode oscillators, with an average power output of greater than 30 W, a repetition rate greater than 1 kHz, a pulse width less than 100 ns, and a wavelength between 300 nm and 800 nm;

d. Alexandrite lasers with a bandwidth of 0.005 nm or less, a repetition rate of greater than 125 Hz, and an average power output greater than 30 W operating at wavelengths between 720 nm to 800 nm;

e. Pulsed carbon dioxide lasers with a repetition rate greater than 250 Hz, an average power output of greater than 500 W, and a pulse of less than 200 ns operating at wavelengths between 9,000 nm and 11,000 nm;

Note: 6A50.e does not control the higher power (typically 1 kW to 5 kW) industrial CO₂ lasers used in applications such as cutting and welding, since such lasers are either continuous wave or are pulsed with a pulse width of more than 200 ns.

f. Para-hydrogen Raman shifters designed to operate at 16 μm output wavelength and at a repetition rate greater than 250 Hz.

45. In Category 6, ECCNs 6E01A and 6E02A and the Related ECCNs paragraphs following ECCNs 6E01A and 6E02A are revised to read as follows:

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, Poland, Romania, or Russia, for NP only (see Notes)

Notes:

1. MT controls apply to technology for the "development" of equipment controlled by 6A02.a.1, 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.1, a.2, a.3, or c (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.

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, Poland, Romania, or Russia, for NP only (see Notes)

Notes:

1. MT controls apply to technology for the "production" of equipment controlled by 6A02.a.1, 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 "production" of items controlled by 6A02.a.1, a.2, a.3, or c (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 "production" of police-model infrared viewers controlled by 6A02.c (see § 776.14 of this subchapter).

4. NP controls apply to technology for the "production" 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.

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.

46. In Category 6, new ECCNs 6E40B and 6E41B are added immediately following ECCN 6E23B to read as follows:

6E40B Technology for the "use" 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.

Requirements

Validated License Required:

QSTVWYZ

Reason for Control: NP

GTDR: No

GTDU: No

GNSG: Yes

6E41B Technology for the "development", "production", or "use" of equipment controlled by 6A43, 6A44, or 6A50.

Requirements

Validated License Required:

QSTVWYZ

Reason for Control: NP

GTDR: No

GTDU: No

GNSG: Yes

47. In Category 9, ECCN 9B26 is revised to read as follows:

9B26B Other vibration test equipment.

Requirements

Validated License Required:

QSTVWYZ

Unit: \$ Value

Reason for Control: MT, NP (see Note)

GLV: \$0 for 9B26.a; \$3000 for 9B26.b

GCT: No

GFW: No

GNSG: No

Note: NP controls apply to vibration test equipment and feedback or closed loop test equipment described in 9B26.a.

List of Items Controlled

a. Vibration test equipment using digital control techniques, and feedback or closed loop test equipment therefor, 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.) or greater.

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 2×10^{-5} N per square meter) or with a rated power output of 4 kilowatts or greater, for anechoic chambers.

48. In Category 9, ECCN 9D24B is revised to read as follows:

9D24B "Software", specially designed or modified for the "development", "production", or "use" of propulsion systems and equipment controlled by 9A21, 9A22, 9A23, 9A24, 9B21, 9B25, 9B26, or 9B27, and "software", n.e.s., specially designed or modified for the "use" of equipment controlled by 9B01, 9B02, 9B03, 9B04, 9B06, or 9B07.

Requirements

Validated License Required:

QSTVWYZ

Unit: \$ value

Reason for Control: MT, NP (see Note)

GTDR: No

GTDU: No

GNSG: No

Note: NP controls apply to "software" for the "development", "production", or "use" of vibration test equipment and feedback or closed loop test equipment controlled by 9B26.a.

49. In Category 9, ECCN 9E21B is revised to read as follows:

9E21B Technology for the "development", "production", or "use" of equipment controlled by 9A21, 9A22, 9A23, 9A24, 9B21, 9B25, 9B26, or 9B27, or "software" controlled by 9D24, and technology for the "use" of equipment controlled by 9B01, 9B02, 9B03, 9B04, 9B06, or 9B07.

