

**FOR FURTHER INFORMATION CONTACT:**  
Glen Everhart, Bureau of the Census,  
Pittsburg, Kansas 66762, (316) 231-7100.

**SUPPLEMENTARY INFORMATION:** This is not a major rule within the meaning of section 1 of Executive Order 12291. It will not result in: (1) An annual effect on the economy of \$100 million or more; (2) a major increase in costs or prices for consumers, individual industries, Federal, state, or local government agencies, or geographic regions; or (3) significant adverse effects on competition, employment, investment, productivity, innovation, or on the ability of U.S.-based enterprises to compete with foreign-based enterprises in domestic or export markets.

In accordance with the rulemaking provisions of the Administrative Procedure Act (APA), 5 U.S.C. 553(b)(B), it has been determined that notice and opportunity to comment on this schedule of fees are unnecessary because this is a minor rule, making a technical amendment to adjust the agency's fee structure to recover the actual cost for searching the records and furnishing information therefrom. The actual or estimated cost recovery is required by 13 U.S.C. 8(a). This cost increase is minimal, reflecting the actual increased costs for searching and furnishing the information, and funds for this purpose are not available from any other source. Requests for searches should be directed to the Bureau of the Census, Pittsburg, Kansas 66762.

Since notice and opportunity to comment are not required by the APA or any other law, this rule is not a "rule" within the meaning of the Regulatory Flexibility Act and neither an initial nor final regulatory flexibility analysis will be prepared.

Accordingly, the Department of Commerce's General Counsel has determined and so certified to the Office of Management and Budget that dispensing with notice and opportunity for comment is consistent with the APA and other relevant laws.

This rule does not impose an information collection requirement for purposes of the Paperwork Reduction Act.

The legal authority is Title 13, United States Code.

#### List of Subjects in 15 CFR Part 50

Census data.

#### PART 50—[AMENDED]

1. The authority citation for 15 CFR Part 50 continues to read as follows:

Authority: Sec. 349 Stat. 293, as amended; 15 U.S.C. 192A. Interprets or applies sec. 1, 40 Stat. 1256, as amended, sec. 1.49 Stat. 292,

sec. 8, 60 Stat. 1013, as amended, 15 U.S.C. 192, 169A. 13 U.S.C. 8, unless otherwise noted.

2. 15 CFR Part 50 is amended by revising § 50.5 to read as follows:

#### § 50.5 Fee structure for age search and citizenship information.

| Type of service                                                                                              | Fee     |
|--------------------------------------------------------------------------------------------------------------|---------|
| Searches of not more than two censuses for one person and one transcript of the more appropriate record..... | \$25.00 |
| Each additional copy of census transcript.....                                                               | 2.00    |
| Each full schedule requested.....                                                                            | 6.00    |

Note—The \$6.00 for each full schedule requested is in addition to the fee increase to \$25.00.

Dated: July 5, 1989.

C.L. Kincannon,

Deputy Director, Bureau of the Census.

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#### Bureau of Export Administration

#### 15 CFR Parts 771, 774, and 786

[Docket No. 81139-9123]

#### General License G-COCOM

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

**ACTION:** Final rule.

**SUMMARY:** The Omnibus Trade and Competitiveness Act (OTCA), signed by the President on August 23, 1988, amended section 5(b)(2) of the Export Administration Act of 1979 (EAA) to allow commodities described in the Advisory Notes for the People's Republic of China to be exported without a license to COCOM participating countries and countries determined to be COCOM comparable. On December 6, 1988, the Bureau of Export Administration published a proposed rule in the *Federal Register* to implement this provision. Having received and considered comments, the Bureau of Export Administration is issuing a final rule creating a new general license designated G-COCOM. General License G-COCOM is designed for exports to COCOM countries and countries determined to have sufficient export control systems to warrant this benefit under section 5(k) of the EAA. Commodities that may be exported under General License G-COCOM are those described in Supplement No. 2 to Part 771, and those commodities eligible for General License G-COM or GFW. Supplement No. 2 to Part 771 lists commodities that could have been exported to the People's Republic of China with only notification to other

COCOM governments as of the date of enactment of the Trade Act. The list of eligible commodities may be upgraded from time to time to reflect action taken by the Coordinating Committee (COCOM).

Some commodities are ineligible for General License G-COCOM because they are controlled for other than national security reasons or because their export requires more than mere notification to COCOM.

A Swiss Blue Import Certificate will be required for exports to Switzerland under this General License G-COCOM.

**EFFECTIVE DATE:** This rule is effective July 11, 1989.

**FOR FURTHER INFORMATION CONTACT:**  
Patricia Muldonian, Regulations Branch,  
Office of Technology and Policy  
Analysis, Bureau of Export  
Administration, Telephone: (202) 377-2440.

#### SUPPLEMENTARY INFORMATION:

##### Background

The Omnibus Trade and Competitiveness Act (OTCA), signed by the President on August 23, 1988, amended section 5(b)(2) of the Export Administration Act of 1979 (EAA), by allowing exports of "Green Zone" commodities to COCOM participating countries and countries determined to be COCOM comparable. Consistent with the OTCA, the Department of Commerce issued a proposed rule on December 6, 1988 (53 FR 49202) with a request for comments on ways to implement the legislative requirements.

The proposed rule created a new General License G-COCOM to allow shipments of additional low level dual use items to COCOM participating countries and countries determined to have sufficient export control systems to warrant the benefit under section 5(k) of the EAA. A proposed new Supplement No. 2 to Part 771 listed commodities that could be exported to the People's Republic of China with only notification to other COCOM governments as of the date of enactment of the Trade Act. In addition, the proposal would not have authorized the use of the general license provision for exports to entities that the exporter knows or has reason to know are controlled-in-fact by Country Groups Q, W, Y, or Z.

The Department received comments from 14 firms and associations. In general, the comments were opposed to the scope and limitation of the proposed General License G-COCOM.

Most commenters felt that creation of yet another general license was confusing, and that it was the intent of

Congress to expand General License G-COM to allow exports of "Green Zone" commodities, not to create a new general license or restrict commodities to the "PRC Green Zone" as of August 23, 1988. Commenters felt that the proposed General License G-COCOM will cause confusion in implementation. The final rule retains the proposed General License G-COCOM structure of listing the eligible "Green Zone" commodities, as of the date of enactment of the Trade Act, in Supplement No. 2 to Part 771. However, the final rule adds four entries to the Supplement that were erroneously omitted in the proposal and raises the maximum bit transfer rate of Disk Drives from 3 Mbytes/sec. to 6 Mbytes/sec.

The proposed rule would not have made the general license provision available when the exporter knows or has reason to know that the recipient is a person or entity controlled-in-fact by governments of Country Groups Q, W, Y, or Z. Many commenters expressed concern that other COCOM countries do not have the same restriction and that these unilateral controls placed an unfair advantage on U.S. competitiveness. This final rule removes the restriction in its entirety.

A number of commenters noted that the restriction to consumption within eligible countries would prevent shipments for inventory, where ultimate use was not yet established. The final rule allows shipment under G-COCOM where the goods might be reexported under other authorization.

Some commenters observed that the Act addressed "goods and technology" while the proposal dealt only with goods. BXA is revising the technical data regulations and will address the Trade Act revisions in that separate document.

