
2004 REPORT ON FOREIGN POLICY-BASED EXPORT CONTROLS

U.S. Department of Commerce Bureau of Industry and Security

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CHAPTER 1

Introduction

Export controls maintained for foreign policy purposes require annual extension according to the provisions of Section 6 of the Export Administration Act of 1979, as amended (the Act). Section 6(f) of the Act requires the President to submit a report to Congress to extend the controls. Such authority has been delegated to the Secretary of Commerce. Sections 6(b) and 6(f) of the Act require the report to include certain considerations¹ and determinations² with respect to the criteria established in that section. This report complies with all of the requirements set out in the Act for extending, amending, or imposing foreign policy controls.

The Department of Commerce is acting under the authority conferred by Executive Order 13222 of August 17, 2001 (Executive Order), as extended by the Notice of August 7, 2003. Therein, the President, by reason of the expiration of the Act, invoked his authority, including authority under the International Emergency Economic Powers Act (IEEPA), to continue in effect the system of controls that had been maintained under the Act. Under a policy of conforming actions under the Executive Order to those under the Act, the Department of Commerce, insofar as appropriate, is following the provisions of Section 6 of the Act with regard to extending foreign policy controls.

With this report, all foreign policy export controls discussed herein are hereby extended for the period from January 21, 2004, to January 20, 2005. The Bureau of Industry and Security (BIS) (formerly known as the Bureau of Export Administration) of the Department of Commerce is taking this action at the recommendation of the Secretary of State. As further authorized by the Act, foreign policy export controls remain in effect for replacement parts and for parts contained in goods subject to such controls. The controls administered in accordance with procedures

¹ Section 6(b)(2) requires the Secretary to consider the criteria set forth in Section 6(b)(1) when extending controls in effect prior to July 12, 1985. In addition, the report must include the elements set forth in Sections 6(f)(2)(A) (purpose of the controls); 6(f)(2)(C) (consultation with industry and other countries); 6(f)(2)(D) (alternative means attempted); and 6(f)(2)(E) (foreign availability).

² Section 6(b)(1) requires the Secretary to make determinations regarding the criteria set forth therein when imposing, extending, or expanding controls. The report must also contain the additional information required in Section 6(f)(2)(A), (C)-(E) (as set forth in footnote 1, *supra*.)

established pursuant to Section 309(c) of the Nuclear Nonproliferation Act of 1978 similarly remain in effect.

Each chapter of this report describes a particular category of foreign policy controls and delineates modifications that have taken place over the past year. Although this report covers the 2003 calendar year, most of the statistical data presented in the report are based on fiscal year 2003 export licensing statistics, unless otherwise noted. BIS generates this data from the computer automated system it uses to process and track export license activity. Due to the tabulating procedures used by the system in accounting for occasional license applications that list more than one country or destination, the system has certain limitations as a means of gathering data. In addition, BIS bases the data in this report on values contained in issued export licenses. Such values may not represent the values of actual shipments made against those licenses, because in some cases an exporter may ship only a portion of the value of an approved license or may not ship at all.

Certain goods, technology, and software described in this report also may require a license for national security purposes for export to certain destinations in accordance with Section 5 of the Act.

Part I: Highlights in the 2004 Report

Regional Stability

On April 3, 2003, the Department of Commerce published an amendment to the Export Administration Regulations (EAR) that expands the scope of controls on explosives detection equipment, now classified under Export Control Classification Number (ECCN) 2A983. The Department also imposed new license requirements for the export and reexport of related software and technology, under newly created ECCNs 2D983 and 2E983. With this amendment, the Department of Commerce imposed new license requirements for RS reasons for explosives detection equipment, software, and technology to all destinations except members of the North Atlantic Treaty Organization (NATO), Australia, Japan, and New Zealand.

Anti-Terrorism Controls on Designated Terrorists

On June 6, 2003, the Department of Commerce amended the EAR by imposing sanctions on transactions involving Specially Designated Global Terrorists (SDGTs), Specially Designated Terrorists (SDTs), and Foreign Terrorist Organizations (FTOs). SDGTs, SDTs and FTOs, as well as certain other designated persons, are subject to licensing requirements maintained by the Department of the Treasury and are identified on a list of designated persons maintained in Appendix A to 31 CFR Chapter V. The controls maintained by the Department of the Treasury, including those with respect to SDGTs, SDTs and FTOs, are not discussed in this report.

Iraq

On May 22, 2003, the United Nations Security Council (UNSC) issued Resolution 1483 that lifted the comprehensive UNSC trade sanctions on Iraq, while retaining restrictions on the sale or supply to Iraq of arms and related matériel. Resolution 1483 also reiterated certain provisions of related UNSC Resolutions 707 of August 15, 1991, and 687 of April 3, 1991. In particular, those provisions require that Iraq eliminate its nuclear weapons program and restrict its nuclear activities to the use of isotopes for medical, industrial, or agricultural purposes. Such provisions further mandate the elimination of Iraq's chemical and biological weapons programs as well as its ballistic missile program. The Department of Commerce is presently in the process of amending the EAR to reflect Iraq's significantly changed status. At present, the Department of the Treasury continues to require a license for the export to Iraq of most items on the Commerce Control List, other than items controlled for anti-terrorism reasons only.

Syria

On December 12, 2003, the President signed the Syria Accountability and Lebanese Sovereignty Restoration Act (SAA) (Pub. L. 108-175). The Department of Commerce has responsibility for implementing Section 5 of the SAA, insofar as it affects the EAR.

Rwanda

The UNSC imposed an arms embargo on Rwanda on May 17, 1994. In 1995, the UNSC suspended the application of the arms embargo to the Government of Rwanda if items were shipped through specified points of entry, and later terminated (effective September 1, 1996) the application of these restrictions on sales or supplies to the Government of Rwanda. The sale or supply of such arms and arms-related matériel to non-governmental forces in Rwanda remains prohibited.

On July 30, 2003, the Department of State implemented the partial lifting of the arms embargo for those items subject to the International Traffic in Arms Regulations (ITAR) destined for the Government of Rwanda. The Department of Commerce will be implementing a comparable partial lifting of the arms embargo by amending the EAR.

Persons Named Pursuant to Executive Order 13304

Pursuant to Executive Order 13304, the Department of Commerce maintains controls on exports to persons who threaten international stabilization efforts in the Western Balkans, including Slobodan Milosevic, certain family members and close associates, and persons under open indictment by the International Tribunal for the Former Yugoslavia. The U.S. Government modified these restrictions in 2003 and the Department of Commerce will publish changes to the EAR to reflect these modifications.

Angola

The President declared a national emergency relating to UNITA by Executive Order 12865 on September 26, 1993, in coordination with international sanctions adopted by the UNSC. The

U.S. sanctions were further tightened by Executive Order 13069 of December 12, 1997, and Executive Order 13098 of August 18, 1998. The United States took these actions in accordance with United Nations Security Council Resolutions 1127 of August 28, 1997, Resolution 1173 of June 12, 1998, and Resolution 1176 of June 26, 1998.

Executive Order 13298 of May 6, 2003, lifted all sanctions imposed on UNITA in these earlier Executive Orders. With the successful implementation of the Lusaka Protocol and the demilitarization of UNITA, the President determined that the circumstances that led to the declaration of a national emergency on September 26, 1993, no longer exist. The lifting of sanctions was consistent with United Nations Security Council Resolution 1448, which lifted the measures imposed pursuant to prior Security Council resolutions related to UNITA. The Department of Commerce will publish an amendment to the EAR, which will remove references to the sanctions administered by the Department of the Treasury.

Chemical and Biological Controls

On June 10, 2003, the Department of Commerce published a rule reflecting decisions reached by the Australia Group (AG) in intersessional agreement and at the June 2002 AG Plenary. At the urging of the United States, the control thresholds in ECCN 2B352 for fermenters and cross flow filtration equipment were lowered to capture additional equipment that could be used in the production of chemical weapons. The rule added eight biological toxins to the list of controlled items on the CCL. Additionally, editorial corrections were made to some chemical-related entries to clarify the scope of AG controls.

Missile Technology Controls

After several years of debate, agreement was reached in the Missile Technology Control Regime (MTCR) to define missile range and payload, key determinants of the level of control applicable to rocket and unmanned aerial vehicle systems. In summary, payload is now defined as that portion of a rocket system or unmanned aerial vehicle that is not used to maintain flight; range is defined as the maximum distance that a rocket system or unmanned aerial vehicle is capable of traveling in stable flight as measured by the projection of its trajectory over the surface of the Earth. Clarifying amendments to the scope and jurisdiction of controls on global navigation satellite receiving equipment were also accepted by MTCR members. On September 22, 2003, the Department of Commerce published a rule incorporating these revisions in the EAR.

High Performance Computers

On January 14, 2003, the Department of Commerce amended the EAR to implement revisions that were agreed upon in the February 2002 meeting of the Wassenaar Arrangement on Export Controls for Conventional Arms and Dual-Use Goods and Technologies (Wassenaar Arrangement). This rule removed license requirements for exports and reexports of general purpose microprocessors to most destinations to conform with changes in the List of Dual-Use Goods and Technologies maintained and agreed to by governments participating in the Wassenaar Arrangement. This rule retained license requirements for exports and reexports to

designated terrorist-supporting countries. In addition, this rule established a new license requirement for the export or reexport of general purpose microprocessors if, at the time of the export or reexport, the exporter or reexporter knows, has reason to know, or is informed by BIS that the item will be or is intended to be used for a military end-use in a country that is of concern for national security reasons or by a military end-user in such a country.

Encryption Items

On June 17, 2003, the Department of Commerce published a rule to implement changes to the Wassenaar Arrangement List of dual-use items (finalized in December 2002) and clarify U.S. export controls on certain limited uses of encryption. This update clarifies when encryption commodities and software may be given de minimis treatment, when short-range wireless devices incorporating encryption may be given mass market or retail treatment, and that specially designed medical equipment and software are not controlled as encryption or “information security” items under the EAR. The rule also expands the authorizations according to which most travelers departing the United States may take encryption for their personal use. Finally, this rule implements the 2002 Wassenaar Arrangement agreement to eliminate national security-based controls on certain types of “personalized smart cards” and equipment controlling access to copyright protected data.

Nuclear Nonproliferation

On October 22, 2003, the Department of Commerce published a rule in response to an agreement among the Nuclear Suppliers Group (NSG) member countries to establish export licensing procedures for the transfer of items identified on the Annex to the “Nuclear-Related Dual-Use Equipment, Materials, and Related Technology List,” which is published by the International Atomic Energy Agency.

Part II: Format of Analysis Used in Chapters 2-12 of This Report

Chapters 2-12 of this report describe the various export control programs maintained by the Department of Commerce for foreign policy reasons. Each of these programs is extended for another year. The analysis required for such an extension is presented in each chapter in the format described below.

Export Control Program Description and Licensing Policy

This section defines the export controls maintained for a particular foreign policy purpose that are imposed or extended for the year 2004. Each of the following chapters describes the licensing requirements and policy applicable to a particular control.

Analysis of Control as Required by Section 6(f) of the Act

Section 6(f)(2) of the Act requires that the Secretary of Commerce describe the purpose of the controls and consider or determine whether to impose or extend foreign policy controls based on specified criteria, including consultation efforts, economic impact, alternative means, and foreign

availability. For each control program, the Department of Commerce's conclusions are based on the following required criteria:

A. The Purpose of the Control

This section provides the foreign policy purpose and rationale for each particular control.

B. Considerations and/or Determinations of the Secretary of Commerce

This section describes the Secretary's determinations or considerations with respect to the following criteria:

- 1. *Probability of Achieving the Intended Foreign Policy Purpose.*** Whether such controls are likely to achieve the intended foreign policy purpose in light of other factors, including the availability from other countries of the goods or technology subject to control, and whether the foreign policy purpose can be achieved through negotiations or other alternative means.
- 2. *Compatibility with Foreign Policy Objectives.*** Whether the controls are compatible with the foreign policy objectives of the United States and with overall U.S. policy toward the country or the proscribed end-use subject to the controls.
- 3. *Reaction of Other Countries.*** Whether the reaction of other countries to the extension of such export controls by the United States is likely to render the controls ineffective in achieving the intended foreign policy purpose or to be counterproductive to other U.S. foreign policy interests.
- 4. *Economic Impact on United States Industry.*** Whether the effect of the controls on the export performance of the United States, its competitive position in the international economy, the international reputation of the United States as a reliable supplier of goods and technology, or the economic well-being of individual U.S. companies exceeds the benefit to U.S. foreign policy objectives.³

³ *Limitations exist when assessing the economic impact of certain controls because of the unavailability of data or because of the prevalence of other factors, e.g., currency values, foreign economic activity, or foreign political regimes, which may restrict imports of U.S. products more stringently than the United States restricts exports.*

5. Effective Enforcement of Control. Whether the United States has the ability to enforce the controls. Some enforcement problems are common to all foreign policy controls.⁴ Other enforcement problems are associated with only one or a few controls. Each control has been assessed to determine if it has presented, or is expected to present, an uncharacteristic enforcement problem.

C. Consultation with Industry

This section discusses the results of consultations with industry leading to the extension or imposition of controls. In a October 21, 2003, *Federal Register* notice, the Department of Commerce solicited comments from industry on the effectiveness of U.S. foreign policy-based export controls. Comments were solicited from all six of the Department's Technical Advisory Committees (TACs) that advise BIS, as well as from the President's Export Council Subcommittee on Export Administration. Comments also were solicited from the public via the BIS webpage. The comment period closed on November 21, 2003. Eight comments were received from the following companies and organizations: Analog Devices, Inc.; Federal Express Corporation; Industry Coalition on Technology Transfer (ICOTT); Jupiter Aluminum Corp.; National Chamber of Industries & Commerce, U.P. India; Sandia National Laboratories' Cooperative Monitoring Center; the Sensors and Instrumentation Technical Advisory Committee (SITAC); and Sun Microsystems. A detailed review of the comments received is available in Appendix I.

D. Consultation with Other Countries

This section reflects consultations on the controls with countries that cooperate with the United States on multilateral controls and with other countries as appropriate.

E. Alternative Means

This section specifies the nature and results of any alternative means attempted to accomplish the foreign policy purpose, or the reasons for extending the controls without attempting any such alternative means.