Requirements

Validated License Required:

QSTVWYZ

Reason for Control: MT, NP (see Note)

GTDR: No

GTDU: No

GNSG: No

Note: NP controls apply to technology for the "development", "production", or "use" of vibration test equipment and feedback or

closed loop test equipment controlled by 9B26.a.

Supplement No. 3 to § 799.1 [Amended]

50. Supplement No. 3 to § 799.1 (Definitions) is amended by adding the following definitions in alphabetical order to read as follows:

Supplement No. 3 to § 799.1 Definitions

* * * * *

Part program (Cat. 2)—An ordered set of instructions that is in a language and in a format required to cause operations to be effected under automatic control and that is either written in the form of a machine program on an input medium or prepared as input data for processing in a computer to obtain a machine program (Ref. ISO 2806-1980).

* * * * *

Positioning accuracy (Cat. 2)—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 pre-measurement time the slides of the machine will be continuously cycled in the same manner that the accuracy measurements will be taken;
 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 exceed $\pm 10\%$ of nominal rated voltage;
 - b. Frequency variation shall not exceed ± 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 case of machine tools that generate optical quality surfaces, the feedrate 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. Position accuracy (A); and
 2. The mean reversal error (B).

* * * * *

Sensors (Cat. 6)—Detectors of a physical phenomenon, the output of which (after conversion into a signal

that can be interpreted by a controller) is able to generate "programs" or modify programmed instructions or numerical program data. This includes "sensors" with machine vision, infrared imaging, acoustical imaging, tactile feel, inertial position measuring, optical or acoustic ranging or force or torque measuring capabilities.

* * * * *

Supplement No. 1 to § 799.2 [Amended]

51. Supplement No. 1 to § 799.2 (Interpretations) is amended by removing and reserving Interpretation 1.

Dated: February 25, 1994.

Iain S. Baird,
Deputy Assistant Secretary for Export Administration.

[FR Doc. 94-4875 Filed 3-3-94; 1:32 pm]

BILLING CODE 3510-OT-P

SECURITIES AND EXCHANGE COMMISSION

17 CFR Part 240

[Release Nos. 33-7046; 34-33702; File No. S7-18-87]

Short Selling in Connection With a Public Offering

AGENCY: Securities and Exchange Commission.

ACTION: Final rule.

SUMMARY: The Commission announced the permanent adoption of rule 10b-21 under the Securities Exchange Act of 1934. The Commission adopted rule 10b-21 on a temporary basis in 1988. Rule 10b-21 is designed to prevent manipulative short sales of an equity security in anticipation of a public offering by prohibiting the covering of such short sales with securities purchased in the offering. The Commission has determined to remove the "Temporary" designation from rule 10b-21 because the rule continues to serve an important purpose in preventing manipulative conduct during offerings.

EFFECTIVE DATE: March 9, 1994.

FOR FURTHER INFORMATION CONTACT: M. Blair Corkran, Senior Special Counsel, or Elisa A. D. Metzger, Attorney-Adviser, at (202) 272-2848, Office of Trading Practices, Division of Market Regulation, Securities and Exchange Commission, 450 Fifth Street, NW., Washington, DC 20549.

SUPPLEMENTARY INFORMATION:

I. Introduction

In August 1988, the Commission adopted on a temporary basis rule 10b-

21(T)¹ ("rule 10b-21(T)" or "rule") under the Securities Exchange Act of 1934 ("Exchange Act"),² which is designed to prevent manipulative short selling of securities in anticipation of a public offering of the same securities.³ The rule prohibits a person from selling short an equity security (and any security of the same class) that is being offered for cash pursuant to a registration statement filed under the Securities Act of 1933 ("Securities Act")⁴ from the time that the registration statement is filed until the securities are available for sale, if such short sale is covered with offered securities purchased from a broker-dealer participating in the offering.⁵

The NASD Petition and the adoption of the rule by the Commission were based on concerns relating to certain short selling prior to a public offering. Short sales immediately prior to an offering of a security may result in a decrease in the price of the security and consequently a lower offering price. The short sellers may then seek to cover their short positions and realize a profit by purchasing securities in the offering at the reduced price. Persons selling short in anticipation of a public offering are not subject to the usual market risk because they can cover their short position from a pool of securities obtainable from identifiable sources at a fixed, and generally lower, price. This type of short selling, coupled with covering from the offering, adversely affects issuers. A decrease in price resulting from these unlawful short sales deprives the issuer of offering proceeds that would have been realized had the market not been subject to such short selling. This activity can be detrimental to the capital raising process.⁶