In addition, the proposed rule specified Switzerland as the only non-COCOM country eligible to benefit from General License G-COCOM. Many commenters questioned why only Switzerland was included; they believed that Congress intended to include other countries for eligibility. The EAA provided for the exercise of judgment as to whether a country's export controls are comparable in practice to those of COCOM participating countries. The Department of Commerce can also treat a country like a COCOM participating country in some or all respects under the EAR without having determined that the country's export controls are fully comparable in practice to the COCOM system. Because of continued improvement in its export controls, this final rule adds Finland on this

discretionary basis as a country to which this General License provision will apply. Possible extension to other countries will be considered.

Export license applications do not generally specify whether the goods are within advisory notes or not. Thus, the Department has no statistical basis for determining how many individual validated license applications will be eliminated as a result of this new general license. However, we expect a sharp decrease in applications because G-COCOM covers a broad range of goods destined to the major markets for U.S. exporters.

#### Rulemaking Requirements

1. This rule is consistent with Executive Orders 12291 and 12661.

2. This rule does not contain a collection of information subject to the requirements of the Paperwork Reduction Act of 1980 (44 U.S.C. 3501 *et seq.*). As a result of this rule, a reduction of paperwork burden on the public is anticipated. Affected OMB controlled collection actions include 0694-0005, 0694-0007, and 0694-0010.

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

4. 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 sections 603(a) and 604(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. Section 13(a) of the Export Administration Act of 1979 (EAA), as amended (50 U.S.C. app. 2412(a)), exempts this rule from all requirements of section 553 of the Administrative Procedure Act (APA) (5 U.S.C. 553), including those requiring publication of a notice of proposed rulemaking, an opportunity for public comment, and a delay in effective date. Nevertheless, to help ascertain the economic impact of the regulation upon the general public, the regulation was issued in proposed form and public comment was solicited. Because this rule was originally issued in proposed form it complies with section 13(b) of the Export Administration Act.

#### List of Subjects in 15 CFR Parts 771, 774, and 786

Exports, Reporting and recordkeeping requirements.

Accordingly, Parts 771, 774, and 786 of the Export Administration Regulations (15 CFR Parts 768-799) are amended as follows:

1. The authority citations for Parts 771 and 786 continue to read as follows:

**Authority:** Pub. L. 96-72, 93 Stat. 503 (50 U.S.C. app. 2401 *et seq.*), as amended by Pub. L. 97-145 of December 29, 1981, by Pub. L. 99-64 of July 12, 1985 and by Pub. L. 100-418 of August 23, 1988; E.O. 12525 of July 12, 1985 (50 FR 28757, July 16, 1985); Pub. L. 95-223 of December 28, 1977 (50 U.S.C. 1701 *et seq.*); E.O. 12532 of September 9, 1985 (50 FR 36861, September 10, 1985) as affected by notice of September 4, 1986 (51 FR 31925, September 8, 1986); Pub. L. 99-440 of October 2, 1986 (22 U.S.C. 5001 *et seq.*); and E.O. 12571 of October 27, 1986 (51 FR 39505, October 29, 1986).

2. The authority citation for 15 CFR Part 774 is revised to read as follows:

**Authority:** Pub. L. 96-72, 93 Stat. 503 (50 U.S.C. app. 2401 *et seq.*), as amended by Pub. L. 97-145 of December 29, 1981, Pub. L. 99-64 of July 12, 1985, and by Pub. L. 100-418 of August 23, 1988; E.O. 12525 of July 12, 1985 (50 FR 28757, July 16, 1985).

#### PART 771—[AMENDED]

3. A new § 771.24 is added to read as follows:

#### § 771.24 General License G-COCOM: certain shipments to cooperating countries.

(a) *Scope.* A general license designated G-COCOM is established, authorizing exports to COCOM participating countries, Finland and Switzerland, for use or consumption therein, of commodities that the United States may approve for export to controlled countries with only notification to the COCOM governments, as well as commodities within the China "Green Zone", as of August 23, 1988.

(b) *Eligible countries.* The countries that are eligible to receive exports under this general license are Australia, Belgium, Denmark, France, the Federal Republic of Germany, Finland, Greece, Italy, Japan, Luxembourg, the Netherlands, Norway, Portugal, Spain, Switzerland, Turkey, and the United Kingdom. Exports may be made under G-COCOM only when intended for consumption within the importing country, reexport among and consumption within eligible countries, or reexport in accordance with other provisions of the Export Administration Regulations.

(c) *Eligible exports.* The commodities eligible for export under this general license are those also eligible for General License G-COM or GFW, and those described in Supplement No. 2 to

Part 771. End-use and quantity restrictions in Supplement No. 2 to Part 771, and in the notes identifying those commodities that may be shipped under General License G-COM or GFW (see § 771.8 and § 771.23), may be disregarded in determining whether G-COCOM may be used. Shipments of eligible commodities are subject to the prohibitions contained in § 771.2(c).

(d) *Special documentation requirements for Switzerland.* Prior to shipment to Switzerland under this General License G-COCOM, the exporter must obtain and retain on file a Swiss Blue Import Certificate.

4. A new Supplement No. 2 to Part 771 is added to read as follows:

**Supplement No. 2 to Part 771—  
Commodities Eligible for General License  
G-COCOM.**

This Supplement provides a list of commodities eligible for General License G-COCOM by Export Control Commodity Number and commodity description. Use of this general license is subject to the conditions of § 774.24.

1091—Numerical control units, numerically controlled machine tools, dimensional inspection machines and specially designed software therefor, and specially designed sub-assemblies therefor, as follows:

(a) Numerical control units having all of the following characteristics:

**Note:** Numerical control units exported separately from equipment must be for use with and specially configured for equipment permitted by paragraph (b) of this entry.

(1) No more than four contouring interpolating (any mathematical function including linear and circular) axes can be simultaneously coordinated. Units may have:

(i) One or more additional axes in which the rate of movement is not coordinated, varied, or modulated with that of another axis; or

(ii) One additional set of four contouring axes provided that separate feedrate numbers, standard or optional, do not control more than any four contouring axes;

(2) Minimum programmable increment equal to or greater than 0.001 mm;

(3) Interfaces as follows:

(i) No more than one integral interface designed to meet ANSI/IEEE standard 488-1978, IEC publication 625-1, or any equivalent standard; and

(ii) An unlimited number of interfaces meeting EIA standard RS-232-C or any equivalent standard;

(4) On-line (real-time) modification of the tool path, feedrate and spindle data limited to the following:

(i) Cutter diameter compensation normal to the center line path;

(ii) Automatic acceleration and deceleration for starting, cornering and stopping;

(iii) Axis transducer compensation including lead screw pitch compensation (measurements on one axis may not compensate another axis);

(iv) Constant surface speed with or without limits;

(v) Spindle growth compensation;

(vi) Feedrate and spindle speed override;

(vii) Fixed and repetitive cycles, including automatic cut vector generation;

(viii) Tool and fixture offset;

(ix) Part program tape editing, including source program language and centerline location data (CLDATA);

(x) Tool length compensation;

(xi) Part program storage;

(xii) Variable pitch threading;

(xiii) Inch/metric conversion; and

(xiv) Feedrate override based on spark voltage for electrical discharge machines;

(5) Word size equal to or less than 32 bits (excluding parity bits);

(6) "Software" or "firmware", including "software" or "firmware" of any programmable unit or device furnished, not exceeding control unit functions as provided in paragraphs (a)(1) to (a)(5) of this entry, and restricted as follows:

(i) Application programs executable without further compilation, assembly, interpretation or processing, other than control unit parameter initialization, and memory storage loading, and each supplied as an entity rather than in modular form, as follows:

(A) An operating program to allow the unit to perform its normal functions;

(B) One or more diagnostic programs to verify control or machine performance and to permit localization of hardware malfunctions; and

(C) A translator program for programming the control-to-machine interface;

(ii) Documentation for application programs not containing the following:

(A) Listing of program instructions, except that necessary for diagnostics for routine hardware maintenance;

(B) Description of program organization or function beyond that required for program use and for maintenance of exported hardware and "software";

(C) Flow charts, logic diagrams or algorithms employed, except those necessary for use of diagnostics for routine hardware maintenance;

(D) Any reference to specific memory storage locations, except those necessary for diagnostics for routine hardware maintenance; and

(E) Any other information that would assist in the analysis or modification of all or of part of the software;

(b) Machine tools and dimensional inspection machines that, according to the manufacturers' technical specifications, can be equipped with numerical control units covered by paragraph (a) of this entry, as follows:

(1) Boring mills, milling machines and machining centers having all of the following characteristics:

(i) No more than four axes capable of simultaneously coordinated contouring motion, of which no more than three axes shall be linear and no more than one axis shall be rotary;

**Note:** A secondary contouring axis, parallel with a primary axis, e.g., W-axis on horizontal boring mills, is not counted in the total of four contouring axes. A secondary rotary table with the centerline parallel to the

primary rotary table is also not counted in the total of four contouring axes. (Machines may have non-contouring parallel or non-contouring non-parallel rotary axes in addition to the four axes capable of simultaneously coordinated contouring motion.)

(ii) Maximum traverse (X-axis) travel equal to or less than 30,000 mm;

(iii) Maximum vertical (Y-axis) travel equal to or less than 8,000 mm;

(iv) Maximum horizontal (Z-axis) travel equal to or less than 5,000 mm;

(v) Unlimited spindle drive motor power;

(vi) No more than two simultaneously working spindles (the machine may have multiple tool heads or turrets; a spindle capable of driving a multiple drill head is considered as a single spindle);

(vii) Axial and radial axis motions measured at the spindle axis in one revolution of the spindle equal to or greater than  $D \times 2 \cdot 10^{-6}$  mm TIR (peak-to-peak) where D is the spindle diameter in mm;

(viii) An incremental positioning accuracy equal to or greater (coarser) than + or 0.002 mm in any 200 mm of travel;

(ix) An overall positioning accuracy in the axis equal to or greater (coarser) than:

(A) + or - 0.003 mm for machines with a total length of axis travel equal to or less than 300 mm;

(B) + or -  $(0.003 + (0.001/300 \times (L-300)))$  mm for machines with a total length of axis travel, L, greater than 300 mm and equal to or less than 3,300 mm;

(C) + or - 0.013 mm for machines with a total length of axis travel greater than 3,300 mm;

(2) Machine tools, other than boring mills, milling machines and machining centers described in sub-paragraph (b)(1) of this entry, and dimensional inspection machines, having all the following characteristics:

(i) No more than four axes capable of simultaneously coordinated contouring motion, of which no more than three axes shall be linear and no more than one axis shall be rotary;

**Note:** Up to four secondary contouring axes parallel with the primary axis but not simultaneously coordinated with four primary axes may be permitted.

(ii) No more than two simultaneously working spindles (the machine may have multiple tool heads or turrets);

(iii) Radial axis motion measured at the spindle axis equal to or greater than 0.0008 mm TIR (peak-to-peak) in one revolution of the spindle (for lathes, turning machines, contour grinding machines, etc.);

(iv) An incremental positioning accuracy equal to or greater (coarser) than + or - 0.002 mm in any 200 mm of travel;

(v) An overall positioning accuracy in any axis equal to or greater (coarser) than:

(A) + or - 0.005 mm for machines with a total length of axis travel equal to or less than 300 mm;

(B) + or -  $(0.005 + (0.002/300 \times (L-300)))$  mm for machines with a total length of axis travel, L, greater than 300 mm and equal to or less than 3,300 mm;

(C) + or - 0.025 mm for machines with a total length of axis greater than 3,300 mm.

1312—Presses having no controlled thermal environment within the closed cavity and that are used for the manufacture of industrial refractory and ceramic products.

1353—Equipment specially designed for the manufacture of silicon-based optical fiber or cable, provided that it is designed to produce non-militarized silicon-based optical fiber or cable that is optimized to operate at a wavelength of 1,350 nm or less.

1354—Equipment for the manufacture of printed circuit boards, as follows:

(a) Equipment specially designed for the removal of resists or printed circuit board materials by dry (e.g., plasma) methods;

(b) "Stored program controlled" multi-spindle drills and routers with the following characteristics:

(1) Absolute positioning accuracy of + or - 5 micrometers or worse; and

(2) X and Y positioning speeds of 0.210 meter/second or slower for drilling or for routing.

1355—Equipment, as follows, for use in silicon semi-conductor manufacturing:

(a) Equipment for the production of polycrystalline silicon;

(b) Crystal pullers, except those that:

(1) Are rechargeable without replacing the crucible; or

(2) Operate at pressures above 1 atmosphere;

(c) Diffusion furnaces, except those that use computer feedback control operated from an "associated" computer;

Note: "Associated" with equipment or system means:

(a) Can feasibly be either:

(i) Removed from the equipment or systems; or

(ii) Used for other purposes; and

(b) Is not essential to the operation of such equipment or systems.

(c) No paragraph (c) exists for this note.

(d) Vacuum induction-heated zone refining equipment;

(e) Epitaxial reactors, except those that are:

(1) For molecular beam epitaxy; or

(2) Specially designed for organo-metallic deposition or liquid-phase epitaxy;

(f) Magnetically enhanced multiple-wafer sputtering equipment;

(g) Ion implantation, ion-enhanced or photo-enhanced diffusion equipment, except having:

(1) Patterning capability;

(2) An accelerating voltage for more than 200 keV; or

(3) A current greater than 0.5 mA;

(h) "Batch" planar, "batch" reactive ion, barrel or barrel-planar dry etching

equipment, except equipment incorporating end-point detection (Note: "Batch" refers to equipment capable of etching two or more wafers simultaneously.)

(i) Low pressure chemical vapor deposition equipment, except equipment capable of metal deposition;

(j) Reserved;

(k) Single-sided lapping and polishing equipment for wafer surfacing finishing;

(1) Hard surface (e.g., chromium, silicon, iron oxide) coated substrates (e.g., glass, quartz, sapphire) for the preparation of masks having dimensions greater than 12.5 cm x 12.5 cm;

(m) Mask fabrication equipment using photo-optical method that was either commercially available before January 1, 1980, or has a performance no better than such equipment;

(n) Manually operated mask inspection equipment;

(o) Photo-optical contact and proximity mask align and exposure equipment defined in paragraph (b)(2)(vi), and projection aligners that can produce pattern sizes no finer than 3 micrometers;

(p) Contact image transfer equipment;

(q) Wafer and chip inspection equipment that was either commercially available before January 1, 1981, or has a performance no better than such equipment;

(r) Equipment for concurrent etching and doping profile analysis employing capacitance-voltage or current-voltage analysis techniques;

(s) "Stored program controlled" wire or die bonders;

(t) "Stored program controlled" wafer probing equipment that does not include associated test equipment or drive circuitry other than those identified in paragraphs (u) or (v) of ECCN 1355A;

(u) Test equipment for:

(1) Television circuit testing;

(2) Operational amplifier testing;

(3) Voltage regulator testing;

(4) Analog-to-digital and digital-to-analog converter testing; or

(5) Discrete semi-conductor testing at frequencies of 18 GHz or less;

(v) "Stored program controlled" equipment for functional testing (truth table) at a pattern rate of 10 MHz or less for micro-circuits or microcircuit assemblies.