⁴ *When the United States implements controls without the imposition of corresponding restrictions by other countries, it is difficult to guard against reexports from third countries to the target country, to secure third country cooperation in enforcement efforts, and to detect violations abroad and initiate proper enforcement action. The relative ease or difficulty of identifying the movement of controlled goods or technical data is also a factor. Controls on items that are small, inexpensive, easy to transport or conceal, or that have many producers and end-users, are harder to enforce.*

F. Foreign Availability

This section considers the availability from other countries of goods or technology comparable to those subject to the proposed export control. It also describes the nature and results of the efforts made pursuant to Section 6(h) of the Act to secure the cooperation of foreign governments in controlling the foreign availability of such comparable goods or technology. In accordance with the Act, foreign availability considerations do not apply to export controls in effect prior to June 12, 1985, to controls maintained for human rights and anti-terrorism reasons, or to controls in support of the international obligations of the United States.

CHAPTER 2

Crime Control/Human Rights (Sections 742.7, 742.11, 742.17)⁵

Export Control Program Description and Licensing Policy

As required by Section 6(n) of the Export Administration Act of 1979, as amended, the United States controls the exports of crime control and detection items to reflect its concerns about the observance of human rights in various countries of the world. The U.S. Government requires a license to export most crime control and detection instruments, equipment, related technology, and software to all destinations, except Australia, Japan, New Zealand, and members of the North Atlantic Treaty Organization (NATO). A license is required to export certain crime control items including restraint type devices (such as handcuffs) and discharge type arms (such as tasers) to all destinations except Canada. Specially designed implements of torture and thumbscrews, which are part of the crime control category, require a license for export to any destination. In addition, the U.S. Government maintains export license requirements for certain crime control items in furtherance of the Inter-American Convention Against the Illicit Manufacturing of and Trafficking in Firearms, Ammunition, Explosives, and other Related Material.

Licensing Policy

Crime Control/Implements of Torture

The U.S. Government has a general policy of denial for applications to export crime control items to a country in which the government engages in a consistent pattern of gross violations of internationally recognized human rights. For other countries, the U.S. Government will consider applications for crime control items favorably, on a case-by-case basis, unless there is civil disorder in the country or region concerned, or there is evidence that the government may have violated human rights and that the judicious use of export controls would be helpful in minimizing regional instability, deterring the development of a consistent pattern of such violations, or in demonstrating U.S. opposition to such violations.

⁵ Citations following each of the foreign policy control programs refer to sections of the EAR, 15 CFR Parts 730-774, that describe the control program.

The U.S. Government has a policy of denial for any license application to export specially designed implements of torture and thumbscrews. No applications for the export of these items were submitted in 2003.

China

Following the 1989 military assault on demonstrators by the People's Republic of China (PRC) in Tiananmen Square, the U.S. Government imposed constraints on the export to the PRC of certain items on the Commerce Control List (CCL). Section 902(a)(4) of the Foreign Relations Authorization Act for FY 1990-1991, Public Law 101-246, suspends the issuance of licenses under Section 6(n) of the Act for the export of any crime control or detection instruments or equipment to the PRC. The President may terminate the suspension by reporting to Congress that China has made progress on political reform or that it is in the national interest of the United States to terminate the suspension. In 2003, the President did not exercise his authority to terminate this suspension.

Indonesia

The U.S. Government denies applications to export certain crime control items to Indonesia, subject to narrow exceptions, consistent with Section 582 of the Foreign Operations, Export Financing and Related Programs 1995 Appropriations and 1994 Supplemental Appropriations Act (Public Law 103-306).

Rwanda

In conformity with U.N. Resolution 918 and the U.N. Participation Act, the U.S. Government maintains an embargo on the sale or supply of arms and related materiel to certain entities in Rwanda. As a result, applications to export items controlled for crime control and detection reasons on the CCL to such entities are subject to a general policy of denial.

Organization of American States Member Countries

The Department of Commerce published a rule in April 1999 reflecting the provisions of the Organization of American States (OAS) Model Regulations for the Control of the International Movement of Firearms. The Department of Commerce designed these regulations to harmonize import and export controls over the legal international movement of firearms among OAS member states and to establish procedures to prevent the illegal trafficking of firearms among these countries.

Under these provisions, the Department of Commerce maintains foreign policy controls on exports of Commerce-controlled firearms, including shotguns with a barrel length of 18 inches or over and parts, buckshot shells, shotgun shells and parts, and optical sighting devices to all OAS member countries, including Canada. Items subject to these controls are identified by "FC Column 1" in the "License Requirements" section of the corresponding Export Control Classification Numbers (ECCNs). In support of the OAS Model Regulations, the U.S. Government requires an Import Certificate (IC) for the export to all OAS member countries of

those items affected by the regulations. In general, the Department of Commerce approves license applications for the export of firearms to OAS member countries if the application is supported by an IC. The Department of Commerce denies applications that involve end-uses linked to drug trafficking, terrorism, international organized crime, and other criminal activities. As discussed later in this chapter, during FY 2003 approximately 55 percent of all approved crime control license applications were for items also controlled for FC reasons to OAS member countries.

Other Licensing Considerations

The Department of State annually compiles the *Country Reports on Human Rights Practices*. The Department of State prepares these reports in accordance with Sections 116(d) and 502B(b) of the Foreign Assistance Act of 1961, as amended, for submission to Congress. The factual information presented in these reports is a significant element in licensing recommendations made by the Department of State. In accordance with the Foreign Assistance Act, there is a policy of denial for license applications to export crime control items to any country whose government engages in a consistent pattern of gross violations of human rights.

The International Religious Freedom Act of 1998 (IRFA) calls for the President to take diplomatic or other appropriate action with respect to any country that engages in or tolerates violations of religious freedom. IRFA also provides for the imposition of economic measures or commensurate actions when a country has engaged in systematic, ongoing, egregious violations of religious freedom accompanied by flagrant denials of the rights to life, liberty, or the security of persons, such as torture, enforced and arbitrary disappearances, or arbitrary prolonged detention. For such countries, IRFA provides that the Department of Commerce, with Department of State concurrence, shall include on the CCL for reasons of crime control or detection, and require export licenses for, items that are being used, or are intended for use, directly and in significant measure, to carry out particularly severe violations of religious freedom. In October 2001, the Secretary of State, acting under the authority of the President, re-designated five countries – Burma, China, Iran, Iraq, and Sudan – and designated one new country – North Korea – as “countries of particular concern” under the Act for having engaged in or tolerated particularly severe violations of religious freedom. These designations were reiterated in the most recent Department of State International Religious Freedom Report to the Congress on October 7, 2002. The Department of Commerce has not added additional items to the CCL pursuant to IRFA, but it reviews license applications for crime control items to these destinations by applying the most restrictive licensing policy applicable to such countries.

Analysis of Control as Required by Section 6(f) of the Act

A. The Purpose of the Control

These controls seek to ensure that U.S.-origin crime control equipment is not exported to countries whose governments fail to respect internationally recognized human rights, or where

civil disorder is prevalent. Denial of export license applications to such countries helps to prevent human rights violations and clearly signals U.S. concerns about human rights in these countries. The license requirements for most destinations allow for close monitoring of exports of certain crime control items that could be misused to commit human rights violations.

Controls on implements of torture similarly help to ensure that such items are not exported from the United States. The Department of Commerce has neither received applications for export of “specially designed” implements of torture nor would it approve the export of such items. In addition, the Department of Commerce approved no license application for the export of thumbcuffs.

B. Considerations and/or Determinations of the Secretary of Commerce

- 1. *Probability of Achieving the Intended Foreign Policy Purpose.*** The Secretary has determined that these controls are likely to achieve the intended foreign policy purpose, in light of other factors, including the fact that the foreign policy purpose cannot be achieved through negotiations or other alternative means. The lack of complementary controls by other producer nations limits the effectiveness of these controls in preventing human rights violations. The controls restrict human-rights violators’ access to U.S.-origin goods and provide important symbolic evidence of U.S. support for the principles of human rights. The imposition of stringent licensing requirements for crime control items enables the U.S. Government to more closely monitor items that could be used in human rights violations.
- 2. *Compatibility with Foreign Policy Objectives.*** The Secretary has determined that these controls are compatible with U.S. foreign policy objectives and will not have any significant adverse foreign policy consequences with the extension of this control program. This control program is fully consistent with U.S. policy in support of internationally recognized human rights, as expressed by successive Administrations and Congress.
- 3. *Reaction of Other Countries.*** The Secretary has determined that any adverse reaction to these controls is not likely to render the controls ineffective nor will any adverse reaction by other countries be counter-productive to U.S. foreign policy interests. These controls are unique, serve a distinct foreign policy purpose, and arise out of deeply held convictions of the U.S. Government and people. Other countries currently do not have equivalent regulations, but many have restrictions on exports of lethal products to areas of civil unrest. On January 27, 2003, the European Union issued a trade regulation proposal concerning trade in certain equipment and products that could be used for capital punishment, torture or other cruel, inhuman or degrading treatment or punishment.
- 4. *Economic Impact on United States Industry.*** The Secretary has determined that any adverse effect of these controls on the economy of the United States, including on the competitive position of the United States in the international economy, does not exceed the benefit to U.S.

foreign policy objectives. In FY 2003, the Department of Commerce approved 1,958 export license applications valued at approximately \$120.7 million for crime control items. Table 1 lists the total number and value (by ECCN) of export licenses that the U.S. Government issued for crime control items during FY 2003.

Table 1: CRIME CONTROL APPLICATIONS APPROVED (FY 2003)

ECCN	Items Controlled	Applications Approved	\$ Value
0A978	Saps	0	\$0
0A979	Police helmets and shields	80	\$7,399,599
0A982	Restraint devices, e.g., leg irons, shackles, handcuffs	229	\$7,135,507
0A983	Specially designed implements of torture	0	\$0
0A984	Shotguns and buckshot shotgun shells	571	\$19,155,315
0A985	Discharge type arms (stun guns, shock batons, etc.)	173	\$12,859,656
0A987	Optical sighting devices	514	\$39,305,608
0E982	Technology for items under 0A982/0A985	2	\$2
0E984	Technology for items under 0A984	0	\$0
1A984	Chemical agents including tear gas containing 1% or less of CS or CN	29	\$1,209,514
1A985	Fingerprinting powders, dyes and inks	125	\$14,321,706
3A980	Voice print identification and analysis equipment	1	\$8,700

ECCN	Items Controlled	Applications Approved	\$ Value
3A981	Polygraphs, fingerprint analyzers, cameras and equipment	177	\$7,913,562
3D980	Software for items under 3A980 and 3A981	12	\$3,372,498
3E980	Technology for items under 3A980 and 3A981	0	\$0
4A003*	Digital computers for computerized fingerprint equipment only	0	\$0
4A980	Computers for fingerprint equipment	11	\$5,368,925
4D001*	Software for items under 4A003 only	0	\$0
4D980	Software for items under 4A980	21	\$1,815,493
4E001*	Technology for items under 4A003 and 4D001 only	0	\$0
4E980	Technology for items under 4A980	1	\$1
6A002c*	Police-model infrared viewers only	11	\$895,695
6E001*	Technology for development of items under 6A002c only	0	\$0
6E002*	Technology for production of items under 6A002c only	0	\$0
9A980	Mobile crime science laboratories	1	\$1,250
TOTAL		1,958	\$120,763,031

NOTES: (1) To give the reader the broadest perspective of the items covered, Table 1 lists all crime control ECCNs including those for which no license applications were submitted. (2) Those ECCNs marked with an asterisk (*) list items that are controlled for crime control reasons and for other reasons, but the corresponding statistics represent only the crime control items within the ECCN.

In FY 2003, the Department of Commerce denied 29 applications for crime control items valued at about \$10.7 million. The largest number of denials involved shotguns (twelve cases), but by value, discharge arms were greatest (due to denial of one license of high value). Table 2 lists only those crime control ECCNs for which applications were denied.

Table 2: CRIME CONTROL APPLICATIONS DENIED (FY 2003)

ECCN	Description	Applications Denied	\$ Value
0A979	Police helmets, shields	1	\$225
0A982	Restraint devices, e.g., leg irons, shackles, handcuffs	2	\$16,000
0A984	Shotguns and shotgun shells	12	\$348,618
0A985	Discharge type arms (e.g., stun guns, shock batons)	5	\$10,044,817
0A987	Optical sighting devices for firearms	8	\$266,000
1A985	Fingerprinting powders, dyes, and inks	1	\$15,236
TOTAL		29	\$10,690,896

In FY 2003, the Department of Commerce approved 830 export license applications worth \$41.9 million for items affected by the foreign policy controls on firearms and ammunition instituted in 1999 in support of the OAS Model Regulations. Licenses to Canada account for more applications than any other country, with 474 applications in FY 2003. Approximately 55 percent of all approved crime control license applications were for items also controlled for Firearms Convention reasons to OAS member countries. The table below lists the number and value of export licenses that the Department of Commerce issued for firearms, ammunition, sights, and related items affected by these foreign policy controls applied to OAS countries in FY 2003.

**TABLE 3: APPLICATIONS FOR FIREARMS, AMMUNITION,
AND SIGHTS TO OAS COUNTRIES APPROVED IN FY 2003**

ECCN	Items Controlled	Applications Approved	\$ Value
0A984	Shotguns and buckshot shotgun shells	455	\$15,810,850
0A986	Other shotgun shells	165	\$12,730,517
0A987	Optical sighting devices for firearms	210	\$13,317,452
TOTAL		830	\$41,858,819

5. *Effective Enforcement of Control.* The Secretary has determined the United States has the ability to effectively enforce these controls. Crime control items and implements of torture are easily recognizable and do not present special enforcement problems related to detecting violations or verifying use. However, enforcement cooperation with other countries generally is difficult in cases involving unilaterally controlled items, such as these, and often depends on the type and quantity of goods in question. In addition, enforcement of controls on reexports is challenging and rests in large part on the willingness of the recipient to abide by the terms of the export license. The U.S. Government conducts post-shipment verifications to verify that the listed end-user has received the exports and to confirm that the end-user is using the controlled items in a way consistent with the license conditions.