II. Experience Under the Rule

The Commission's staff prepared a statistical analysis of non-initial public offerings of securities listed for quotation on the NASD's NASDAQ system and listed for trading on the New York Stock Exchange, Inc. ("NYSE") during the period from January 1, 1986

through December 31, 1990. The staff concluded that there was no statistical evidence that rule 10b-21(T) had an impact on stock price patterns around the time of offerings.

While statistical evidence of the impact of rule 10b-21(T) on pre-offering price performance is not dispositive, the NASD, NYSE and American Stock Exchange, Inc. continue to support the rule. These self-regulatory organizations have implemented surveillance systems that are designed to detect questionable market activities, including those involving short sales, prior to an offering. Others also have commented favorably on rule 10b-21(T) in other contexts.⁷

The Commission does not have any evidence that the Rule adversely affects legitimate market activities. The Rule does not proscribe short selling at any time, nor does it prohibit the covering of short sales with securities purchased in the open market. Moreover, the Rule does not prevent using securities acquired in a public offering to cover short sales effected before the registration statement was filed. The Rule is narrowly drawn to impede only the particular practice of short selling in anticipation of a public offering and covering those short sales with securities purchased in the offering. The Commission views such short sales as manipulative and destructive of capital formation activities by issuers. For these reasons, the Commission has determined to remove the "Temporary" designation from the rule.⁸

⁷ See Letter from John F. Olson, Chair Federal Regulation of Securities Committee and Robert Todd Lang, Chair Subcommittee on Proxy Solicitations and Tender Offers, American Bar Association, to Jonathan G. Katz, Secretary, SEC (October 4, 1991); Letter from Guy W. Adams, Hecco Ventures Management Inc., to Jonathan G. Katz, Secretary, SEC (August 22, 1991); and Letter from Sullivan & Cromwell, to Jonathan G. Katz, Secretary, SEC (August 22, 1991) regarding Concept Release on Public Disclosure of Material Short Positions, Securities Exchange Act Release No. 29278 (June 7, 1991) 56 FR 27280. These letters are publicly available for inspection and copying in File No. S7-20-91 in the Commission's Public Reference Room.

In response to the 1987 Proposing Release, the Commission received 36 comment letters, the majority of which supported the adoption of the Rule. These comment letters, as well as a summary of the comment letters prepared by the Division of Market Regulation, are available for public inspection and copying at the Commission's Public Reference Room. See File No. S7-18-87.

⁸ The Commission previously solicited comment on adoption of the rule on a permanent basis. Since removing the "Temporary" designation does not in any way alter the Rule substantively or procedurally, the Commission is not seeking comment on this change.

III. Effects on Competition

Section 23(a)(2) of the Exchange Act⁹ requires the Commission, in adopting rules under the Exchange Act, to consider the anti-competitive effects of such rules, if any, and to balance any impact against the regulatory benefits gained in terms of furthering the purposes of the Exchange Act. The Commission has considered the revision in light of the standard cited in section 23(a)(2) and believes that permanent adoption of the rule will not impose any burden on competition not necessary or appropriate in furtherance of the Exchange Act.

Statutory Authority and Text of Rule Amendment

List of Subjects in 17 CFR Part 240

Broker-dealers, Fraud, Issuers, Reporting and recordkeeping requirements, Securities.

For the reasons set out in the preamble, title 17, chapter II of the Code of Federal Regulations is amended as follows:

PART 240—GENERAL RULES AND REGULATIONS, SECURITIES EXCHANGE ACT OF 1934

1. The authority citation for part 240 is amended by revising the specific authority for § 240.10b-21(T) to read as follows:

Authority: 15 U.S.C. 77c, 77d, 77g, 77j, 77s, 77eee, 77ggg, 77nnn, 77sss, 77ttt, 78c, 78d, 78i, 78j, 78l, 78m, 78n, 78o, 78p, 78s, 78w, 78x, 78ll(d), 79q, 79t, 80a-20, 80a-23, 80a-29, 80a-37, 80b-3, 80b-4 and 80b-11, unless otherwise noted.