1358—The following equipment:

(a) "Automatic" and "semi-automatic" equipment for monitoring, grading, exercising or testing recording media controlled by paragraph (d) of ECCN 1572 or free from export control under paragraph (c)(4) of Exception 3 to ECCN 1572A having the following characteristics:

(1) For digital recording tape, a maximum recording density of less than 3,937 bits per cm; or

(2) For analog recording tape, a coating thickness greater than 2.54 micrometers;

(b) Diskette unit test equipment.

1359—Tooling and fixtures for the manufacture of fiber-optic connectors and couplers controlled for export by ECCN 1526(e), provided that the tooling and fixtures are not specially designed to manufacture fiber-optic connectors and couplers for use with:

(a) Non-silicon-based fiber or cable; or

(b) Fiber-optic bulkhead or hull penetrators in ships or vessels.

1391—The following equipment:

(a) "Robots" controlled for export by sub-paragraph (a) of this entry that are for civil use and not covered by sub-paragraph (a)(2) to (a)(8), (a)(10) or (a)(11);

(b) Electronic controllers covered by sub-paragraph (b) for the control of "robots" eligible for treatment under this entry;

(c) "End effectors" covered by sub-paragraph (c) for use with "robots" eligible for treatment under this entry;

(d) Vision systems, limited as follows:

(1) Capable of processing no more than 200,000 pixels using an industrial television camera or a solid-state camera;

(2) Not programmable by the user except:

(i) To input reference images through the system's camera;

(ii) To input values of fixed parameters, including teach-in parameters; or

(iii) To select pre-programmed sub-routines;

(3) Not capable of continuous reaction or continuously updating the "robot" position while the "robot" is moving;

Note: This limitation precludes the use of vision systems for weld seam tracking during the welding operation but does not preclude straight-line or single-plane weld seam tracking using a single pass.

(4) Capable of no more than one scene analysis every 0.02 second;

(5) The "software" provided for the vision processor shall be in "object code" only and shall not be capable of full three-dimensional mathematical modeling or full three-dimensional scene analysis;

Note: This scene analysis limitation does not preclude approximation of the third dimension by viewing at a given angle, nor limited gray scale interpretation for the perception of depth or texture for the approved tasks (2 1/2 D).

1460—Aircraft and helicopters considered to be of the types that are in bona fide normal civil use, containing equipment controlled for export by ECCNs 1485A or 1501A, provided that:

(a) Any controlled components in such aircraft or helicopters are limited to those normally installed by the manufacturer;

(b) Repair and maintenance of controlled inertial navigation systems and complete overhaul of controlled engines will be performed in a non-proscribed country or by representatives of the Western supplier; and

(c) Parts controlled for export will be replaced on a one-for-one basis.

1510—The following equipment:

(a) Acoustic systems or equipment for positioning surface vessels or underwater vehicles, providing that:

(1) They are not capable of processing responses from more than 8 beacons in the calculation of a single point;

(2) They have neither devices nor "software" for correcting automatically velocity-of-propagation errors for point calculation;

(3) They have no coherent signal processing means; and

(4) Transducers, acoustic modules, beacons or hydrophones therefor are not designed to withstand pressure during normal operation at depths greater than 1,000 meters;

(b) Side-scan sub-bottom profile systems, no portion of which is specially designed for operation at depths greater than 1,000 meters.

1519—The following equipment or components and accessories controlled for exports by paragraphs (a) or (b) of this ECCN:

(a) General communication transmission equipment, provided that:

(1) The equipment is to be used in non-strategic applications;

(2) It is to be permanently installed in circuit (radio, coaxial cable, or multimode optical fiber) operated by the civilian authorities of the importing country; and

(3) It is to be used for general commercial traffic with a total digital bit rate at the highest level multiplex point of or less for optical fiber or 140 Mbits per second or less for radio or coaxial cable, as follows:

(i) With a total number of voice channels per each physical bearer of 1,920 or less for radio or coaxial cable; or

(ii) With four monochrome or color television channels with a maximum nominal bandwidth of 6 MHz and associated sound channels in the case of radio or coaxial cable;

(b) Intra-city communication transmission equipment, provided that it is:

(1) Designed for operation at a total digital data signalling rate at the highest level multiplex point of 140 Mbits per second or less;

(2) Installed under the supervision of the seller in a permanent circuit (radio, coaxial cable, multimode optical fiber with, or single mode optical fiber without repeaters/regenerators) between communication switching equipment; and

(3) Intended for general commercial traffic in an intra-city civil communication system;

(c) The minimum set of spare parts;

(d) Test or measurement equipment necessary for the use (i.e., installation, operation and maintenance) of equipment exported under the provision of this entry, provided:

(1) It cannot operate at a data rate exceeding 140 Mbits per second; and

(2) It will be supplied in the minimum quantity required for the transmission equipment eligible for export under this entry.

1519—The following equipment:

Modems and multiplexers controlled for export by subparagraph (a)(2) of this ECCN designed for operation at data signalling rates of 19,200 bps or less.

1520—The following radio relay communication equipment:

(a) Digital microwave radio links for fixed civil installations operating at fixed frequencies not exceeding 19.7 GHz with a capacity of up to 1,920 voice channels of 3.1 kHz or four television channels of 6 MHz maximum nominal bandwidth and associated sound channels;

(b) Ground communication radio equipment for use with temporarily-fixed services operated by the civilian authorities and designed to be used at frequencies not exceeding 20 GHz;

(c) Radio transmission media simulators/channel estimators designed for the testing of equipment covered by (a) or (b) above;

(d) Power amplifiers not exceeding 10 W and %GHz-transmitters/receivers for communication satellites.

1522—The following equipment:

(a) Tunable pulsed flowing-dye lasers having all of the following characteristics, and specially designed components therefor:

(1) An output wavelength shorter than 0.8 micrometer;

(2) A pulse duration not exceeding 100 ns; and

(3) A peak output power not exceeding 15 MW;

(b) CO<sub>2</sub>, CO or CO/CO<sub>2</sub> lasers having an output wavelength in the range from 9 to 11 micrometers and a pulsed output not exceeding 2 joules per pulse and a maximum rated average single- or multi-mode output power not exceeding 5 KW or a continuous wave maximum rated single- or multi-mode output power not exceeding 10 KW;

(c) Equipment specially designed for medical applications incorporating ND:YAG lasers covered by paragraph (a)(vi) of ECCN 1522A;

(d) Laser systems for trimming resistors or thick/thin film electronic circuits;

(e) Equipment incorporating CO<sub>2</sub> lasers with average or continuous wave output power not exceeding 5 kW, not exceeding the parameters of ECCN 1091A, and specially designed for welding, cutting, bonding or drilling metals for civil applications.