C. Consultation with Industry

In a October 21, 2003, *Federal Register* notice, the Department of Commerce solicited comments from industry on the effectiveness of U.S. foreign policy-based export controls. Comments were solicited from all six of the Department's Technical Advisory Committees (TACs), which advise the Bureau of Industry and Security (BIS), as well as from the President's Export Council Subcommittee on Export Administration. Comments also were solicited from the public via the BIS website. The comment period closed on November 21, 2003, and eight comments were received. While none of the comments specifically addressed crime controls, the Industry Coalition on Technology Transfer (ICOTT) provided general comments about all foreign policy-based export controls, stating that these controls are unilateral and largely ineffective. ICOTT recommended that unilateral controls should only be used when the symbolism of the act of imposing controls outweighs the injury to American workers and

businesses. In addition, ICOTT suggested that if unilateral controls are to be imposed while the United States negotiates with its trading partners to seek multilateral support, those unilateral controls should be of limited duration. A detailed review of all comments received can be found in Appendix I.

In addition, the Department of Commerce has consulted extensively with exporters of crime control items and with human rights groups concerned about the potential for misuse of such items in various parts of the world. It does so most frequently by almost daily consultation with exporters about specific items proposed for export to specific end-users and end-uses. The Departments of State and Commerce have consulted with Amnesty International to discuss a wide range of issues relating to crime control items. The U.S. Government has made certain changes in the licensing policy and controlled commodities in response to the concerns of human rights groups.

D. Consultation with Other Countries

Most other countries that supply crime control and detection items have not imposed similar export controls. The United Kingdom and Canada maintain controls on certain crime control commodities that are similar to U.S. controls. Certain European Union member-states prohibit or impose an authorization requirement on the export of dual-use items not covered by the multilateral export control regimes for reasons of public security or human rights considerations. The U.S. Government consults regularly with other member countries in the Wassenaar Arrangement, the Nuclear Suppliers Group, the Missile Technology Control Regime, and the Australia Group regarding U.S. export controls. On January 27, 2003, the European Union issued a trade regulation proposal concerning trade in certain equipment and products that could be used for capital punishment, torture, or other cruel, inhuman or degrading treatment or punishment.

E. Alternative Means

Section 6(n) of the Act requires the Department of Commerce to maintain export controls on crime control and detection equipment. Alternative means do not satisfy this statutory requirement. The U.S. Government does, however, use diplomatic efforts, sanctions, and other means to convey its concerns about the human rights situation in various countries.

F. Foreign Availability

The foreign availability provision does not apply to Section 6(n) of the Act.⁶ Congress has recognized the usefulness and symbolic value of these controls in supporting U.S. Government policy on human rights issues, foreign availability notwithstanding.

⁶ *Provisions pertaining to foreign availability do not apply to export controls in effect before July 12, 1985, under Sections 6(i) (International Obligations), 6(j) (Countries Supporting International Terrorism), and 6(n) (Crime Control Instruments). See the Export Administration Amendments Act of 1985, Public Law No. 99-64, Section 108(g)(2), 99 Stat. 120, 134-35. Moreover, Sections 6(i), 6(j), and 6(n) require that controls be implemented under certain conditions without consideration of foreign availability.*

CHAPTER 3

Regional Stability (Section 742.6)

Export Control Program Description and Licensing Policy

Regional stability (RS) controls ensure that exports and reexports of controlled items do not contribute directly or indirectly to a country's military capabilities in a manner that would alter or destabilize a region's military balance contrary to the foreign policy interests of the United States. This control traditionally covers items specially designed or modified for military purposes and certain dual-use commodities that can be used to manufacture military equipment.

On April 3, 2003, the Department of Commerce published an amendment to the Export Administration Regulations (EAR) that expands the scope of controls on explosive detection equipment. The amendment moved explosive detection equipment from ECCN 2A993 to ECCN 2A983. The Department also imposed new license requirements for the export and reexport of related software and technology, under newly created ECCNs 2D983 and 2E983. With this amendment, the Department of Commerce has imposed a license requirement for RS reasons for the export of explosive detection equipment, software and technology to all destinations except members of the North Atlantic Treaty Organization (NATO), Australia, Japan, and New Zealand. The amendment is designed to enhance the security and safety of airline travel and physical structures, including government buildings. The Department of State's Directorate for Defense Trade Controls is encouraging manufacturers of such equipment to seek confirmation of their individual item transfers to Department of Commerce export licensing jurisdiction by using the Commodity Jurisdiction (22 CFR 120.4) process.

Licensing Policy

Section 742.6 of the EAR requires a license for RS reasons to export certain image-intensifier tubes, infrared focal plane arrays, certain software and technology for inertial navigation systems, gyroscopes and accelerometers, to all destinations except Canada. All license applications for these items are reviewed on a case-by-case basis to determine whether the export could contribute, directly or indirectly, to a country's military capabilities in a manner that would destabilize or alter a region's military balance contrary to U.S. foreign policy interests.

Section 742.6 of the EAR requires a license for RS reasons to export explosive detection equipment and related software and technology, military-related items (e.g., certain vehicles and trainer aircraft), and certain commodities used to manufacture military equipment to all destinations except member nations of NATO, Australia, Japan, and New Zealand. The U.S. Government will generally consider applications for such licenses favorably, on a case-by-case basis, unless the export would significantly affect regional stability.

Analysis of Control as Required by Section 6(f) of the Act

A. The Purpose of the Control

This control provides a mechanism for the U.S. Government to monitor the export of these items to restrict their use in instances that would adversely affect regional stability or the military balance within a region and to protect the national security and foreign policy interests of the United States. The purpose of the expansion of controls on explosive detection equipment and imposition of controls on related software and technology is to enhance the security and safety of airline travel worldwide and physical structures including government buildings.

B. Considerations and/or Determinations of the Secretary of Commerce

1. *Probability of Achieving the Intended Foreign Policy Purpose.* The Secretary has determined that these controls are likely to achieve the intended foreign policy purpose, in light of other factors, including the availability of these RS-controlled items from other countries and that most of the items subject to these controls are also controlled, as a result of international negotiations, by the United States' partners in the Wassenaar Arrangement and the Missile Technology Control Regime (MTCR). Regional stability controls, including the new and expanded controls on explosive detection equipment, software, and technology contribute to U.S. national security and foreign policy objectives by enabling the United States to restrict the use or availability of certain sensitive U.S.-origin goods and technologies that would adversely affect regional stability or the military balance in certain areas.

2. *Compatibility with Foreign Policy Objectives.* The Secretary has determined that these controls are compatible with U.S. foreign policy objectives and will not have any significant adverse foreign policy consequences with the extension of these controls. Regional stability controls, including the expanded and new controls on explosive detection equipment, software, and technology are consistent with U.S. foreign policy goals to promote peace and stability and prevent U.S. exports that might contribute to weapons production, destabilizing military capabilities, or terrorist acts.

3. *Reaction of Other Countries.* The Secretary has determined that any adverse reaction to these controls is not likely to render the controls ineffective nor will any adverse reaction by

other countries be counter-productive to U.S. foreign policy interests. A number of other countries limit exports of items and technologies with military applications to areas of concern, recognizing that such items and technologies could adversely affect regional stability and military balances. For example, the United States and other member countries of the Wassenaar Arrangement each have their own national controls on the export of certain night vision devices. All members of the MTCR maintain controls on software and technology related to missile guidance and control devices. Although other countries may object to new unilateral RS controls, allies and partners of the United States support U.S. efforts against regional conflict and terrorism and appreciate the need to keep certain equipment and technologies from those who could misuse the items to destabilize countries or regions.

4. *Economic Impact on United States Industry.* The Secretary has determined that any adverse effect of these controls on the economy of the United States, including on the competitive position of the United States in the international economy, does not exceed the benefit to U.S. foreign policy objectives. Items controlled for regional stability reasons generally require licenses for export to all destinations except NATO countries, Australia, Japan, and New Zealand, including the expanded and new controls on explosive detection equipment and related software and technology. Certain RS-controlled items, including those controlled concurrently for missile technology reasons and cameras controlled under ECCN 6A003, however, require licenses for export to all destinations *except* Canada.

In FY 2003, the Department of Commerce approved 2,883 license applications for items controlled for RS reasons, with a total value of \$1,101 million. Sixteen applications for these items (all were cameras in 6A003) were denied, with a total value of \$496,210. In addition, the Department of Commerce returned without action (RWA) 176 applications, valued at \$21.5 million. Most of the RWA's were due to commodity jurisdiction questions involving the Department of State or because insufficient end-user or end-use information was provided. The majority of RWA cases, 130 of the 176, were for imaging cameras classified under ECCN 6A003.

The licensing volume for items controlled for regional stability was significantly larger than in FY 2002, in which the Department of Commerce approved 1,662 license applications for items controlled for RS reasons, with a total value of \$441 million. This increase is due to several factors. First, the commercial market for night vision/thermal imaging cameras controlled in ECCN 6A003 is growing rapidly. Second, BIS imposed new regional stability controls on explosive detection equipment and related technology (ECCN 2A983, 2D983 and 2E983). Lastly, regional stability controls were applied to additional ECCNs as a result of the "space qualified" rule agreements in late 2002.

The table that follows lists the total number and value by ECCN of export licenses that the Department of Commerce issued for regional stability items during FY 2003:

Regional Stability Applications Approved (Fiscal Year 2003)

ECCN	Description	Number of Applications	Dollar Value
1B018.a	Equipment for the production of military explosives and solid propellants	0	\$0
2A983	Explosives detection equipment	29	\$4,432,618
2B018	Equipment on the International Munitions List	0	\$0
2D983	Software for equipment in 2A983	2	\$0
2E983	Technology for equipment in 2A983	1	\$0
6A002.a.1 .,a.2.,a.3., c.,e	Optical detectors and direct view imaging equipment incorporating image intensifier tubes or focal plane arrays	35	\$3,588,251
6A003.b. 3.,b.4	Imaging cameras incorporating image intensifiers or focal plane arrays	2,588	\$642,177,201
6A008.j.1	Space qualified LIDAR equipment	0	\$0
6A998.b	Space-qualified LIDAR equipment for meteorological observation	0	\$0
6D001	Software for development/production of 6A002, 6A003, or 6A008	0	\$0
6D991	Software for development/production/use of 6A998.b	0	\$0
6E001	Technology for the development of equipment, materials, or software controlled by 6A, 6B, 6C, or 6D	3	\$2
6E002	Technology for the production of equipment or materials controlled by 6A, 6B, or 6C	2	\$201,000
6E991	Technology for production, development or use of items in 6A998.b	2	\$0

ECCN	Description	Number of Applications	Dollar Value
7D001	Software for the development or production of equipment in 7A or 7B	5	\$3
7E001	Technology for the development of items in 7A, 7B, or 7D	12	\$322,553
7E002	Technology for the production of items in 7A or 7B	5	\$2,506
7E101	Technology for the use of items in 7A, 7B, or 7D	21	\$9,102
9A018.a., b	Military trainer aircraft and vehicles designed or modified for military use	244	\$456,616,153
9E018	Technology for the development of items in 9A018.a, .b	9	\$85,051
TOTAL		2,883	\$1,101,000,309

NOTE: The number of sub-categories under certain ECCNs that are not controlled for regional stability reasons is insignificant and is not reflected in this data.

5. Effective Enforcement of Control. The Secretary has determined that the United States has the ability to effectively enforce these controls. Image intensifier tubes, infrared focal plane arrays, certain software and technology for inertial navigation systems, gyroscopes, and accelerometers and other items controlled for regional stability purposes are almost all subject to multilateral controls for either national security or missile technology reasons. The multilateral nature of these controls aids in enforcement. The Department of Commerce can effectively enforce these controls by focusing on preventive enforcement, using regular outreach efforts to keep businesses informed of its concerns, and gathering leads on activities of concern. Given the enhanced anti-terrorism efforts of the U.S. Government, it is expected that industry will continue to support enforcement efforts.

C. Consultation with Industry

The Department of Commerce consults regularly with industry and its Technical Advisory Committees (TACs) on RS controls. For example, the Department has continued to consult the Sensors and Instrumentation Technical Advisory Committee (SITAC) as the U.S. Government considers possible revisions to the USML's night vision thermal imaging entry. (Issues regarding

licensing jurisdiction of night vision equipment are being addressed in the interagency review of the USML.)

The Department of Commerce informed the Regulations and Procedures Technical Advisory Committee (RPTAC) of the U.S. Government's intention to impose regional stability controls on certain power controlled searchlights, bayonets, and marine boilers to replace unilateral national security controls on these items. RPTAC comments were taken into consideration when drafting an amendment to the EAR for this purpose.

In a October 21, 2003, *Federal Register* notice, the Department of Commerce solicited comments from industry on the effectiveness of U.S. foreign policy-based export controls. Comments were solicited from all six of the Department's TACs, which advise the Bureau of Industry and Security (BIS), as well as from the President's Export Council Subcommittee on Export Administration. Comments also were solicited from the public via the BIS webpage. The comment period closed on November 21, 2003, and eight comments were received.

The SITAC submitted comments about the ongoing interagency consideration of the appropriate controls for commercial night vision and thermal imaging equipment controlled in Category 6 of the Commerce Control List. The SITAC reiterated its comments from previous years and recommended that commercial night vision and thermal imaging equipment controlled in ECCNs 6A002, 6A003, 6E001, and 6E002 should be controlled in RS column 2 instead of column 1, as a first step toward reconsidering RS controls in their entirety. This change would allow exports to NATO member countries, Australia, Japan, and New Zealand without an export license, which would amend the existing RS controls on these items to reflect that these are not countries and regions that suffer from instability. The SITAC further stated that treating all regions, with the exception of Canada, as being potentially unstable "dilutes the focus on regions where stability may truly be in question." The multi-year interagency consideration of this issue has resulted in the development of foreign competition in the United Kingdom, France, Japan, and Israel, that SITAC states has had a "negative effect on U.S. companies [that] far exceeds the perceived benefit to the foreign policy objective." The SITAC emphasized that this recent foreign competition has become rigorous and that the U.S. regional stability controls are harming U.S. industry without significant regional stability benefits.

The SITAC further noted in its comments the importance of thermal imaging items for firefighting, law enforcement, and security organizations worldwide and stated that the United States' call for building a large international coalition to combat terrorism is undermined when allies' access to available U.S. technology is restricted.