* * * * *

Section 240.10b-21 also issued under 15 U.S.C. 78b, 78c, 78i(a)(6), 78j(a), 78j(b), 78o(c), 78w(a), and 78dd(a);

* * * * *

§ 240.10b-21(T) [Amended]

2. Section 240.10b-21(T) is amended by removing the "(T)" following the section number.

Dated: March 2, 1994.

By the Commission.

Margaret H. McFarland,

Deputy Secretary.

[FR Doc. 94-5374 Filed 3-8-94; 8:45 am]

BILLING CODE 8010-01-M

¹ 17 CFR 240.10b-21(T).

² 15 U.S.C. 78a et seq.

³ Securities Exchange Act Release No. 26028 (August 25, 1988), 53 FR 33455 ("Adopting Release"). The Commission adopted the Rule in response to a petition for rulemaking ("NASD Petition") filed by the National Association of Securities Dealers, Inc. ("NASD"). See also Securities Exchange Act Release No. 24485 (May 20, 1987), 52 FR 19885 ("1987 Proposing Release").

⁴ 15 U.S.C. 77a et seq.

⁵ The rule also applies to equity securities sold pursuant to Regulation A under the Securities Act. See 17 CFR 239.90.

⁶ See Adopting Release, 53 FR at 33456.

⁹ 15 U.S.C. 78w(a)(2).

DEPARTMENT OF HEALTH AND HUMAN SERVICES

Food and Drug Administration

21 CFR Part 172

[Docket No. 85F-0176]

Food Additives Permitted for Direct Addition to Food for Human Consumption; Synthetic Petroleum Wax

AGENCY: Food and Drug Administration, HHS.

ACTION: Final rule.

SUMMARY: The Food and Drug Administration (FDA) is amending the food additive regulations to provide for the safe use of synthetic petroleum wax prepared by copolymerization of ethylene with linear (C₃ to C₁₂) alpha-olefins in or on food. This action is in response to a petition filed by Petrolite Corp.

DATES: Effective March 9, 1994; written objections and requests for a hearing by April 8, 1994.

ADDRESSES: Submit written objections to the Dockets Management Branch (HFA-305), Food and Drug Administration, rm. 1-23, 12420 Parklawn Dr., Rockville, MD 20857.

FOR FURTHER INFORMATION CONTACT: Aydin Örtan, Center for Food Safety and Applied Nutrition (HFS-217), Food and Drug Administration, 200 C St. SW., Washington, DC 20204, 202-254-9515.

SUPPLEMENTARY INFORMATION: In a notice published in the *Federal Register* of May 17, 1985 (50 FR 20625), FDA announced that a food additive petition (FAP 5A3649) had been filed by Petrolite Corp., 369 Marshall Ave., St. Louis, MO 63119-1897, proposing that § 172.888 *Synthetic petroleum wax* (21 CFR 172.888) be amended to provide for the safe use in or on food of synthetic petroleum wax prepared by copolymerization of ethylene with higher alpha olefins.

FDA has evaluated the data in the petition and other relevant material and concludes that the proposed food additive is more accurately described as synthetic petroleum wax prepared by copolymerization of ethylene with linear (C₃ to C₁₂) alpha-olefins. The agency also concludes that the proposed food use of this additive is safe and that § 172.888 should be amended as set forth below.

In accordance with § 171.1(h) (21 CFR 171.1(h)), the petition and the documents that FDA considered and relied upon in reaching its decision to approve the petition are available for

inspection at the Center for Food Safety and Applied Nutrition by appointment with the information contact person listed above. As provided in 21 CFR 171.1(h), the agency will delete from the documents any materials that are not available for public disclosure before making the documents available for inspection.

The agency has carefully considered the potential environmental effects of this action. FDA has concluded that the action will not have a significant impact on the human environment, and that an environmental impact statement is not required. The agency's finding of no significant impact and the evidence supporting that finding, contained in an environmental assessment, may be seen in the Dockets Management Branch (address above) between 9 a.m. and 4 p.m., Monday through Friday.