1529—The following equipment:

(a) Quartz or rubidium frequency standards not specially designed for military use;

(b) Swept frequency network analyzers or sweep generators for use at frequencies not exceeding 40 GHz and that cannot be controlled remotely;

(c) Swept frequency network analyzers for the automatic measurement of complex equivalent circuit parameters over a range of frequencies where the maximum frequency does not exceed 20 GHz;

(d) Instruments in which the functions can be controlled by the injection of digitally coded electrical signals from an external source where the maximum frequency does not exceed 20 GHz;

(e) Instruments incorporating computing facilities with "user-accessible programability" and an alterable program and data memory of a total of less than 32 Kbytes;

(f) Digital test instruments with "user-accessible programability" controlled for export by sub-paragraph (b)(5) of this ECCN 1529A, required for the use (installation, operation or maintenance) of microcircuits or computers that are exported to the People's Republic of China under Advisory Notes to ECCNs 1564A or 1565A;

(g) Microprocessor and microcomputer development instruments for 8 bit microcircuits, i.e., microcircuits having an operand (data) word length of less than or equal to 8 bit(s) and an arithmetic logic unit (ALU) of less than or equal to 16 bit;

(h) Digital counters with any of the following characteristics:

(1) Not capable of counting successive input signals with less than 1.8 ns time difference without prescaling (digital division) of the input signal;

(2) Employing prescaling of the input signal in which the prescaler is not capable of resolving successive input signals with less than 0.5 ns time difference; or

(3) Not capable of measuring burst frequencies exceeding 250 MHz for a burst duration of less than 2 ms;

(i) Time interval measuring equipment employing digital techniques, not capable of measuring time intervals of less than 1 ns or a single shot basis;

(j) Instruments controlled by sub-paragraph (f) of this entry, not capable of more than 1,000 independent measurements per second;

(k) Transient recorders, not capable of sampling single input signals at successive intervals of less than 20 ns.

(1) PROM programmers controlled by subparagraph (b)(6) of this ECCN.

1531—The following and specially designed components and accessories therefor:

(a) "Frequency synthesizers" controlled only by paragraph (a) and not incorporating cesium beam standards;

(b) Instruments "frequency synthesizers" and synthesized signal generators controlled only by paragraphs (b)(1) and (b)(3) and having a maximum output frequency of 18 GHz, provided the "frequency switching time" is 2.0 ms or more;

(c) Instrument "frequency synthesizers" and synthesized signal generators not controlled by paragraph (b)(4) and having a maximum output frequency of 2.6 GHz, provided the "frequency switching time" is 0.3 ms or more;

(d) Conventional synthesizer based, digitally controlled, civil land or marine mobile radio receivers and transmitters, provided:

(1) They operate at frequencies not exceeding 960 MHz;

(2) The power output and frequency resolution parameters specified in paragraph (e)(3)(ii) remain in force;

(3) The equipment has "frequency switching time" of 5 ms or more;

(4) The equipment does not employ either frequency agility or other spread spectrum techniques; and

(5) The synthesizers are embedded in the radio receivers or transmitters;

(e) Radio receivers controlled by paragraph (d)(1) that have 1000 selective channels or fewer.

1533—The following equipment:

(a) Non-programmable signal analyzers including those with a tracking signal generator, provided the display bandwidth is 4.4 GHz or less;

(b) Programmable signal analyzers, including those with a scanning preselector or a tracking signal generator, having both of the following characteristics:

(1) Operating at frequencies of 4.4 GHz or less; and

(2) The overall dynamic range of the display not exceeding 100 dB;

(c) Signal analyzers employing time compression of the input signal of Fast Fourier Transform techniques not capable of:

(1) Analyzing signals with a frequency higher than 100 KHz if the instrument uses time compression, or

(2) Calculating 512 complex lines in less than 50 ms.

1537—Microwave equipment controlled for export by sub-paragraphs (a), (b) or (c) of ECCN 1537A, when designed for use at frequencies not exceeding 40 GHz and when specially designed for use with conventional commercial instruments described in ECCNs 1529A, 1531A or 1533A, provided that the equipment does not in any way extend the frequency range of the basic instrument.

1548—Semi-conductor photodiodes for previously approved and installed Western civil communications equipment with a

response time constant of 0.5 ns or more and with a peak sensitivity at a wavelength neither longer than 1,350 nm nor shorter than 300 nm.

**Note:** The photodiodes will be supplied on a replacement basis with no enhancement of the system.

1555—Electron tubes, as follows:

(a) Image intensifier and image conversion tubes that incorporate fiber optic face-plates or microchannel-plates, except image tubes specially designed for cameras controlled for export by ECCN 1585A;

(b) Television and video camera tubes that incorporate:

(1) Fiber optic face-plates; or

(2) Microchannel-plate electron multipliers not controlled by ECCN 1556A.

**Note:** Eligibility Note does not apply to electron tubes incorporating a gallium arsenide (or similar semi-conductor) photocathode.

1564—"Assemblies", for printed circuit boards and integrated circuits not specially designed to military standards for radiation hardening or temperature as follows:

(a) "Substrates" for printed circuits, except those exceeding the limits of subparagraph (a)(1)(E) or (a)(2) of this ECCN;

(b) Silicon-based devices exceeding the limits of:

(1) Subparagraphs (d)(2)(D)(a), (b) or (c), except those with more than 28 terminals;

(2) Subparagraphs (d)(2)(D)(g), or (h)

(3) Subparagraphs (d)(2)(D)(k), (1), (m)(4) and (5), (n), (r), (s), or (u); or

(4) Subparagraphs (d)(2)(D)(f) or (g);

(c) Silicon-based 8 bit or less

"microcomputer microcircuits" exceeding the limit of subparagraphs (d)(2)(D)(e)(1) to (7);

(d) Silicon-based "microprocessor microcircuits" with an operand length of 16 bits or less and an arithmetic logic unit (ALU) not wider than 32 bit and exceeding the limits of subparagraphs (d)(2)(D)(i)(1) to (6), except:

(1) Those with a total processing data rate exceeding 28 million bits per second;

(2) Bit-slice "microprocessors microcircuits";

(e) Silicon-based memory devices, as follows:

(1) MOS DRAMs with no more than 256 Kbits;

(2) MOS SRAMs with no more than 64 Kbits;

(3) Mask PROMs with no more than 512 Kbits;

(4) UV-EPROMs (except keyed access EPROMs) with no more than 256 Kbits;

(5) EAROMs with no more than 64 Kbits; or

(6) EEROMs with no more than 64 Kbits;

[Note: 1 kbit = 1,024 bits.]

(f) Operational amplifiers exceeding the limits of subparagraph (d)(2)(D)(k)(4) that do not have slew rates exceeding 100 volts per microsecond;

(g) Analog-to-digital and digital-to-analog converters exceeding the limits of subparagraphs (d)(2)(D)(m)(1) to (3), except:

(1) Analog-to-digital converters with less than a 500 ns conversion time to a maximum resolution of 12 bits;

(2) Digital-to-analog converters with less than 500 ns settling time for voltage output and a maximum resolution of 12 bits;

(3) Digital-to-analog converters with less than 25 ns settling time for current output and a maximum resolution of 12 bits;

(h) Silicon-based 8-bits or less user-programmable single chip "microcomputer microcircuits" controlled for export by subparagraph (d) of this ECCN;

(i) "Optical integrated circuits";

(1) Controlled for export by subparagraph (d) of this ECCN;

(2) With no more than 2,048 elements; and

(3) Not exceeding the limits of paragraphs (a) and (b) of ECCN 1548A; and

(j) Non-reprogrammable silicon-based integrated circuits specially designed or programmed by the manufacturer for business or office use.