D. Consultation with Other Countries

The Wassenaar Arrangement controls most items that the United States controls for RS purposes. The Wassenaar Arrangement member countries hold extensive consultations and certain member

countries hold bilateral discussions regarding Wassenaar issues. During FY 2003 the U.S. Government engaged in extensive consultations with its Wassenaar partners. Wassenaar participating states have agreed to incorporate the Wassenaar Dual-Use Control List into their own national export controls to prevent exports that could contribute to destabilizing buildups of conventional arms. In addition, members of the MTCR incorporate the MTCR control list into their own national control lists.

E. Alternative Means

The United States has undertaken a wide range of actions to support and encourage regional stability and has specifically encouraged efforts to limit the flow of arms and militarily useful goods and other special equipment to regions of conflict and tension. U.S. regional stability export controls remain an important element in U.S. efforts to limit regional instability. Because most of the items that United States controls for RS purposes are also controlled by its Wassenaar and MTCR partners, the controls are largely based on international agreement, so no other alternative means were necessary.

F. Foreign Availability

Military vehicles and other military-type equipment that are controlled for RS purposes may be obtained from numerous foreign sources. Nearly all of the commodities and related software and technology controlled for regional stability purposes are also subject to multilateral controls for either national security or missile technology reasons under multilateral regimes. Manufacturers of imaging cameras controlled in ECCN 6A003 have voiced complaints to the Department of Commerce that there is considerable foreign availability of these items in Europe and Japan. The U.S. Government has maintained its controls as it has determined that the foreign policy objectives override the impact of foreign availability.

The SITAC has highlighted the increased foreign competition, and thus foreign availability, in comments it filed for consideration in this report, stating that foreign competition has increased significantly in the last three years, both from competitors within Wassenaar member countries and elsewhere. Although there are multilateral controls on these items, members of the European Union do not control the export of these items among themselves, but U.S. companies are required to obtain export licenses for exports to all destinations except Canada. U.S. industry believes that this disparity hinders them in this market. There also are foreign manufacturers of explosive detection equipment – although none of which produce items with technical capabilities equivalent to U.S. products. The Department of Commerce is not aware of foreign competitors that, at this time, produce the highest level of Federal Aviation Administration-certified explosive detection equipment.

CHAPTER 4

Anti-Terrorism Controls

(Sections 742.8, 742.9, 742.10, 742.19, 744.12, 744.13, 744.14, 744.16, 746.2, 746.3, 746.4, and 746.7)

Export Control Program Description and Licensing Policy

Pursuant to Section 6(j) of the Export Administration Act (the Act), the Secretary of State has designated seven countries – Cuba, Iran, Iraq, Libya, North Korea, Sudan, and Syria – as nations whose governments have repeatedly provided support for acts of international terrorism.

Effective December 28, 1993, the Acting Secretary of State determined that the United States would control five categories of dual-use items subject to multilateral controls to certain sensitive end-users under Section 6(j) of the Act, since these items meet the criteria set forth in Section 6(j)(1)(B) of the Act. Specifically, the Acting Secretary determined that these items, if exported to military, police, or intelligence organizations, or to other sensitive end-users in a designated terrorist-supporting country, could make a significant contribution to that country's military potential or could enhance its ability to support acts of international terrorism. As a result, any such export is subject to a 30-day congressional notification period prior to approval. The Acting Secretary also advised that the United States should continue to control other items not specifically controlled under Section 6(j) for general foreign policy purposes under Section 6(a) to terrorist-supporting countries.

Section 1503 of the Emergency Wartime Supplemental Appropriations Act, 2003 (Pub. L. 108-11), granted the President authority to make inapplicable, with respect to Iraq, Section 620A of the Foreign Assistance Act and any other provision of law applicable to countries that have supported terrorism. On May 7, 2003, the President exercised this authority by issuance of Presidential Determination 2003-23, which, among other things, suspended the application of most provisions of the Iraq Sanctions Act of 1990 (Pub. L. 101-513). In addition, based on Presidential Determination 2003-23, the requirements of Section 6(j) of the Act were made inapplicable to Iraq. The Department of Commerce is presently in the process of amending the Export Administration Regulations to reflect Iraq's significantly changed status. At present, the Department of the Treasury continues to require a license for the export to Iraq of most items on the Commerce Control List, other than items controlled exclusively for anti-terrorism reasons.

License Requirements and Licensing Policy

The paragraphs below describe the items requiring a license for anti-terrorism (AT) reasons for export or reexport to the designated terrorist-supporting countries, as appropriate. Pursuant to the 1993 determination of the Acting Secretary of State, and subsequent action consistent with such determination, certain items are controlled pursuant to Section 6(j) of the Act, while others are controlled pursuant to Section 6(a). The Department of Commerce refers all license applications for items controlled for AT reasons to the Department of State for review. Transactions involving exports of items controlled pursuant to Section 6(j) to military or other sensitive end-users in designated terrorist-supporting countries, as described in paragraph A below, are subject to a general policy of denial.

With respect to items controlled pursuant to Section 6(a), including exports of items described in paragraph A below to non-sensitive end-users, before approval a determination is made regarding whether the requirements of Section 6(j) apply. If the Secretary of State determines that the particular export “could make a significant contribution to the military potential of such country, including its military logistics capability, or could enhance the ability of such country to support acts of international terrorism,” the Department of Commerce and the Department of State must notify the appropriate congressional committees 30 days before issuing a license, consistent with the provisions of Section 6(j) of the Act. Transactions not subject to such requirements are reviewed on a case-by-case basis.

However, as described further in Chapter 5, the United States maintains comprehensive embargoes on exports and reexports to Cuba, Iran, Libya, and Sudan. As a result, the U.S. Government reviews license applications for exports and reexports of most items to these countries based on a general policy of denial, with certain very limited exceptions. The Department of Commerce continues to maintain AT controls with respect to these countries, though such controls and the related licensing policies are secondary to the comprehensive embargoes in place. These licensing policies are described further in Chapter 5.

A. Pursuant to Section 6(j) of the Act, the Department of Commerce requires a license for the export of the following items to military or other sensitive end-users in designated terrorist-supporting countries:

- All items subject to national security controls, except computers with a performance level of less than 500 million theoretical operations per second (Wassenaar Arrangement).⁷

⁷ *The Department of Commerce requires a license under Section 6(a) of the Act for all computers going to Iran, North Korea, Sudan, or Syria with a CTP of 6 MTOPS or above. Note also that controls apply to exports of all levels of computers to Cuba and Libya.*

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- All items subject to chemical and biological weapons proliferation controls (Australia Group).
 - All items subject to missile-proliferation controls (Missile Technology Control Regime).
 - All items subject to nuclear weapons-proliferation controls (Nuclear Referral List).
 - All military-related items (items controlled by CCL entries ending with the number 18).

B. Pursuant to Section 6(a) of the Act, the Department of Commerce requires a license for the export of certain items to non-sensitive end-users in designated terrorist-supporting countries, including the following:

- All items in categories 1-5 in paragraph A above.
- Aircraft, including helicopters and engines, and related spare parts and components.
- Heavy-duty on-highway tractors.
- Off-highway wheel tractors (≥ 10 tons).
- Cryptographic, cryptoanalytic, and cryptologic equipment.
- Navigation, direction finding, and radar equipment.
- Electronic test equipment.
- Mobile communications equipment.
- Acoustic underwater detection equipment.
- Vessels and boats (including inflatable boats).
- Marine and submarine engines (outboard and inboard, regardless of horsepower).
- Underwater photographic equipment.
- Submersible systems.
- Computer numerically controlled machine tools.
- Vibration test equipment.
- Certain digital computers (Composite Theoretical Performance ≥ 6).
- Certain telecommunications transmission equipment.
- Certain microprocessors (clock speed >25 Mhz).
- Certain semiconductor manufacturing equipment.
- Software specially designed for computer-aided design/computer-aided manufacture integrated circuit production.
- Packet switches (equipment described in ECCN 5A991.c).
- Software specially designed for air traffic control applications.
- Gravity meters (static accuracy <100 microgal or with quartz element).
- Certain magnetometers with sensitivity <1.0 nt rms per root hertz.
- Certain fluorocarbon compounds for cooling fluids for radar and supercomputers (described in ECCN 1C006.d).
- High-strength organic and inorganic fibers (described in ECCN 1C210).
- Certain machines for gear-cutting (up to 1.25 meters)(described in ECCNs 2B003 and 2B993).
- Certain aircraft skin and spar milling machines.

- Certain manual dimensional inspection machines (linear positioning accuracy $\pm 3+L/300$)(described in ECCN 2B996).
- Robots employing feedback information in real time.
- Explosives detection equipment (described in ECCN 2A983) and related software and technology (ECCNs 2D983 and 2E983).
- Production technology controlled under ECCN 1C355.
- Commercial charges and devices controlled under ECCN 1C992.
- Ammonium nitrate, including certain fertilizers containing ammonium nitrate, under ECCN 1C997.

C. Exports of the following additional items to Iran, Sudan, and North Korea are subject to a license requirement under Section 6(a) of the Act for foreign policy reasons: Large diesel engines (>400 horse power) and parts to power tank transporters; scuba gear and related equipment; and pressurized aircraft breathing equipment.

D. Exports of the following additional items to Iran and North Korea are subject to a license requirement under Section 6(a) of the Act for foreign policy reasons: Portable electric power generators.

E. Exports of the following additional items to North Korea are subject to a license requirement under Section 6(a) of the Act for foreign policy reasons:

- Ring magnets.
- Hot cells.
- Glove boxes suitable for use with radioactive materials.
- Software for neutronic calculations/modeling.
- Software for radiation transport calculations/modeling.
- Software for hydrodynamic calculations/modeling.
- Radiation detection, monitoring and measurement equipment.
- Radiographic detection equipment such as x-ray converters, and storage phosphor image plates.
- Electrolytic cells for fluorine production.
- Particle accelerators.
- Industrial process control hardware/systems designed for power industries.
- Freon and chilled water cooling systems capable of continuous cooling duties of 100,000 BTU/hr (29.3 kW) or greater.
- Equipment for the production of structural composites, fibers, prepregs, and preforms.
- Hardened steel and tungsten carbide precision ball bearings (3mm or greater diameter).
- 304 and 316 stainless steel plate.
- Monel plate.
- Tributyl phosphate.
- Nitric acid in concentrations of 20 weight percent or greater.

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- Flourine.
 - Alpha-emitting radionuclides.
 - Software specially designed for industrial process control hardware/systems controlled by 1B999, n.e.s. (not elsewhere specified).
 - Software specially designed for equipment for the production of structural composites, fibers, prepregs, and preforms controlled by 1B999, n.e.s.
 - Bellows sealed valves.
 - Isostatic presses, n.e.s.
 - Bellows manufacturing equipment, including hydraulic forming equipment and bellows forming dies.
 - Laser welding machines.
 - MIG welders.
 - E-beam welders.
 - Monel equipment, including valves, piping, tanks and vessels.
 - 304 and 316 stainless steel valves, piping, tanks and vessels.
 - Mining and drilling equipment, as follows:
 - Large boring equipment capable of drilling holes greater than two feet in diameter, and
 - Large earth-moving equipment used in the mining industry.
 - Electroplating equipment designed for coating parts with nickel or aluminum.
 - Pumps designed for industrial service and for use with an electrical motor of 5 HP or greater.
 - Vacuum valves, piping, flanges, gaskets and related equipment specially designed for use in high-vacuum service.
 - Spin forming and flow forming machines.
 - Centrifugal multiplane balancing machines.
 - Austenitic stainless steel plate, valves, piping, tanks and vessels.
 - Frequency changers capable of operating in the frequency range from 300 up to 600 Hz, n.e.s.
 - Mass spectrometers, n.e.s.
 - All flash x-ray machines, and components of pulsed power systems designed thereof, including Marx generators, high power pulse shaping networks, high voltage capacitors, and triggers.
 - Pulse amplifiers, n.e.s.
 - Electronic equipment for time delay generation or time interval measurement, as follows:
 - Digital time delay generators with a resolution of 50 nanoseconds or less over time intervals of 1 microsecond or greater, or
 - Multi-channel (three or more) or modular time interval meter and chronometry equipment with resolution of 50 nanoseconds or less over time intervals of 1 microsecond or greater.
 - Chromatography and spectrometry analytical instruments.
 - Seismic detection equipment.
 - Radiation hardened TV cameras, n.e.s.

Analysis of Control as Required by Section 6(f) of the Act

A. The Purpose of the Control

Anti-terrorism controls are intended to prevent acts of terrorism and to distance the United States from nations that have repeatedly supported acts of international terrorism and from individuals and organizations that commit terrorist acts. The controls demonstrate U.S. resolve not to trade with nations or entities that fail to adhere to acceptable norms of international behavior. The policy provides the United States with the means to control any U.S. goods or services that might contribute to the military potential of designated countries and to limit the availability of such goods for use in support of international terrorism. U.S. foreign policy objectives also are furthered by ensuring that items removed from multilateral regime lists continue to be controlled to designated terrorist-supporting countries. Anti-terrorism controls are maintained with respect to exports and reexports to Cuba, Iran, Libya, and Sudan, as part of broader U.S. embargoes, described in Chapter 5 below.

North Korea

Under the U.S.-North Korea 1994 Agreed Framework, North Korea agreed to freeze and eventually dismantle its nuclear program in exchange for heavy fuel oil shipments and the construction of two light water reactors that would be difficult to use for proliferation purposes. In December 2002, the Executive Board of the Korean Peninsula Energy Development Organization (KEDO), comprised of the United States, South Korea, Japan, and the European Union (EU), suspended oil shipments to North Korea after discovering that North Korea violated its commitments under the Agreed Framework, the Nuclear Nonproliferation Treaty, North Korea's safeguards agreement with International Atomic Energy Agency, and the Joint North-South Declaration on the Denuclearization of the Korean Peninsula by pursuing an enriched uranium nuclear program for nuclear weapons. As of December 1, 2003, KEDO's Executive Board suspended the North Korea light water reactor program for a period of one year in response to North Korea's nuclear activities.