Any person who will be adversely affected by this regulation may at any time on or before April 8, 1994, file with the Dockets Management Branch (address above) written objections thereto. Each objection shall be separately numbered, and each numbered objection shall specify with particularity the provisions of the regulation to which objection is made and the grounds for the objection. Each numbered objection on which a hearing is requested shall specifically so state. Failure to request a hearing for any particular objection shall constitute a waiver of the right to a hearing on that objection. Each numbered objection for which a hearing is requested shall include a detailed description and analysis of the specific factual information intended to be presented in support of the objection in the event that a hearing is held. Failure to include such a description and analysis for any particular objection shall constitute a waiver of the right to a hearing on the objection. Three copies of all documents shall be submitted and shall be identified with the docket number found in brackets in the heading of this document. Any objections received in response to the regulation may be seen in the Dockets Management Branch between 9 a.m. and 4 p.m., Monday through Friday.

List of Subjects in 21 CFR Part 172

Food additives, Reporting and recordkeeping requirements.

Therefore, under the Federal Food, Drug, and Cosmetic Act and under authority delegated to the Commissioner of Food and Drugs and redelegated to the Director, Center for Food Safety and Applied Nutrition, 21 CFR part 172 is amended as follows:

PART 172—FOOD ADDITIVES PERMITTED FOR DIRECT ADDITION TO FOOD FOR HUMAN CONSUMPTION

1. The authority citation for 21 CFR part 172 continues to read as follows:

Authority: Secs. 201, 401, 402, 409, 701, 721 of the Federal Food, Drug, and Cosmetic Act (21 U.S.C. 321, 341, 342, 348, 371, 379e).

2. Section 172.888 is amended by revising paragraph (a) to read as follows:

§ 172.888 Synthetic petroleum wax.

(a) Synthetic petroleum wax is a mixture of solid hydrocarbons, paraffinic in nature, prepared by either catalytic polymerization of ethylene or copolymerization of ethylene with linear (C₃ to C₁₂) alpha-olefins, and refined to meet the specifications prescribed in this section.

Dated: February 25, 1994.

Fred R. Shank,
Director, Center for Food Safety and Applied Nutrition.

[FR Doc. 94-5321 Filed 3-8-94; 8:45 am]

BILLING CODE 4160-01-F

21 CFR Part 177

[Docket No. 88F-0199]

Indirect Food Additives: Polymers

AGENCY: Food and Drug Administration, HHS.

ACTION: Final rule.

SUMMARY: The Food and Drug Administration (FDA) is amending the food additive regulations to provide for the safe use of ethylene-octene copolymers, ethylene-octene-hexene copolymers, ethylene-octene-butene copolymers, ethylene-octene-propylene copolymers, and ethylene-octene-4-methylpentene-1 copolymers, which contain not less than 80 weight percent of polymer units derived from ethylene, as articles or components of articles for use in contact with food. This action is in response to a petition filed by the Dow Chemical Co.

DATES: Effective March 9, 1994; written objections and requests for a hearing by April 8, 1994.

ADDRESSES: Submit written objections to the Dockets Management Branch (HFA-305), Food and Drug Administration, rm. 1-23, 12420 Parklawn Dr., Rockville, MD 20857.

FURTHER INFORMATION CONTACT: Vir D. Anand, Center for Food Safety and Applied Nutrition (HFS-216), Food and

Drug Administration, 200 C St. SW., Washington, DC 20204, 202-254-9500.

SUPPLEMENTARY INFORMATION: In a notice published in the Federal Register of June 24, 1988 (53 FR 23798), FDA announced that a food additive petition (FAP 8B4091) had been filed by the Dow Chemical Co., 1803 Bldg., Door 7, Midland, MI 48674, proposing that the food additive regulations be amended in § 177.1520 *Olefin polymers* (21 CFR 177.1520) to provide for the safe use of ethylene-octene copolymers, ethylene-octene-hexene copolymers, ethylene-octene-butene copolymers, ethylene-octene-propylene copolymers, and ethylene-octene-4-methylpentene-1 copolymers, which contain not less than 75 weight percent of polymer units derived from ethylene, as articles or components of articles for use in contact with food.

The notice stated that the copolymers, which are the subject of this action, would contain not less than 75 weight percent of polymer units derived from ethylene. Upon review of the data presented in the petition and subsequent amendments, FDA determines that the subject copolymers should contain not less than 80 weight percent of polymer units derived from ethylene. The attached order reflects this change.