1565—"Digital computers" or "related equipment" therefor controlled for export by paragraph (h) of this ECCN 1565A, provided that:

(a) The "digital computers" or "related equipment" therefor:

(1) Are exported as complete systems or enhancements to previously exported systems up to the limits of paragraph (b) below;

(2) Do not fall within the scope of both paragraphs (h)(1)(i) (A) and (B);

(b) The "digital computers" or "related equipment" therefor do not exceed any of the following limits:

(1) Central processing unit with a "total processing data rate" of 550 million bit/s;

(2) Array transform processors:

(i) "Equivalent multiply rate"—800,000 operations per second;

(ii) Fast Fourier Transform of 1,024 complex points—40 ms;

(c) The "digital computers" or "related equipment" therefor do not have the following characteristics:

(1) Those identified in paragraphs (h)(1)(i) (D) to (H) or (M); or

(2) Those identified in paragraph (h)(1)(i)(b) having an "equivalent multiply rate" of more than 2 million operations per second;

1565—"Digital computer" or "related equipment" therefor in accordance with Advisory Note 5, on the understanding that:

(a) Paragraph (b)(1) of Advisory Note 5 does not apply;

(b) The "total processing data rate" under paragraph (c) of Advisory Note 5 does not exceed 155 million bit/s.

1565—Peripheral equipment and input/output interface or control units therefor as follows:

(a) Cathode ray tube graphic displays that do not exceed:

(1) 1,024 resolvable elements along one axis and 1,280 resolvable elements along the perpendicular axis; or

(2) 256 shades of gray or color (8 bit per pixel);

(b) Plotting equipment and digitalizing equipment that has an accuracy of 0.002% or worse, and an active area of 254 cm × 254 cm or smaller;

(c) Non-impact type printers and laser printers having a resolution not exceeding 120 dots per cm (300 dots per inch);

(d) Optical character recognition (OCR) equipment;

(e) Light gun devices or other manual graphic input devices.

(f) Disk drives having either an unformatted capacity that does not exceed 5.04 giga bytes or a maximum bit transfer rate that does not exceed 6 million bytes/sec.

1565—Spare parts in accordance with Advisory Note 7 (a) and (b) to this ECCN 1565A.

1567—"Data (message) switching" equipment or systems, controlled for export by subparagraph (a) of this entry, provided that:

(a) The equipment or systems are designed to meet the requirements of either:

(1) CCITT Recommendations F.1 to 79 for store-and forward systems (Volume II-Fascicle II.4, VIIIth Plenary Assembly, November 10-21, 1980); or

(2) ICAO Recommendations for store-and-forward civil aviation communication networks (Annex 10 to the Convention on International Civil Aviation, including all amendments agreed upon, up to and including December 14, 1981);

(b) The equipment or systems:

(1) Are designed and used for fixed civil "data (message) switching" applications;

(2) Will be used primarily for the specified civil application; and

(3) Will be operated in the importing country by:

(i) The Post, Telegraph and Telephone Authority in order to provide public "data (message) switching" services for:

(A) Domestic civil use; or

(B) International civil use with Western countries;

(ii) A civil authority that is a member of an intergovernmental organization including Western countries (e.g., ITU and ICAO) in order to promote an extension of international "data (message) switching" services in the importing country to fulfill a commitment to the intergovernmental organization; or

(iii) A civil public service organization in order to provide "data (message) switching" services in a densely populated, commercial area for:

(A) Private domestic civil use; or

(B) Private international civil use with Western countries;

(c) Reserved;

(d) The equipment or systems do not contain: digital "computers" or "related equipment" controlled by:

(1) ECCN 1565A(f);

(2) ECCN 1565A(h)(1)(i) (A) to (J), or (L) or (M); or

(3) ECCN 1565A(h)(1)(ii);

(e) The "software" supplied:

(1) Is limited to:

(i) The minimum "specially designed software" necessary for the use (i.e., installation, operation and maintenance) of the equipment or systems; and

(ii) Machine-executable form; and

(2) Does not include "software";

(i) Controlled by ECCN 1572A or paragraph (a)(5) of Supplement No. 3 to Part 779 of Item 11 on the U.S. Department of State's Munitions List (Supplement No. 2 to Part 770); or

(ii) To permit user-modification of generic "software" or its associated documentation;

(f) If the equipment or systems are not designed for installation by the user without support from the supplier, then the "software" necessary for commissioning is:

- (1) Exported on a temporary basis only; and
- (2) Kept under control of the supplier;
- (g) Reserved;
- (h) Reserved.

1567—"Stored-program-controlled telephone circuit switching" equipment or systems controlled by sub-paragraph (b) of this entry, provided that:

(a) The equipment or systems are designed for fixed civil use as "space-division digital exchanges" or "time-division digital exchanges" that fulfill the definition of "private automatic branch exchanges" ("PABXs");

(b) The equipment or systems are designed and used for fixed civil "stored-program-controlled telephone circuit switching" applications;

(c) The equipment or systems do not contain "digital computers" or "related equipment" controlled for export by:

- (1) ECCN 1565A(f);
- (2) ECCN 1565A(h)(1)(i) (a) to (k) or (m); or
- (3) ECCN 1565A(h)(1)(ii);
- (d) The "PABXs" do not have the following features:

(1) Multi-level call pre-emption, including overriding or seizing of busy subscriber lines, "trunk circuits" or switches;

Note: This limitation does not preclude single level call pre-emption (e.g., executive override).

(2) "Common channel signaling";

(3) Automatic tandem "trunk circuit" switching, including adaptive routing, or algorithms that would permit a search for "trunk circuit" connection paths within a network;

(4) Reserved;

(5) Reserved;

(6) Digital synchronization circuitry for networking two or more exchanges except that permitting slave exchanges to be synchronized by master exchanges;

(7) Reserved;

(8) Centralized maintenance by means of transmission or reception of instructions for the purpose of:

- (i) Controlling traffic;
- (ii) Directionalizing paths;
- (iii) Altering routing tables;
- (iv) Connecting or disconnecting subscriber circuits or "trunk circuits"; or
- (v) Managing the network;
- (e) "Communication channels" or "terminal devices" used for administrative and control purposes:

(1) Are fully dedicated to these purposes; and

(2) Do not exceed a "total data signaling rate" of 19,200 bit per second;

(f) "Communication channels" or "terminal devices" used for administrative and control purposes:

(1) Are fully dedicated to these purposes; and

(2) Do not exceed a "total data signaling rate" of 19,200 bit per second;

(g) Reserved;

(h) Reserved;

(i) Reserved;

(j) The "software" supplied:

(1) Is limited to:

(i) The minimum "specially designed software" necessary for the use (i.e., installation, operation and maintenance) of the equipment or systems; and

(ii) Machine-executable form; and

(2) Does not include "software";

(i) Controlled by ECCN 1527A or paragraph (a)(5) of Supplement No. 3 to Part 779 or Item 11 on the U.S. Department of State's Munitions List (Supplement No. 2 to Part 770); or

(ii) To permit user-modification of generic "software" or its associated documentation;

(k) If the equipment or systems are not designed for installation by the user without support from the supplier, then the "software" necessary for commissioning is:

(1) Exported on a temporary basis only; and

(2) Kept under the controls of the supplier;

(l) Reserved.