In addition, although there has been a bilateral dialogue on terrorism with North Korea, AT controls remain in effect because of unresolved issues concerning North Korea's continuing support of international terrorism. The purpose of the controls is to restrict the import of equipment useful in enhancing the military or terrorist-supporting capabilities of the regime and addressing other U.S. foreign policy concerns, including nonproliferation, human rights, and regional stability.

Syria

The Syrian Government continues to provide political and limited material support to a number of Palestinian groups that have committed terrorist acts, but contends that the groups' offices in Syria only undertake political and informational activities. Syria also allows Iran to resupply Hizballah in Lebanon via its territory. Prior to Operation Iraqi Freedom, the U.S. Government

had several areas of concern particular to Syria and its neighbor, Iraq, including Syria's illicit oil trade with the Saddam Hussein regime and the illicit transshipment of dual-use and military-related items into Iraq. The U.S. Government continues to view with grave concern the unmonitored movement of anti-Coalition insurgents across the Syria-Iraq border. Additionally, the U.S. Government continues to have concern about Syria's provision of a safe haven for terrorist organizations as well as its nuclear, missile, and chemical/biological programs.

U.S. export controls reflect U.S. opposition to these activities. The controls also promote other U.S. foreign policy interests, including human rights and regional stability. The AT controls maintained on exports and reexports to Syria are consistent with the goals of the Syria Accountability and Lebanese Sovereignty Restoration Act of 2003.

B. Considerations and/or Determinations of the Secretary of Commerce

1. *Probability of Achieving the Intended Foreign Policy Purpose.* The Secretary has determined that these controls are likely to achieve the intended foreign policy purpose, in light of other factors, including the availability of these AT-controlled items from other countries and that the foreign policy purpose cannot be achieved through negotiations or other alternative means. Although widespread availability of comparable goods from foreign sources limits the effectiveness of these controls, the controls do restrict access by these countries and persons to U.S.-origin commodities, technology, and software, and demonstrate the U.S. determination to oppose and distance itself from international terrorism.

2. *Compatibility with Foreign Policy Objectives.* The Secretary has determined that these controls are compatible with U.S. foreign policy objectives and specifically with overall U.S. policy toward the designated terrorist-supporting countries. The Secretary has further determined that the controls will not have any significant adverse foreign policy consequences with the extension of these controls. These controls affirm the U.S. commitment to restrict the flow of items and other forms of material support to countries, individuals, or groups for terrorist purposes.

3. *Reaction of Other Countries.* The Secretary has determined that any adverse reaction to these controls is not likely to render the controls ineffective nor will any adverse reaction by other countries be counter-productive to U.S. foreign policy interests. Most countries are generally supportive of U.S. efforts to fight terrorism and stop the proliferation of weapons of mass destruction in countries of concern.

North Korea

The United States maintained a comprehensive trade embargo against North Korea for 50 years. In general, the U.S. allies have largely acted in concert with the United States to deny North Korea strategic equipment and technology. The easing of U.S. sanctions toward North Korea and the removal of some U.S. controls in June 2000 were echoed by other western countries. U.S.

allies will likely follow the United States' lead regarding strategic trade with North Korea until North Korea places further limits on its weapons proliferation and military activities.

In December 2002, the Executive Board of the Korean Energy Development Organization (KEDO), which is comprised of the United States, South Korea, Japan, and the EU, suspended heavy fuel oil shipments to North Korea after discovering that North Korea violated its commitments under the Agreed Framework, the Nuclear Nonproliferation Treaty, North Korea's safeguards agreement with the International Atomic Energy Agency, and the Joint North-South Declaration on the Denuclearization of the Korean Peninsula, by pursuing an enriched uranium program for nuclear weapons. Also in December 2002, the United States and its partners in the Nuclear Suppliers Group (NSG) drafted a "Watch List" of items not currently controlled by the NSG. These items do not meet the licensing threshold of the NSG export control regime; however, these items may make a material contribution to nuclear activities of concern. Many of the items on the "Watch List" are already controlled by the United States unilaterally for AT reasons, so the U.S. Government already requires a license for export or reexport of some of these items to North Korea. While the expanded "Watch List" is not intended to be the basis of expanded NSG controls, it has increased the scrutiny by NSG member countries of proposed exports of items controlled by the United States for AT reasons.

Effective December 1, 2003, the Executive Board of KEDO suspended the North Korean light water reactor program, part of the Agreed Framework, for a period of one year, because of North Korea's nuclear activities.

Syria

The United States maintains controls in response to Syria's lack of concrete steps to end support for the terrorist groups that maintain a presence in Syria and Syrian-controlled areas of Lebanon. Although many other countries concur that Syria's regional activities are destabilizing, few countries maintain controls similar to those implemented by the United States.

4. *Economic Impact on United States Industry.* The Secretary has determined that the adverse effect of these controls on the economy of the United States, including on the competitive position of the United States in the international economy, does not exceed the benefit to United States foreign policy objectives. The AT controls maintained on designated terrorist-supporting countries as a whole have had some impact on U.S. industry. The impact of such controls is described further below, with respect to countries not presently subject to a comprehensive embargo. The economic impact of a comprehensive controls maintained on Cuba, Libya, Iran, and Sudan, countries subject to unilateral U.S. embargo, are described further in Chapter 5.

North Korea

U.S. export sanctions on North Korea have had a minimal impact on U.S. industry. North Korea's total imports average about \$1-2 billion per year, with the primary imports including

petroleum, grain, coking coal, machinery and equipment, and consumer goods. According to the Korea Trade Promotion Corporation, North Korea's five major trading partners are China, Japan, Thailand, Singapore, South Korea, and Russia, which account for more than two thirds of North Korea's total trade. The CIA estimates that North Korean imports totaled \$1.3 billion in 2001.

Based on U.S. Census Bureau statistics, total U.S. exports to North Korea, although far below the levels of other countries, have generally increased since the signing of the U.S.-North Korea Agreed Framework in October 1994. Exports rose from only \$179,730 in 1994 to between \$3 and \$4 million annually from 1995 through 1998. In 1999, U.S. exports to North Korea nearly tripled to \$11.3 million. However, in 2000 U.S. exports dropped to \$2.7 million and in 2001 U.S. exports were only \$700,000, the vast majority of which were charity shipments. In 2002, however, U.S. exports to North Korea totaled \$25 million, the vast majority of which were in the form of cereals (60 percent) and animal/vegetable fats (20 percent).

Export license applications approved by the U.S. Government for North Korea increased from six licenses (valued at \$66,443) in FY 1994 to an annual average of 40 licenses in the FY 1995-99 period, valued at \$ 3.01 million on average (see Table 1). However, since FY 2000, the Department has approved only a handful of licenses per year. In FY 2003, the Department did not approve any licenses for North Korea; one application valued at \$240,000 was rejected and two applications (valued at \$4.3 million) were returned without action.

On September 17, 1999, President Clinton announced his decision to ease some of the sanctions maintained against North Korea. The sanctions easing was implemented in June 2000, making most U.S. consumer goods eligible for export without a license to North Korea. This may account for the decline in license applications for North Korea since FY 2000, as the majority of the humanitarian and low-level consumer items formerly requiring a license became eligible to be shipped without a license.

Table 1: Export License Applications Approved for North Korea (FY 1994-2003)

Fiscal Year	Number of Applications	Total Value in U.S. Dollars
1994	6	\$66,443
1995	27	\$366,498,433
1996	39	\$209,134,369
1997	47	\$393,281,396
1998	43	\$129,113,580
1999	32	\$407,887,147

Fiscal Year	Number of Applications	Total Value in U.S. Dollars
2000	10	\$31,130,643
2001	7	\$1,187,232
2002	9	\$2,947,044
2003	0	\$0
TOTAL	220	\$1,541,246,287

Syria

U.S. controls have had minimal impact on industry because the U.S. Government does not require a license for most items for Syria's leading import sectors, including agricultural items and EAR99 products for the petroleum industry. Despite setbacks to the Syrian economy in recent years, the economic reforms and infrastructure improvements undertaken by the government in the early 1990s, while limited, have enhanced the country's potential as a market for U.S. exports.

From 1992-2002, the volume of U.S. exports to Syria has been relatively stable, falling within the range of \$161 million and \$274 million per year. In calendar year 2002, U.S. exports totaled \$274.1 million. Cereals accounted for about 28 percent of U.S. exports, followed by various types of machinery (e.g., parts for bulldozers and internal combustion engines), with about 25 percent. Other leading exports included tobacco and oil seeds.

The average annual value of export licenses issued by the U.S. Government for Syria has increased in the last ten years. In FY 1991, the U.S. Government approved eight licenses with a total value of \$1.04 million. In FY 2003, the Department of Commerce approved 127 license applications for Syria with a value of \$200.7 million. The majority of licensed items for the period covered by the table below consists of aircraft parts and components, digital computers, and certain electronic devices and telecommunications equipment controlled for foreign policy reasons only. The U.S. Government denied seven applications valued at \$2.9 million in FY 2003, bringing the total number of applications denied for Syria since FY 1991 to 90 applications with a total value of \$36 million.

Table 2: Approved Licenses for Syria (FY 1991-2003)

Fiscal Year	Total Applications Approved	Total Value (in U.S. dollars)
1991	8	\$1,041,504
1992	31	\$46,366,527
1993	106	\$42,896,103

Fiscal Year	Total Applications Approved	Total Value (in U.S. dollars)
1994	167	\$76,379,096
1995	139	\$68,298,135
1996	80	\$81,006,877
1997	100	\$107,003,346
1998	81	\$80,707,010
1999	100	\$86,534,591
2000	121	\$141,539,669
2001	106	\$70,269,323
2002	95	\$108,101,460
2003	127	\$200,664,118
TOTAL	1,261	\$1,110,807,760

The U.S. policy of case-by-case review for aircraft parts and components and aircraft engine parts and components for air safety has led to an increase in aerospace exports to Syria. U.S. policy not to approve the sale of new aircraft to Syria has resulted in a gradual shift from the export of aircraft parts and components for U.S.-origin planes to the export of U.S. parts for non-U.S.-origin planes. Although Syrian Arab Airlines (SAA) operates several Boeing aircraft, which require large amounts of spare parts to operate safely, SAA recently purchased six Airbus aircraft. Many of the components currently required by SAA for use on the Boeing aircraft are provided by U.S. exporters. U.S. exporters are also providing parts and components for the Airbus aircraft, albeit at lower levels.

U.S. information technology firms also are increasingly affected by export controls on Syria. The technology level at which export licenses are required has not changed in recent years, despite rapid technological advancements. This has the effect of controlling even very low-level items. For example, the control level for computer exports to Syria stands at 6 million theoretical operations per second.

The recently-enacted Syria Accountability and Lebanese Sovereignty Restoration Act of 2003 prohibits the export of all items on the CCL to Syria, unless the President exercises the waiver authority provided. The Department of Commerce will implement this prohibition, consistent with the President's constitutional authority to conduct foreign policy. The impact of this prohibition is likely to be significant.

5. *Effective Enforcement of Control.* The Secretary has determined the United States has the ability to effectively enforce these controls. Because of the well-publicized involvement of these countries in acts of international terrorism, there is public knowledge and support for U.S. controls, which facilitates enforcement. The large number of items exported in normal trade to other countries, including some aircraft items and consumer goods that have many producers and

end-users around the world, creates innumerable procurement opportunities for brokers, agents, and front companies working for these countries. In addition, differences in export laws and standards of evidence for violations also complicate law enforcement cooperation between countries.

The Department of Commerce views these controls as a key enforcement priority, using regular outreach efforts and other programs to keep businesses informed of concerns, gather leads on activities of concern, and conduct safeguard visits to verify end-use and end-users of U.S. commodities. The Department is moving to implement a strong program to deal with procurement by or for designated terrorist-supporting countries. This program includes enhanced agent training, development of a targeted outreach program to familiarize U.S. business with concerns, and close cooperation with lead agencies working terrorism issues.

C. Consultation with Industry

In a October 21, 2003, *Federal Register* notice, the Department of Commerce solicited comments from industry on the effectiveness of U.S. foreign policy-based export controls. Comments were solicited from all six of the Department's Technical Advisory Committees (TACs) which advise the Bureau of Industry and Security (BIS), as well as from the President's Export Council Subcommittee on Export Administration. Comments also were solicited from the public via the BIS webpage. The comment period closed on November 21, 2003, and eight comments were received.

While none of its comments specifically addressed anti-terrorism controls, the Industry Coalition on Technology Transfer (ICOTT) provided general comments about all foreign policy-based export controls, stating that these controls are unilateral and largely ineffective. ICOTT recommended that unilateral controls should only be used when the symbolism of the act of imposing controls outweighs the injury to American workers and businesses. In addition, ICOTT suggested that if unilateral controls are to be imposed while the United States negotiates with its trading partners to seek multilateral support, those unilateral controls should be of limited duration. Other comments of a general nature discussed the licensing treatment of embargoed countries. These comments are described in more detail in Chapter 5 below. A detailed review of all comments received can be found in Appendix I.

D. Consultation with Other Countries

The United States continues to consult with a number of countries, both on a bilateral and a multilateral basis, on activities of designated terrorist-supporting countries. In general, most countries are supportive of U.S. anti-terrorism efforts but do not implement strict export control programs similar to the United States.

North Korea

The United States is closely consulting its regional allies regarding anti-terrorism controls on North Korea. Because of the disclosures regarding North Korea's nuclear program, in December 2002 the United States and its partners in the NSG drafted a "Watch List" of items not currently controlled by the NSG. These items do not meet the licensing threshold of the NSG export control regime; however, these items may make a material contribution to nuclear activities of concern. Many of the items on the "Watch List" are already controlled by the U.S. Government unilaterally for anti-terrorism reasons. While the expanded "Watch List" is not intended to be the basis of expanded NSG controls, it has increased the scrutiny by our NSG partners of proposed exports of items that are not NSG-controlled but that the United States controls for Anti-Terrorism reasons. As of December 1, 2003, KEDO's Executive Board suspended the North Korean light water reactor program for a period of one year in response to North Korea's nuclear activities.

Syria

The United States consults on an ongoing basis with Syria and the other countries involved in, or party to, the Middle East peace negotiations. On May 3, 2003, Secretary of State Powell met in Damascus with Syrian President Bashar Assad.