FDA has evaluated data in the petition and other relevant material. The agency concludes that the proposed use of the additives is safe and that the regulations in § 177.1520 should be amended as set forth below.

In accordance with § 171.1(h) (21 CFR 171.1(h)), the petition and the documents that FDA considered and relied upon in reaching its decision to approve the petition are available for inspection at the Center for Food Safety and Applied Nutrition by appointment with the information contact person

listed above. As provided in 21 CFR 171.1(h), the agency will delete from the documents any materials that are not available for public disclosure before making the documents available for inspection.

The agency has carefully considered the potential environmental effects of this action. FDA has concluded that the action will not have a significant impact on the human environment, and that an environmental impact statement is not required. The agency's finding of no significant impact and the evidence supporting that finding, contained in an environmental assessment, may be seen in the Dockets Management Branch (address above) between 9 a.m. and 4 p.m., Monday through Friday.

Any person who will be adversely affected by this regulation may at any time on or before April 8, 1994, file with the Dockets Management Branch (address above) written objections thereto. Each objection shall be separately numbered, and each numbered objection shall specify with particularity the provisions of the regulation to which objection is made and the grounds for the objection. Each numbered objection on which a hearing is requested shall specifically so state. Failure to request a hearing for any particular objection shall constitute a waiver of the right to a hearing on that objection. Each numbered objection for which a hearing is requested shall include a detailed description and analysis of the specific factual information intended to be presented in support of the objection in the event that a hearing is held. Failure to include such a description and analysis for any particular objection shall constitute a waiver of the right to a hearing on the objection. Three copies of all documents shall be submitted and shall be identified with the docket number

found in brackets in the heading of this document. Any objections received in response to the regulation may be seen in the Dockets Management Branch between 9 a.m. and 4 p.m., Monday through Friday.

List of Subjects in 21 CFR Part 177

Food additives, Food packaging.

Therefore, under the Federal Food, Drug, and Cosmetic Act and under authority delegated to the Commissioner of Food and Drugs and redelegated to the Director, Center for Food Safety and Applied Nutrition, 21 CFR part 177 is amended as follows:

PART 177—INDIRECT FOOD ADDITIVES: POLYMERS

1. The authority citation for 21 CFR part 177 continues to read as follows:

Authority: Secs. 201, 402, 409, 721 of the Federal Food, Drug, and Cosmetic Act (21 U.S.C. 321, 342, 348, 379e).

2. Section 177.1520 is amended by adding a new paragraph (a)(3)(i)(e), and in the table in paragraph (c) by redesignating item "3.1" in the first column as item "3.1a" and revising it, and by adding a new item "3.1b" to read as follows:

§ 177.1520 Olefin polymers.

* * * * *

(a) * * *

(3) * * *

(i) * * *

(e) Olefin basic copolymers manufactured by the catalytic polymerization of ethylene and octene-1, or ethylene, octene-1, and either hexene-1, butene-1, propylene, or 4-methylpentene-1 shall contain not less than 80 weight percent of polymer units derived from ethylene.

* * * * *

(c) * * *

Olefin Polymers	Density	Melting point (MP) or softening point (SP) (Degrees Centigrade)	Maximum extractable fraction (expressed as percent by weight of polymer) in <i>N</i> -hexane at specified temperatures	Maximum soluble fraction (expressed as percent by weight of polymer) in xylene at specified temperatures
3.1a Olefin copolymers described in paragraph (a)(3)(i) of this section for use in articles that contact food except for articles used for packing or holding food during cooking; except olefin copolymers described in paragraph (a)(3)(i)(e) of this section and listed in item 3.1b of this table.	0.85-1.00	5.5 pct at 50° C	30 pct at 25° C
3.1b Olefin copolymers described in paragraph (a)(3)(i)(e) of this section for use in contact with food only under conditions of use D, E, F, G, and H described in § 176.170(c) of this chapter, Table 2.	0.9-1.00	Do.	Do.

Dated: February 28, 1994.

Fred R. Shank,

Director, Center for Food Safety and Applied Nutrition.