1567—"Stored-program-controlled circuit switching" equipment or systems controlled for export by sub-paragraph (b) of this ECCN 1567A, provided that:

(a) The equipment or systems are designed for fixed civil use of "stored-program-controlled telegraph circuit switching" for data;

(b) The equipment or systems are designed and used for fixed civil "stored-program-controlled telegraph circuit switching" applications;

(c) The equipment or systems do not contain "digital computers" or "related equipment" controlled by:

- (1) ECCN 1565A(f);
- (2) ECCN 1565A(h)(1)(i) (a) to (k) or (m); or
- (3) ECCN 1565A(h)(1)(ii);
- (d) The equipment or systems do not have the following features:

(1) Multi-level call pre-emption including overriding or seizing of busy subscriber lines, "trunk circuits" or switches;

Note: This limitation does not preclude single level call pre-emption (e.g., executive override).

(2) "Common channel signaling";

(e) The maximum internal bit rate per channel does not exceed 19,200 bit per second;

(f) Reserved;

(g) The "software" supplied:

(1) Is limited to:

(i) The minimum "specially designed software" necessary for the use (i.e., installation, operation and maintenance) of the equipment or systems; and

(ii) Machine-executable form; and

(2) Does not include "software";

(i) Controlled by ECCN 1527A or paragraph (a)(5) of Supplement No. 3 to Part 779 or Item 11 on the U.S. Department of State's Munitions List (Supplement No. 2 to Part 770); or

(ii) To permit user-modification of generic "software" or its associated documentation;

(h) Reserved;

(i) If the equipment or systems are not designed for installation by the user without support from the supplier, then the "software" necessary for commissioning is:

(1) Exported on a temporary basis only; and

(2) Kept under the control of the supplier;

(j) Reserved.

1567—"Stored-program-controlled circuit switching" equipment or systems, controlled for export by sub-paragraph (b) of this entry, provided that:

(a) The equipment or systems are designed for fixed civil use as "stored-program-controlled telephone circuit switching" exchanges that fulfill the definitions of either "terminal exchange" or "transit exchange";

(b) Reserved;

(c) The equipment or systems are designed and used for fixed civil "stored-program-controlled telephone circuit switching" applications;

(d) The equipment or systems cannot be adapted to mobile use or security use, as described in ECCN 1565A(f)(1) to (4), (g) or (h)(1)(i)(a) and (b);

(e) Reserved;

(f) The equipment or systems do not have the following features:

(1) Multi-level call pre-emption including overriding or seizing of busy subscriber lines, "trunk circuits" or switches;

Note: This limitation does not preclude single level call pre-emption (e.g., executive override).

(2) "Common channel signaling";

(3) Adaptive routing or algorithms that would permit a search for "trunk circuit" connection paths within a network;

(4) Reserved;

(5) Reserved;

(6) Digital synchronization circuitry for networking two or more exchanges except that permitting slave exchanges to be synchronized by master exchanges; or

(7) Centralized maintenance by means of transmission or reception of instructions for the purposes of:

- (i) Controlling traffic;
- (ii) Directionalizing paths;
- (iii) Altering routing tables;
- (iv) Connecting or disconnecting subscriber circuits or "trunk circuits"; or
- (v) Managing the network;
- (g) "Communication channels" or "terminal devices" used for administrative and control purposes:

(1) Are fully dedicated to these purposes; and

(2) Do not exceed a "total data signalling rate" of 19,200 bit per second;

(h) Reserved;

(i) Reserved;

(j) The "software" supplied:

(1) Is limited to:

(i) The minimum "specially designed software" necessary for the use (i.e., installation, operation and maintenance) of the equipment or systems; and

(ii) Machine-executable form; and

(2) Does not include "software";

(i) Controlled by ECCN 1527A or paragraph (a)(5) of Supplement No. 3 to Part 779 or Item 11 on the U.S. Department of State's Munitions List (Supplement No. 2 to Part 770); or

(ii) To permit user-modification of generic "software" or its associated documentation;

(k) Reserved;

(l) If the equipment or systems are not designed for installation by the user without

support from the supplier, then the "software" necessary for commissioning is:

(1) Exported on a temporary basis only; and

(2) Kept under control of the supplier.

1572—Recording and reproducing equipment, as follows:

(a) Graphic instruments capable of continuous direct recording of sine waves at frequencies exceeding 20 KHz, and not containing a cathode ray tube with a fiber optic face plate;

(b) Analog magnetic tape recorders with all of the following characteristics:

(1) Bandwidth of up to:

(i) 4 MHz per track and having up to 28 tracks; or

(ii) 2 MHz per track and having up to 42 tracks;

(2) Tape speed of 610 cm (240 inches) per second or less;

(3) Not designed for underwater use;

(4) Not ruggedized for military use; and

(5) Recording density not exceeding 6,532 magnetic flux sine waves per cm;

(c) Instrumentation digital recorders having all of the following characteristics:

(1) "Packing density" of 13,125 bits per cm or less;

(2) Maximum of 28 tracks;

(3) Tape speed of 305 cm (120 inches) per second or less;

(4) Not designed for underwater use; and

(5) Not ruggedized for military use;

(d) Magnetic tape appropriate for use with magnetic tape recorders free from control or exportable under this entry, provided that the tape length, "packing density" and "recording density" do not exceed the performance limits of the magnetic tape recorders;

(e) Disks appropriate for use with disk drives free from control or exportable under this entry, provided that the "packing density" and inner and outer diameters do not exceed the performance limits of the disk drives;

(f) Video magnetic tape recorders specially designed for television recording.

1568—Analog-to-digital or digital-to-analog converters, as follows:

(a) Analog-to-digital converters with more than a 200 ns conversion time to a maximum resolution of 12 bit;

(b) Digital-to-analog converters with more than 200 ns settling time for voltage output and a maximum resolution of 12 bit;

(c) Digital-to-analog converters with more than 25 ns settling time for current output and a maximum resolution of 12 bit.

1584—Cathode-ray oscilloscope not having any of the following characteristics:

(a) An amplifier bandwidth exceeding 350 MHz;

(b) A horizontal sweep speed faster than 1 ns per cm and an accuracy (linearity) better than 2%;

(c) Using sampling techniques for the analysis of recurring phenomena that increase the effective bandwidth of an oscilloscope or time-domain reflectometer to a frequency greater than 5 GHz;

(d) Digital oscilloscopes with sequential sampling of the input signal at intervals of less than 20 ns;

(e) Ruggedized to meet military specifications; or

(f) Rated for operation over a temperature range of below -25 degrees C to above +55 degrees C.

1585—The following:

(a) Non-ruggedized cinema recording cameras, controlled for export by paragraph (a) of this ECCN, for normal civil purposes;

(b) Mechanical framing cameras controlled for export by paragraph (b) of this entry that are designed for civil purposes (i.e., non-nuclear use) with a framing speed of not more than  $2 \times 10^6$  frames per second;

(c) Electronic streak and/or framing cameras having all of the following characteristics:

(1) Not ruggedized;

(2) Capable in the framing mode of speeds of no more than  $10^6$  frames per second;

(3) Capable in the streak mode of writing speeds no more than 10mm per second;

(4) Designed for civil use;

(5) The performance of the camera is not field-upgradable such as through the substitution of electronic plug-ins;

(6) Exported for non-nuclear use; and

(7) Not using an electron tube having a gallium arsenide (GaAs) photocathode.