E. Alternative Means

The United States has taken a wide range of diplomatic, political, and security-related steps, in addition to economic measures such as export controls, to persuade certain countries to stop their support for terrorist activities. Examples of these efforts include the continued U.S. actions in Afghanistan and Iraq, as well as consultations with the Syrian Government and legislation signed into law in an effort to bring about policy changes on the part of the Syrian Government related in part to its support of terrorist activities. The methods that the United States uses against a country, terrorist organization, or individual vary and are dictated by the circumstances prevailing at any given time. In general, the United States believes that maintenance of AT controls is an appropriate method to demonstrate the obligation of each of the designated terrorist-supporting countries to act against terrorist elements within their jurisdiction or control.

F. Foreign Availability

The foreign availability provision does not apply to items determined by the Secretary of State to require control under Section 6(j) of the Act.⁸ Cognizant of the value of such controls in

⁸ Provisions pertaining to foreign availability do not apply to export controls in effect before July 12, 1985, under sections 6(i) (International Obligations), 6(j) (Countries Supporting International Terrorism), and 6(n) (Crime Control Instruments). See the Export Administration Amendments Act of 1985, Public Law 99-64, section 108(g)(2), Stat. 120, 134-35. Moreover,

emphasizing the U.S. position toward countries supporting international terrorism, Congress specifically excluded them from foreign availability assessments otherwise required by the Act. However, the Department of Commerce has considered foreign availability of items controlled to designated terrorist-supporting countries under Section 6(a). While there are numerous foreign sources for commodities similar to those subject to control, the continued maintenance of sanctions by many other countries severely limits the impact of foreign availability. In addition, the continued U.S. Government anti-terrorism controls serve foreign policy interests that override the impact of foreign availability.

sections 6(i), 6(j), and 6(n) require that controls be implemented under certain conditions without consideration of foreign availability.

CHAPTER 5

Embargoed Countries and Persons (Parts 736 (Supplement 1) and 746)

Export Control Program Description and Licensing Policy

This chapter discusses the Department of Commerce's implementation of comprehensive and partial embargoes maintained by the U.S. Government pursuant to the EAR, either unilaterally or to implement U.N. Security Council (UNSC) Resolutions. Specifically, the U.S. Government maintains comprehensive economic embargoes against Cuba, Iran, Libya, and Sudan. The U.S. Government also maintained in 2003 certain partial embargoes, including programs relating to Syria, Rwanda, Angola and other persons.

Licensing Requirements and Licensing Policy

Cuba

The Department of Commerce requires a license for export or reexport to Cuba of virtually all commodities, technology, and software subject to the EAR, *except*:

- Some types of personal baggage, crew baggage, certain aircraft on temporary sojourn, ship stores (except as prohibited by the Cuban Democracy Act of 1992) and plane stores under certain circumstances.
- Certain foreign-origin items in transit through the United States.
- Shipments for U.S. Government personnel and agencies.
- Gift parcels not exceeding \$200 limited to food, clothing (non-military), vitamins, seeds, medicines, medical supplies and devices, hospital supplies and equipment, equipment for the handicapped, personal hygiene items, veterinary medicines and supplies, fishing equipment and supplies, soap-making equipment, certain radio equipment, and batteries for such equipment. There are no frequency or dollar-value limits on food contained in gift parcels to Cuba.

The Department of Commerce generally denies license applications for exports or reexports to Cuba. However, the Department of Commerce considers applications for the following on a case-by-case basis:

- Exports to meet basic human needs.

- Exports from foreign countries of non-strategic, foreign-made products containing 20 percent or less U.S.-origin parts, components or materials, provided the exporter is not a U.S.-owned or controlled foreign firm in a third country.
- Exports of telecommunications equipment, to the extent permitted as part of a telecommunications project approved by the Federal Communications Commission, necessary to deliver a signal to an international telecommunications gateway in Cuba.
- Exports of business and office equipment if destined to human rights organizations or to individuals and non-governmental organizations that promote independent activity.
- Certain commodities and software for U.S. news bureaus in Cuba.

The Department of Commerce reviews applications for exports of donated and commercially supplied medicine or medical items to Cuba on a case-by-case basis and pursuant to the provisions of section 6004(c) of the Cuban Democracy Act of 1992. The United States does not restrict exports of these items, except in the following cases:

- To the extent Section 5(m) of the Act or Section 203(b)(2) of the IEEPA would permit such restrictions.
- When there is a reasonable likelihood the item to be exported will be used for purposes of torture or other human rights abuses.
- When there is a reasonable likelihood the item to be exported will be reexported.
- When the item to be exported could be used in the production of any biotechnological product.
- When the U.S. Government determines it would be unable to verify, by on-site inspection and other appropriate means, that the item to be exported will be used for the purpose for which it was intended and only for the use and benefit of the Cuban people. This exception does not apply to donations of medicine for humanitarian purposes to a non-governmental organization in Cuba.

The Department of Commerce authorizes the use of License Exception Agricultural Commodities (AGR) for U.S. exports and certain reexports of agricultural commodities to Cuba. Section 906(a)(1) of the Trade Sanctions Reform and Export Enhancement Act of 2000 (Title IX of Pub. L. 106-387), as amended (TSRA), requires the expedited review of proposed exports of agricultural commodities to Cuba. Under License Exception AGR, an exporter must submit prior notification of a proposed transaction to the Department of Commerce. The exporter may proceed with the shipment when the Department confirms that no reviewing agency has raised an objection (generally within 12 business days), provided the transaction meets all of the other requirements of the license exception. This expedited review includes the screening of the ultimate recipient of the commodities to ensure that it is not involved in promoting international terrorism. Exports of medicines and medical devices to Cuba are not eligible for License Exception AGR and continue to be subject to the license application and review requirements of Section 6004(c) of the Cuban Democracy Act of 1992.

Iran

The U.S. Government has a general policy of denial for all items controlled for chemical, biological, missile and nuclear proliferation reasons; military-related items controlled for national security or regional stability reasons (CCL entries ending in the number 18); and all other items controlled for national security or foreign policy reasons, for all end-users in Iran.⁹ Pursuant to Executive Order 12959 of May 6, 1995, and Executive Order 13059 of August 19, 1997, the Department of the Treasury maintains comprehensive trade restrictions on exports and reexports of CCL items to Iran and is responsible for licensing: (1) exports from the United States to Iran; (2) exports and reexports by U.S. persons to Iran, including agricultural and medical items classified as EAR99 (items not on the CCL) to Iran under the provisions of the TSRA; and (3) reexports of CCL items by any person to Iran. The Department of Commerce has licensing responsibility for reexports of EAR99 items to Iran by non-U.S. persons. To reinforce controls administered by the Department of the Treasury, the Department of Commerce has made it a violation of the Export Administration Regulations to export or reexport to Iran any item that is subject to the Treasury Department's regulations and also subject to the EAR without Treasury authorization.

Libya

While the Department of the Treasury is primarily responsible for the licensing of exports to Libya, the Department of Commerce licenses reexports to Libya of U.S.-origin items subject to the EAR. A license is required for all such reexports, *except*:

- Medicine and medical supplies.
- Food and agricultural commodities.
- Items permitted under certain license exceptions.
- Non-strategic foreign products of U.S.-origin technology or software.
- Strategic foreign products of U.S.-origin technology or software exported from the United States before March 12, 1982.

The Department of Commerce will generally deny applications for reexport of the following:

- Off-highway wheel tractors with carriage capacity of 10 tons or more, except for such tractors in reasonable quantities for civil use.
- Aircraft (including helicopters), and specified parts and accessories.

⁹ *The general policy of denial stated in the EAR is superceded by a policy of denial pursuant to the Iran-Iraq Arms Nonproliferation Act of 1992. See infra at 52, discussion regarding the Iran-Iraq Arms Nonproliferation Act.*

- Other commodities and related technology and software controlled for national security purposes, including controlled foreign-produced products of U.S. technology and software exported from the United States after March 12, 1982, and oil and gas equipment and related technology and software not readily available from non-U.S. sources.
- Items for use in the development or construction of the Ras Lanuf petrochemical processing complex, *except* for (a) exports or reexports pursuant to a contractual arrangement in effect prior to December 20, 1983; and (b) the reexport of goods or technology already outside the United States on December 20, 1983, for which license applications will be reviewed on a case-by-case basis.
- Items previously subject to United Nations Security Council (UNSC) Resolution 748 of March 30, 1992 (effective April 5, 1992) and UNSC Resolution 883 of November 11, 1993 (effective December 1, 1993). UNSC Resolution 1506 of September 12, 2003, lifted the measures set in paragraphs 4 and 5 of UNSC Resolution 748 and paragraphs 5 and 6 of UNSC Resolution 883, which corresponds to items subject to a U.S. general policy of denial in Part 746.4(c)(2)(iv-vii) of the EAR. The U.S. Government maintains its general policy of denial for these items.

The Department of Commerce will consider exceptions to this denial policy on a case-by-case basis for the following:

- Reexports of commodities or technology and software involving a contract in effect prior to March 12, 1982, where failure to obtain an authorization would not excuse performance of the contract.
- The reexport of goods or technology not subject to national security controls already outside the United States on March 12, 1982, or the export of foreign products incorporating such items as components.
- The use of U.S.-origin components incorporated in certain foreign origin equipment and constituting 20 percent or less by value of that equipment.

All other reexports, with the exception of humanitarian items and medical equipment as defined in the TSRA, will generally be denied.

Sudan

The U.S. Government has a general policy of denial for the export and reexport of all items controlled for chemical, biological, missile and nuclear proliferation reasons, military-related items controlled for national security or regional stability reasons (CCL entries ending in the number 18), and certain items controlled for national security or foreign policy reasons, such as aircraft, cryptologic items, and explosive device detectors, for all end-users in Sudan. Other items controlled to Sudan for national security or foreign policy reasons are subject to a policy of denial for military end-users or end-uses and are reviewed on a case-by-case basis for non-military end-users or end-uses. Pursuant to Executive Order 13067 of November 3, 1997, the

Department of the Treasury maintains comprehensive trade restrictions on exports and reexports to Sudan. When a proposed export or reexport involves an item on the CCL requiring a license from both the Department of the Treasury and the Department of Commerce, the Department of Commerce will only review a license application if the Department of the Treasury has previously approved the export or reexport. The Department of the Treasury is solely responsible for licensing the export of agricultural and medical items not listed on the CCL to Sudan under the provisions of the TSRA.

Syria

The recently enacted Syria Accountability and Lebanese Sovereignty Restoration Act of 2003 prohibits the export of all items on the CCL to Syria, unless the President exercises the waiver authority provided. The Department of Commerce will implement this prohibition, consistent with the President's constitutional authority to conduct foreign policy. The impact of this prohibition is likely to be significant.

Iraq

On May 22, 2003, the UNSC issued Resolution 1483 that lifted the comprehensive UNSC trade sanctions on Iraq, while retaining restrictions on the sale or supply to Iraq of arms and related matériel. Resolution 1483 also reiterated certain provisions of related UNSC Resolutions 707 of August 15, 1991, and 687 of April 3, 1991. In particular, those provisions require that Iraq eliminate its nuclear weapons program and restrict its nuclear activities to the use of isotopes for medical, industrial or agricultural purposes. Such provisions further mandate the elimination of Iraq's chemical and biological weapons programs as well as its ballistic missile program. The Department of Commerce is presently in the process of preparing an amendment the EAR to reflect Iraq's significantly changed status. At present, the Department of the Treasury continues to require a license for the export to Iraq of most items on the Commerce Control List, other than items controlled for anti-terrorism reasons only.

Rwanda

The UNSC imposed an arms embargo on Rwanda on May 17, 1994. In 1995, the UNSC suspended the application of the arms embargo to the Government of Rwanda if items were shipped through specified points of entry, and later terminated (effective September 1, 1996) the application of these restrictions on sales or supplies to the Government of Rwanda. The sale or supply of such arms and arms-related matériel to non-governmental forces in Rwanda remains prohibited.

On July 30, 2003, the Department of State implemented the partial lifting of the arms embargo for those items subject to the International Traffic in Arms Regulations (ITAR) destined for the Government of Rwanda. The Department of Commerce will implement a comparable partial lifting of the arms embargo by amending the EAR. Until it does so, arms and related matériel

subject to Department of Commerce licensing jurisdiction remain under embargo to all end-users in Rwanda. The U.S. Government continues to require a license for foreign policy purposes for the export or reexport by a U.S. person to any non-government end-user in Rwanda of all ITAR-controlled arms and arms-related materiel of all types, regardless of origin, including weapons and ammunition, military vehicles and equipment, paramilitary police equipment and spare parts for these items. The embargo applies to all end-users for all arms and arms-related materiel controlled in the EAR. The U.S. Government also requires a license for the use of any U.S. aircraft or vessel to supply or transport any such items to Rwanda. The U.S. Government has a general policy of denial for export or reexport of ITAR controlled items to non-government end-users and EAR controlled items to all end-users in Rwanda. Proposed exports or reexports to the Government of Rwanda are reviewed on a case-by-case basis.

Designated Terrorist Persons and Groups

The Department of Commerce requires a license for the export from the United States or by U.S. persons of all items subject to the EAR to Specially Designated Global Terrorists (SDGTs), Specially Designated Terrorists (SDTs), and Foreign Terrorist Organizations (FTOs). The Department of Commerce also requires a license for the reexport by non-U.S. persons of items on the CCL to such SDGTs, SDTs, or FTOs and a general policy of denial applies to all applications. SDGTs, SDTs, and FTOs are identified on a list of designated persons maintained by the Department of the Treasury in Appendix A to 31 CFR Chapter V.

Persons Named Pursuant to Executive Order 13304

On May 28, 2003, the President issued Executive Order 13304, which terminated the emergencies with respect to the Federal Republic of Yugoslavia (Serbia and Montenegro) (FRY) that were declared in 1992 and 1998. This action modified the restrictions on exports and reexports of any items subject to the EAR to persons designated in previous Executive Orders 13088 and 13192 pertaining to former Yugoslav President Slobodan Milosevic and others associated with him. These persons were included in the Department of the Treasury's list of Specially Designated Nationals and Blocked Persons (the SDN List) identified by the bracketed suffix initials [FRYM]. The U.S. Government continues controls on some of these persons who remain on the SDN List but under new bracketed suffix initials [BALKANS] created pursuant to Executive Order 13304. The Department of Commerce incorporates the SDN List in Supplement No. 3 to Part 764 of the EAR. The Department of Commerce will amend the EAR to eliminate the [FRYM] designation currently listed in Part 744.16 of the EAR. This designation has already been removed from the SDN List.