[FR Doc. 94-5320 Filed 3-8-94; 8:45 am]

BILLING CODE 4160-01-F

DEPARTMENT OF DEFENSE

Office of the Secretary

32 CFR Part 90

[DoD Instruction 7045.18]

Collection of Indebtedness Due the United States

AGENCY: Office of the Secretary of Defense, DoD.

ACTION: Final rule.

SUMMARY: The Department of Defense hereby removes 32 CFR part 90 concerning collection of indebtedness. This part has served the purpose for which it was intended and is no longer valid.

EFFECTIVE DATE: March 9, 1994.

FOR FURTHER INFORMATION CONTACT:

L. M. Bynum, Correspondence and Directives Directorate, 1155 Defense Pentagon, Washington, DC 20301-1155, (703) 697-4111.

SUPPLEMENTARY INFORMATION:

Department of Defense information on this subject may be found in DoD 7000.14-R, Volume 5. This document may be obtained, at cost, from the National Technical Information Service (NTIS), 5285 Port Royal Road, Springfield, VA 22161.

List of Subjects in 32 CFR Part 90

Claims, Government employees, Military personnel, Wages.

PART 90—[REMOVED]

Accordingly, by the authority of 10 U.S.C. 301, 32 CFR part 90 is removed.

Dated: March 3, 1994.

Patricia L. Toppings,

Alternate OSD Federal Register Liaison Officer, Department of Defense.

[FR Doc. 94-5330 Filed 3-8-94; 8:45 am]

BILLING CODE 5000-04-M

ENVIRONMENTAL PROTECTION AGENCY

40 CFR Part 180

[OPP-300319A; FRL-4760-2]

RIN 2070-AB78

Alkyl (C₁₂-C₂₀) Methacrylate-Methacrylic Acid Copolymer; Tolerance Exemption

AGENCY: Environmental Protection Agency (EPA).

ACTION: Final rule.

SUMMARY: This document establishes an exemption from the requirement of a tolerance for residues of alkyl (C₁₂-C₂₀) methacrylate-methacrylic acid copolymer when used as an inert ingredient (stabilizer; component of spray drift retardant) in pesticide formulations applied to growing crops only. Allied Colloids, Inc., requested this regulation.

EFFECTIVE DATE: This regulation becomes effective March 9, 1994.

ADDRESSES: Written objections and hearing requests, identified by the document control number, [OPP-300319A], may be submitted to: Hearing Clerk (1900), Environmental Protection Agency, Rm. M3708, 401 M St., SW., Washington, DC 20460. A copy of any

objections and hearing requests filed with the Hearing Clerk should be identified by the document control number and submitted to: Public Response and Program Resources Branch, Field Operations Division (7506C), Office of Pesticide Programs, Environmental Protection Agency, 401 M St., SW., Washington, DC 20460. In person, bring copy of objections and hearing request to: Rm. 1132, CM #2, 1921 Jefferson Davis Hwy., Arlington, VA 22202. Fees accompanying objections shall be labeled "Tolerance Petition Fees" and forwarded to: EPA Headquarters Accounting Operations Branch, OPP (Tolerance Fees), P.O. Box 360277M, Pittsburgh, PA 15251.

FOR FURTHER INFORMATION CONTACT: By mail: Connie Welch, Registration Division (7505W), Environmental Protection Agency, 401 M St., SW., Washington, DC 20460. Office location and telephone number: 2800 Crystal Drive, North Tower, 6th Floor, Arlington, VA 22202, (703)-308-8320.

SUPPLEMENTARY INFORMATION: In the Federal Register of January 12, 1994 (59 FR 1700), EPA issued a proposed rule that gave notice that Allied Colloids, Inc., P.O. Box 820, Suffolk, VA 23434, had submitted pesticide petition (PP) 4E4277 to EPA requesting that the Administrator, pursuant to section 408(e) of the Federal Food, Drug, and Cosmetic Act (21 U.S.C. 346a(e)), propose to amend 40 CFR 180.1001(d) by establishing an exemption from the requirement of a tolerance for residues of alkyl (C₁₂-C₂₀) methacrylate-methacrylic acid copolymer when used as a stabilizer or component of spray drift retardant in pesticide formulations applied to growing crops only.

Inert ingredients are all ingredients that are not active ingredients as defined