1587A—The following:

(a) Temperature-compensated crystal oscillators (TCXOs) controlled for export only by sub-paragraph (c)(1) of this ECCN 1587A;

(b) Quartz crystals for use as oscillator elements specially designed for temperature-controlled crystal ovens or for TCXOs covered by sub-paragraph (c) and having an average aging rate of + or -  $1 \times 10^{-11}$  per day or better (less) except stress compensated (SC) cut crystals.

3605A—Nickel powder obtained by the carbonyl process for non-nuclear civil applications.

1757A—Silicon and compounds, as follows:

(a) Monocrystalline silicon N-type, crystal orientation 1-1-1 with a resistivity not exceeding 100 ohm/cm;

(b) Monocrystalline silicon P-type, crystal orientation 1-1-1 with a resistivity not exceeding 5 ohm/cm.

(c) Polycrystalline silicon;

(d) Compounds used in the synthesis of polycrystalline silicon.

1767A—Optical fiber preforms specially designed for the manufacture of silicon-based optical fibers, provided that they are designed to produce non-militarized silicon-based optical fibers that are optimized to operate at a wavelength of 1.350 nm or less.

## PART 774—[AMENDED]

### § 774.2 [Amended]

4. Section 774.2(a)(1) is amended by adding the phrase "G-COCOM" immediately after the phrase "G-COM" and before the phrase "GFW".

## PART 786—[AMENDED]

5. Section 786.6 is amended by revising paragraph (a)(1)(ii) to read as follows:

### § 786.6 Destination control statements.

(a) \* \* \*

(1) \* \* \*

(ii) General License GLV, GTF-US, GTE, GLR, G-COM, G-COCOM or C-CEU.

\* \* \*

Dated: July 5, 1989.

James M. LeMunyon,

Deputy Assistant Secretary for Export Administration.

[FR Doc. 89-16106 Filed 7-6-89; 10:47 am]

BILLING CODE 3510-DT-M

## DEPARTMENT OF HEALTH AND HUMAN SERVICES

### Food and Drug Administration

#### 21 CFR Part 177

[Docket Nos. 87F-0302 and 88F-0140]

### Indirect Food Additives; Polymers

AGENCY: Food and Drug Administration.

ACTION: Final rule.

**SUMMARY:** The Food and Drug Administration (FDA) is amending the food additive regulations to provide for the safe use of a Nylon 6I/6T polymer manufactured by the condensation of hexamethylenediamine, terephthalic acid, and isophthalic acid for contact with all types of food except beverages containing more than 8 percent alcohol. This action responds to two petitions filed by E.I. du Pont de Nemours and Co.

**DATES:** Effective July 11, 1989; written objections and requests for a hearing by August 10, 1989.

**ADDRESS:** Written objections to the Dockets Management Branch (HFA-305), Food and Drug Administration, Rm. 4-62, 5600 Fishers Lane, Rockville, MD 20857.

**FOR FURTHER INFORMATION CONTACT:** Edward J. Machuga, Center for Food Safety and Applied Nutrition (HFF-335), Food and Drug Administration, 200 C St. SW., Washington, DC 20204, 202-472-5690.

**SUPPLEMENTARY INFORMATION:** In a notice published in the Federal Register of October 7, 1987 (52 FR 37524), FDA announced that a food additive petition (FAP 7B4001) had been filed by E.I. du Pont de Nemours and Co., Wilmington DE 19898, proposing that the food additive regulations be amended to provide for the safe use of a polymer manufactured by the condensation of hexamethylenediamine, terephthalic acid, and isophthalic acid (Nylon 6I/6T polymers) for contact with all types of food except beverages containing more than 8 percent alcohol. These Nylon 6I/6T polymers would have an average thickness that could not exceed 1.5 mils

(0.038 millimeter). However, subsequent to the filing of FAP 7B4001, E.I. du Pont de Nemours and Co. submitted an additional petition that contained data that would support the safe use of Nylon 6I/6T polymers of unlimited thickness in contact with all types of food except alcoholic beverages containing more than 8 percent alcohol. In a notice published in the *Federal Register* of May 24, 1988 (53 FR 18610), FDA announced that this new petition (FAP 8B4078) had been filed.

FDA has evaluated data in the petitions and other relevant material. The agency concludes that the proposed food alternative use is safe, and that the regulations should be amended in 21 CFR 177.1500 as set forth below.

In accordance with § 171.1(h) (21 CFR 171.1(h)), the petitions and the documents that FDA considered and relied upon in reaching its decision to approve the petitions 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 August 10, 1989 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, 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(s), 409, 72 Stat. 1784-1788 as amended (21 U.S.C. 321(s), 348); 21 CFR 5.10 and 5.61.

2. Section 177.1500 is amended in the table in paragraph (b) by revising item 12 to read as follows:

#### § 177.1500 Nylon resins.

\* \* \* \* \*

(b) \* \* \*

| Nylon resins                                                                                                                        | Specific gravity | Melting point (degrees Fahrenheit) | Solubility in boiling 4.2N HCl | Viscosity number (mL/g) | Maximum extractable fraction in selected solvents (expressed in percent by weight of resin) |                          |               |         |
|-------------------------------------------------------------------------------------------------------------------------------------|------------------|------------------------------------|--------------------------------|-------------------------|---------------------------------------------------------------------------------------------|--------------------------|---------------|---------|
|                                                                                                                                     |                  |                                    |                                |                         | Water                                                                                       | 95 percent ethyl alcohol | Ethyl acetate | Benzene |
| 12. Nylon 6I/6T resins for use in contact with all types of food except alcoholic beverages containing more than 8 percent alcohol. | 1.207±0.1        | N/A                                | Insoluble after 1 hour.        | .....                   | 0.2                                                                                         | 1.0                      | 0.1           | 0.1     |

Dated: June 27, 1989.

Richard J. Ronk,

Deputy Director, Center for Food Safety and Applied Nutrition.

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#### 21 CFR Part 573

[Docket No. 86F-0060]

#### Selenium; Environmental Impact; Opportunity for Comment

AGENCY: Food and Drug Administration.

**ACTION:** Opportunity for comments on tentative responses to certain objections to final rule.

**SUMMARY:** The Food and Drug Administration's (FDA's) Center for Veterinary Medicine (CVM) is providing opportunity for comment on its tentative responses to certain environmentally based objections to the agency's final rule of April 6, 1987 (52 FR 10887), raising the level of selenium permitted in certain animal feeds. This notice and opportunity for comment on this food additive regulation will assist FDA in determining whether to grant a formal evidentiary public hearing on objections

received in this formal rulemaking proceeding.

**DATE:** Written comments by August 10, 1989.

**ADDRESSES:** Submit written comments to the Dockets Management Branch (HFA-305), Food and Drug Administration, Rm. 4-62, 5600 Fishers Lane, Rockville, MD 20857, identified with the docket number found in brackets in the heading of this document. Copies of the environmental impact analysis report, the finding of no significant impact, the objections, the references cited in this notice, and any comments received are available for public examination at the Dockets