Angola

The President declared a national emergency relating to UNITA by Executive Order 12865 on September 26, 1993, in coordination with international sanctions adopted by the UNSC. The

U.S. sanctions were further tightened by Executive Order 13069 of December 12, 1997, and Executive Order 13098 of August 18, 1998. The United States took these actions in accordance with United Nations Security Council Resolutions 1127 of August 28, 1997, Resolution 1173 of June 12, 1998, and Resolution 1176 of June 26, 1998.

Executive Order 13298 of May 6, 2003, lifted all sanctions imposed on UNITA in these earlier Executive Orders. With the successful implementation of the Lusaka Protocol and the demilitarization of UNITA, the President determined that the circumstances that led to the declaration of a national emergency on September 26, 1993, no longer exist. The lifting of sanctions was consistent with United Nations Security Council Resolution 1448, which lifted the measures imposed pursuant to prior Security Council resolutions related to UNITA. The Department of Commerce will publish an amendment to the EAR to remove references to the sanctions administered by OFAC.

Analysis of Control as Required by Section 6(f) of The Act

A. The Purpose of the Control

Cuba

The United States imposed an embargo four decades ago because Cuban actions posed a serious threat to the stability of the Western Hemisphere and the Cuban Government expropriated property of U.S. citizens without compensation. In March 1982, as a result of Cuba's support for insurgent groups that engaged in terrorism, the Secretary of State designated it as a state sponsor of terrorism under Section 6(j) of the Act.

Iran

The purpose of the controls is to restrict exports of items that would be useful in enhancing Iran's military or terrorist-supporting capabilities and to address other U.S. foreign policy concerns, including nonproliferation, human rights, and regional stability. In 2003, Iran was the most active state sponsor of terrorism. Its record against al-Qaida has been mixed, and it continues to support anti-Israel activity. The U.S. Government also has concerns regarding Iran's nuclear activities and cooperation with the International Atomic Energy Agency (IAEA). U.S. export controls remain in place due to these continued Iranian activities. By restricting items with military use, the controls demonstrate the resolve of the United States not to provide any direct or indirect military support for Iran and to support other U.S. foreign policy objectives. The United States' support for exports and reexports of food items, medical supplies, and medical equipment ensures that the Iranian population receives what it needs for humanitarian purposes.

Libya

The purpose of the controls is to demonstrate U.S. opposition to, and to distance the United States from, Libya's intervention in the affairs of neighboring states and support for acts of international terrorism and international subversive activities. Libya has continued its efforts to

identify itself with the war on terrorism and the struggle against Islamic extremism. Libya has addressed the UNSC requirements related to the 1988 bombing of Pan Am Flight 103 over Lockerbie, Scotland, and, as a result the UNSC lifted the embargo on Libya via UNSC Resolution 1506 on September 12, 2003. However, the U.S. Government continues to maintain unilateral sanctions pending improvement not only in terms of Libya's efforts against terrorism but also regarding their WMD activities and missile delivery systems. U.S. unilateral sanctions, in place since 1986, broadly prohibit U.S. persons from engaging in unauthorized financial transactions involving Libya. The U.S. Government continues to maintain its general policy of denial for items listed in Part 746.4(c)(2)(iv-vii), although this policy was originally implemented per the requirements of certain parts of UNSC Resolutions 748 and 883.

Meanwhile, the U.S. Government's policy of support for exports and reexports of food, medicines, and medical equipment ensures that the Libyan population has access to items necessary for basic human needs.

Sudan

The U.S. Government continues to have concerns about the Government of Sudan's support for certain terrorist groups, such as Hamas and the Palestine Islamic Jihad, but the United States is pleased with Sudan's cooperation and the progress made in its antiterrorist activities. The President also certified to the Congress, most recently on October 22, 2003, consistent with section 6(b)(1)(A) of the Sudan Peace Act (Pub. L. 107-245), that the Government of Sudan and the Sudan People's Liberation Movement are negotiating in good faith and that the negotiations should continue. In addition, the President noted that the situation with respect to humanitarian access has improved dramatically in southern Sudan since October 2002. At the same time, access to significant populations in need of assistance outside of southern Sudan remains limited. The U.S. embargo and export controls remain in place against Sudan to restrict access to items that could make a significant contribution to Sudan's military capability and ability to support international terrorism.

Rwanda

The controls on arms-related items to Rwanda remain in place to prevent any U.S. contribution to potential conflict and to conform to United Nations-mandated sanctions.

Designated Terrorist Persons and Groups

The purpose of controls on designated terrorist persons and groups is to restrict exports of items that would be useful in enhancing the capability of SDGTs, SDTs and FTOs to undertake terrorist acts and to further the general policy of the United States to prevent supporters of terrorism and terrorist elements from acquiring technology that might enhance terrorist capabilities. The controls enable the Department of Commerce to use its licensing and enforcement resources to support U.S. counterterrorism efforts by monitoring and investigating unlicensed exports, reexports, and diversion of items subject to the EAR to parties designated as terrorists by the U.S. Government.

B. Considerations and/or Determinations of the Secretary of Commerce

1. *Probability of Achieving Intended Foreign Policy Purpose.* The Secretary has determined that these controls are likely to achieve the intended foreign policy purpose, in light of other factors, including foreign availability from other countries and that the foreign policy purpose cannot be achieved through negotiations or other alternative means. The restrictions have denied these persons and nations certain trade relations with the United States and other nations. The controls put pressure on these persons to modify their actions. In addition, the applicable controls may serve to reduce the potential for conflict.

Cuba

The United States maintains an embargo against Cuba to express U.S. opposition to the continued repressive policies of the Castro government. The United States has modified the embargo on numerous occasions to aid the Cuban people in bringing about a transition to democracy and a free market economy and to expand humanitarian assistance to the Cuban people.

Iran

The controls on Iran restrict its access to specified U.S.-origin items that could be used to threaten U.S. interests. The United States has sought, and will continue to seek, the cooperation of other countries in cutting off the flow of military and military-related equipment to Iran.

Libya

The United States maintains export and reexport prohibitions for commodities controlled for national security reasons, for certain types of oil terminal and refining equipment, for items used to service or maintain Libyan aircraft and airfields, and for all other items subject to the EAR, with few exceptions. The intent of these restrictions is to prevent U.S. contributions to Libya's involvement in activities detrimental to the U.S. national security and foreign policy interests. The continuation of the controls send a clear signal that, despite the recent United Nations Security Council resolution that lifted the United Nations embargo, the United States is unwilling to resume normal trade relations until Libya's behavior significantly improves.

Sudan

The controls on Sudan affirm the commitment of the United States to oppose Sudan's ability to obtain and use U.S.-origin items in support of military activities.

Rwanda

The embargo on exports of arms-related items to Rwanda is maintained consistent with recent UNSC action. Based on the multilateral nature of these controls, the probability is substantial that the desired effect will result.

Designated Terrorist Persons and Groups

Controls on exports and reexports to SDGTs, SDTs, and FTOs are intended to prevent acts of terrorism and to affirm U.S. opposition to international terrorism by limiting the ability of designated terrorist organizations and individuals to obtain and use U.S.-origin items in terrorist operations.

2. *Compatibility with Foreign Policy Objectives.* The Secretary has determined that these controls are compatible with U.S. foreign policy objectives and will not have any significant adverse foreign policy consequences with the extension of these controls. The controls complement U.S. foreign policy in other aspects of U.S. relations with these persons and countries. They encourage these persons to modify their actions with the goal of improving conditions in their region. These controls are consistent with U.S. foreign policy goals of promoting peace and stability, preventing weapons proliferation, and human rights abuses.

3. *Reaction of Other Countries.* The Secretary has determined that any adverse reaction to these controls is not likely to render the controls ineffective, nor will any adverse reaction by other countries be counter-productive to U.S. foreign policy interests. However, most countries have not imposed embargoes as comprehensive as those of the United States. Some countries have challenged certain U.S. controls as extraterritorial. Opposition to U.S. foreign policy-based controls by many of its major trading partners, including some close allies, continues to be a point of contention. This reaction has led some foreign firms to design out U.S. components or to cite the lack of their own national sanctions as a marketing tool to secure business contracts that might have gone to U.S. companies. In some instances, foreign governments have instructed foreign firms to ignore U.S. reexport controls.

Cuba

Although most countries recognize the right of the United States to determine its own foreign policy and security concerns and share U.S. concerns regarding the Cuban regime, many countries, particularly Canada, Mexico and the members of the European Union, opposed the Cuban Liberty and Democratic Solidarity (Libertad) Act of 1996 (Helms-Burton) and continue to oppose unilateral U.S. controls on Cuba. Many nations have joined the United States in promoting political freedom, as a result of the Cuban Government's March 2003 sentencing of 75 pro-democracy advocates for up to 28 years in prison. The European Union has taken significant steps to pressure the Cuban Government to reform by imposing diplomatic sanctions.

Iran

Other countries share U.S. concerns regarding Iran's support of terrorism, human rights abuses, and attempts to acquire WMD. Recent disclosures have highlighted Iran's efforts to develop nuclear weapons capabilities. The member states of the G-8, the European Union, the members of the Nuclear Suppliers Group, and other multilateral bodies have joined the United States in expressing strong concern over Iran's nuclear activities and have called on Iran to cooperate more fully with the International Atomic Energy Agency (IAEA). In general, however, U.S. controls

on commercial goods to Iran are more stringent than those of other countries. Iran's trade partners include Germany, Japan, the United Kingdom, and many other nations.

Libya

Many countries concurred with UNSC Resolution 1506 of September 12, 2003, which ended the multilateral embargo on Libya because Libya fulfilled its obligations to the United Nations in regard to the Pan Am 103 bombing. Most countries did not support the U.S. renewal of the Iran-Libya Sanctions Act in 2001 for another five-year period and would like to see the United States remove the sanctions maintained under the IEEPA on items including aircraft parts and components and oil well equipment. The U.S. Government continues to maintain its general policy of denial for items listed in Part 746.4(c)(2)(iv-vii), although this policy for these items was originally implemented per the requirements of certain parts of UNSC Resolutions 748 and 883. The United States has sought and will continue to seek the support of other countries in cutting off the flow of sensitive items to Libya.

Sudan

The United States imposed an embargo in response to credible evidence that Sudan assists international terrorist groups, destabilizes neighboring governments, and violates human rights. While the United States has been pleased with the progress made by the Sudanese Government, it continues to consult with key allies and urges them to take all possible measures to convince Sudan to halt its support of terrorism.

Rwanda

The arms embargo on Rwanda is consistent with U.N. objectives; the U.S. Government has received no significant objections to these UNSC-mandated controls.

Designated Terrorist Persons and Groups

Many countries support U.S. efforts to fight terrorism through blocking designated terrorist groups and individuals from acquiring commodities that could assist said groups in committing future acts of violence. While some countries are considering restrictive legislation, very few maintain export controls similar to those implemented by the United States.

4. *Economic Impact on United States Industry.* The Secretary has determined that any adverse effect of these controls on the economy of the United States, including on the competitive position of the United States in the international economy, does not exceed the benefit to United States foreign policy objectives.

Cuba

The U.S. Government requires a license for the export and reexport of all U.S.-origin commodities, technology, and software subject to the EAR to Cuba. In recent years, the number of license applications that the Department of Commerce approved to Cuba increased significantly before decreasing somewhat in 2003. The increase in approved export license

applications to Cuba can be attributed to changes made during the late 1990s in U.S. export policies, including the resumption of direct flights, exports of medicines and medical supplies and equipment, exports of food and certain agricultural commodities for sale to independent non-government entities, and the expansion of agricultural commodities eligible for export authorization under the procedures specified in License Exception AGR. License Exception AGR was created in 2001 to implement the licensing requirements for exports of agricultural commodities to Cuba under TSRA.

In FY 2003, the Department of Commerce approved 337 license applications valued at over \$1.8 billion for Cuba. This is a decrease in comparison to the number of approved licenses in FY 2002 but an increase in the value of the approved licenses. In FY 2002, the Department approved 389 applications (valued at \$1.59 billion) and returned without action (RWA'd) 42 licence applications (valued at \$140.5 million). The high number of RWAs is attributed largely to exporters submitting license applications for agricultural commodities when, in fact, they were eligible to submit notifications to use License Exception AGR. In FY 2003, the Department authorized 192 notifications valued at \$1.02 billion under License Exception AGR. The Department of Commerce and reviewing agencies had no objections to these notifications, which would have converted the notification into a license application. Five notifications (valued at \$5.14 million) were RWA'd because the products were not eligible for export under License Exception AGR.

Table 1: Export License Applications Approved and License Exception AGR Notifications Authorized for Cuba (FY 1996-2003)

Fiscal Year	Number of Applications / Notifications	Total Value in U.S. Dollars
1996	83	\$592,738,313
1997	87	\$493,414,819
1998	128	\$544,659,988
1999	181	\$75,840,789
2000	310	\$737,108,231
2001*	241	\$454,908,260
2002*	582	\$2,521,457,648
2003*	528	\$2,801,868,688
TOTAL (1996-2003)	2,140	\$8,221,996,736

*** Includes both license applications and notifications under License Exception AGR.**

The majority of export licenses approved for Cuba in FY 2003 (250 of the 337 cases) were for EAR99 items, including medicines and medical supplies, instruments, equipment, and gift parcels. Licenses for aircraft and ocean vessels on temporary sojourn accounted for 83 cases.

The U.S. embargo on Cuba is unilateral. According to the CIA's World Factbook 2001, Cuba imported \$4.8 billion in commodities in 2001. Leading imports were petroleum, foodstuffs, machinery, and chemicals, and leading suppliers were Spain, France, Canada, China, and Italy. In general, southern Florida (particularly the port area of Tampa) and exporters that would benefit from the cost advantages of U.S. proximity to Cuba are significantly affected by the trade embargo. Other U.S. companies who are significant exporters likely are also affected.

Iran

The U.S. Government maintains a policy of denial of license applications for dual-use exports to Iran, consistent with the provisions of the Iran-Iraq Arms Non-Proliferation Act of 1992, contained in the National Defense Authorization Act of FY 1993 (NDAA), and the U.S. trade and investment embargo of 1995. Prior to the 1993 NDAA and the imposition of the embargo, U.S. exports to Iran rose sharply in the early 1990s in response to Iran's removal of certain import restrictions. From 1991 through 1994, U.S. exports to Iran totaled close to \$2.2 billion, making the United States the sixth-largest exporter to Iran during this period. Such exports, however, amounted to only 5 percent of Iran's total imports and less than 1 percent of overall U.S. exports. As a result of the denial policy mandated by FY 1993 NDAA and the 1995 U.S. trade and investment embargo, U.S. exports to Iran have fallen dramatically. In 2002 U.S. exports to Iran totaled \$27.1 million, mostly tobacco and cereals.

Since 1997, the Department of Commerce has approved only applications for "deemed exports" (transfers of controlled U.S. technology to Iranian nationals legally working in the United States), rather than actual exports. In FY 2003, the Department of Commerce approved 16 deemed export licenses for Iranian nationals. In contrast, during the four fiscal years prior to FY 1995 (FY 1991-94), the Department of Commerce approved an average of \$177 million in applications to Iran each year. Table 2 shows the impact of the 1993 NDAA and the trade embargo on U.S. trade with Iran:

Table 2: Approved Applications to Iran (FY 1991-2003)

Fiscal Year	Number of Applications	Total Value in U.S. Dollars
1991	89	\$ 60,149,182
1992	131	\$567,559,528
1993	44	\$ 63,834,952
1994	10	\$ 16,774,377
1995	0	\$0
1996	0	\$0

Fiscal Year	Number of Applications	Total Value in U.S. Dollars
1997	5	\$19
1998	6	\$10,012
1999	10	\$20,408
2000	23	\$35
2001	19	\$32
2002	10	\$23
2003	16	\$36
TOTAL	363	\$708,348,604

The U.S. trade and investment embargo transformed the composition of U.S. trade with Iran. Since 1996, the first full year of the embargo, top U.S. exports to Iran have been completely different than in previous years. In calendar year 2003, U.S. exports were mainly tobacco and cereals and other foodstuffs, with pharmaceutical products making up the remainder. As Table 3 demonstrates, the agricultural, aerospace, and oil industries have been among those most directly affected by the embargo. From 1991 through 1994, U.S. exports of aircraft engine parts to Iran totaled nearly \$9.4 million, averaging \$2.3 million per year and peaking at more than \$7.5 million in 1994. By 1996, aerospace exports declined to virtually zero.

Prior to the embargo, the United States competed with Iran's major trading partners in exports of industrial machinery, motor vehicles and auto parts, power generating machinery, measuring and controlling devices, computers, plastics and resins, and industrial organic chemicals. In 2002, Iran imported a total of \$21.8 billion in goods and its leading trade partners were Germany, Italy, France, China, and South Korea.

Table 3: Top U.S. Exports to Iran, 1991-1995 (FAS Value, in U.S. Dollars)

S.I.C. Number	Description of Goods	Total Value
3511	Turbines and turbine generator sets	\$322.5 million
3531	Construction machinery and parts	\$307.8 million
3533	Oil and gas field equipment	\$250.1 million
2044	Milled rice and by-products	\$166.3 million
115	Corn	\$137.4 million
2873	Nitrogenous fertilizers	\$124.2 million
3714	Motor vehicle parts and accessories	\$50.8 million
2821	Plastics materials and resins	\$45.4 million
3743	Railroad equipment and parts	\$42.7 million
3569	General industrial machinery and equipment	\$41.8 million

The U.S. embargo on Iran has had a damaging impact on U.S. industry, because of the reaction of foreign firms to U.S. reexport requirements. U.S. exporters report that their products are often designed out of foreign manufactured goods to ensure that foreign exports do not fall within the scope of U.S. controls. This “designing out” damages U.S. exports, both for sales to embargoed countries and non-embargoed countries.

Libya

According to Census Bureau statistics, U.S. exports to Libya in calendar year 2002 totaled \$18.2 million, mostly consisting of cereals. However, this accounts for a negligible percentage of Libya’s total imports of \$6.3 billion in 2002, according to the CIA’s World Factbook. Libya’s major suppliers include Italy (29 percent of imports), Germany (12 percent), the United Kingdom (7 percent), and Tunisia (6 percent). Libya’s major imports were machinery, transport equipment, food, and manufactured goods.

U.S. exports to Libya have declined steadily since 1979 when U.S. export controls were first expanded. Since then, the United States has authorized exports to fulfill pre-1982 contractual obligations and humanitarian aid. Annual U.S. exports and reexports to Libya fell from \$860 million in 1979 to less than \$1 million annually from 1987 through 1994. Total U.S. exports to Libya have been minimal since then, with occasional shipments of cereals. In FY 2003, the Department of Commerce issued two reexport licenses valued at \$682,000 including licenses for medical equipment and satellite communications. The Department also RWA’d five applications (valued at \$1.1 million) in FY 2003, and rejected three applications for reexport of medical equipment valued at \$36,177 on foreign policy grounds.

Sudan

U.S. unilateral export sanctions on Sudan have had a minor impact on U.S. industry. Sudan’s poor economic performance over the past decade has prevented the country from importing a significant amount of goods from any supplier, including the United States. Before the U.S. embargo went into effect on November 4, 1997, the small amount of items that Sudan imported from the United States generally did not require an export license and, thus, was not affected by the export controls. According to Census Bureau statistics, U.S. exports to Sudan in calendar year 2002 totaled \$10.8 million – mostly wheat, cereals, and vegetables. The CIA estimates that Sudan’s total imports from all sources were \$1.5 billion in 2000; leading suppliers were China, Saudi Arabia, Germany, and the United Kingdom. Leading imports were foodstuffs, manufactured goods, machinery and transport equipment, and medicines.

The U.S. aerospace industry appears to have been the most affected by the AT controls on Sudan. Aircraft exports from the United States to Sudan totaled more than \$6.4 million in 1992, but no such exports have been reported since 1994. Exports of aircraft engines and aircraft engine parts show a similar decline, falling from \$845,142 in 1992 to barely \$10,000 in 1997. By 1998, U.S. aerospace exports to Sudan had fallen to virtually zero.

The number of U.S. export licenses issued for Sudan was negligible before the sanctions were implemented, since low-level technology items (which did not require export licenses) constituted the bulk of U.S. exports. After sanctions were imposed, the Treasury Department assumed licensing responsibility for Sudan. Since then, the Department of Commerce has only processed license applications with Sudanese end-users when the application is for a “deemed export.” The Department of Commerce only reviews other license applications if the Department of the Treasury has previously approved the export or reexport. However, the Department of the Treasury is solely responsible for licensing the export of agricultural commodities and medical items not listed on the CCL to Sudan under the provisions of TSRA. There were no Department of Commerce license applications approved or rejected for Sudan in FY 2003 and three were returned without action, with instructions for the exporter to contact the Department of the Treasury.

Table 4: Approved Licenses for Sudan (FY 1992 to FY 2003)

Fiscal Year	Total Applications Approved	Total Value (in U.S. dollars)
1993	2	\$5,404,000
1994	0	\$0
1995	0	\$0
1996	7	\$571,992
1997	10	\$7,095,973
1998	0	\$0
1999	1	\$1
2000	1	\$1
2001	0	\$0
2002	0	\$0
2003	0	\$0
TOTAL	21	\$13,071,967

Rwanda

The arms embargo on Rwanda has had little impact on U.S. industry. U.S. exports to Rwanda were \$10.4 million in 2002, of which about 70 percent was comprised of animal/vegetable fats, edible vegetables, and milling products. Much of the remainder was various types of electrical and mechanical equipment. The Department of Commerce did not receive any license applications for non-arms related items to Rwanda during FY 2003.

Designated Terrorist Persons and Groups

The Department of Commerce did not review any license applications for SDGTs, SDTs, or FTOs in FY 2003. As a result, the economic impact of these controls is presumably minimal.

The Department of the Treasury maintains restrictions on activities of U.S. persons involving designated terrorist entities, which the Department of Commerce's controls augment.

5. *Effective Enforcement of Control.* The Secretary has determined the United States has the ability to effectively enforce these controls. Controls on exports to embargoed and sanctioned countries and persons, including those discussed in this chapter, raise a number of challenges. These include the need to concentrate limited resources on priority areas, developing new strategies to limit reexport violations, strengthening the cooperative relationship with other law enforcement agencies in the United States and overseas, and maintaining a consistent outreach effort to help limit U.S. business vulnerability. Overall, the embargoes are generally understood and supported by the U.S. public. Voluntary cooperation from most U.S. exporters is expected.

C. Consultation with Industry

In a October 21, 2003, *Federal Register* notice, the Department of Commerce solicited comments from industry on the effectiveness of U.S. foreign policy-based export controls. Comments were solicited from all six of the Department's Technical Advisory Committees (TACs), which advise the Bureau of Industry and Security (BIS), as well as from the President's Export Council Subcommittee on Export Administration. Comments also were solicited from the public via the BIS webpage. The comment period closed on November 21, 2003, and eight comments were received.

Federal Express commented that the United States' maintenance of unilateral embargoes that are not consistent with the controls by the multilateral export control regimes causes a significant burden on its business given the nature of its business. Federal Express recommended that the U.S. Government use "smart" sanctions that target only specific activities of concern in lieu of broad embargoes against an entire country. The company contends that this would level the playing field for U.S. companies in worldwide competition. Federal Express also cited the confusion between the Commerce and Treasury Departments' regulations for embargoed destinations. As examples, the company points out that certain provisions of the EAR pertaining to Iran are in conflict with those of the Treasury regulations, and highlighted the particular concern about the lack of regulatory provisions in the EAR pertaining to the U.S. embargo on Sudan.

While none of its comments specifically addressed embargoed countries or persons, the Industry Coalition on Technology Transfer (ICOTT) provided general comments about all foreign policy-based export controls, stating that these controls are unilateral and largely ineffective. ICOTT recommended that unilateral controls should only be used when the symbolism of the act of imposing controls outweighs the injury to American workers and businesses. In addition, ICOTT suggested that if unilateral controls are to be imposed while the United States negotiates with its

trading partners to seek multilateral support, those unilateral controls should be of limited duration. A detailed review of all comments received can be found in Appendix I.

The Department of Commerce continues to receive inquiries and to consult with industry in regard to licensing policy and practices for embargoed countries. The Department also works in coordination with the Department of State, the Department of Defense, and the Department of the Treasury to keep industry informed of changes in licensing requirements and policies toward embargoed countries. During FY 2003 the Department of Commerce issued a CD with detailed country overviews for the sanctioned and embargoed destinations, and added these overviews to the BIS webpage under a new “Regional Considerations” heading.

D. Consultation with Other Countries

The U.S. Government has made reasonable efforts to achieve the purposes of the U.S. embargoes and sanctions through negotiations with other countries, through international fora, and through the United Nations, as specified in the specific country descriptions that follow.

Cuba

The Administration has worked hard with other nations, especially nations in Europe and Latin America, to resolve disputes that arise because of implementation of the U.S. embargo. Although differences remain between the United States and other countries concerning the best method to encourage democracy and human rights, the European Union’s decision to impose diplomatic sanctions on Cuba in response to the Cuban Government’s March 2003 sentencing of 75 pro-democracy advocates remains very helpful.

Iran

The United States has an ongoing dialogue with its allies and partners on Iran’s activities. The United States continues to work with other states to curb Iran’s proliferation activities, especially in light of recent disclosures about Iran’s nuclear program.

Libya

Extensive consultation with other nations on Libyan controls continues to take place under the auspices of the United Nations, which lifted its embargo on Libya on September 12, 2003. The United States also has conducted numerous bilateral discussions on this topic.

Sudan

The United States continues to consult with other countries regarding the internal conflict in Sudan and the humanitarian needs of the population. Many of these consultations have occurred within the forum of the United Nations.

Rwanda

Most countries support international efforts to stabilize Rwanda and to prevent further ethnic conflict and regional instability, including through compliance with the United Nations arms embargo.

Designated Terrorist Persons and Groups

The United States cooperates with allies and partners and shares information on the activities of designated terrorist entities. It is expected that strong international support for the U.S. fight against terrorism will further facilitate dialogue on foreign export control expansion.

E. Alternative Means

The U.S. Government imposes embargoes and sanctions in an effort to make a strong statement against a particular country's policies or a person's actions. Restrictions on exports can supplement other actions that the U.S. Government takes to change the behavior of the target countries and persons, including such actions as severing diplomatic relations, banning imports into the United States, seeking U.N. denunciations, and curtailing or discouraging bilateral educational, scientific, or cultural exchanges. U.S. Government embargoes and sanctions complement diplomatic measures and continue to be used to influence the behavior of these countries and persons.

F. Foreign Availability

The foreign availability of items controlled under Section 6(a) has been considered by the Department of Commerce. In general, numerous foreign sources of commodities and technology similar to those subject to these controls are known, especially for items controlled by the U.S. Government. While the embargoes and comprehensive sanctions described in this chapter are widely followed and many have significant multilateral support, the U.S. Government's continued use of embargoes and sanctions serve foreign policy interests that override the impact of foreign availability.

Chapter 6

Toxic Chemicals, Chemical Precursors and Associated Equipment, Technology, and Software (Sections 742.2, 742.18, 744.4, 744.6, and 745)¹⁰

Export Control Program Description and Licensing Policy

The U.S. Government maintains export controls on certain chemicals, equipment, materials, software, technology, and entire plants to further U.S. foreign policy opposing the proliferation and use of chemical weapons. The U.S. Government implements these controls in coordination with the Australia Group (AG), an informal forum of 33 nations that cooperate to halt the proliferation of chemical and biological weapons. (See Appendix II for complete list of AG members.) The United States fulfills its obligations under the Chemical Weapons Convention (CWC) by maintaining controls on certain chemicals.¹¹

Australia Group Controls

The AG formed in 1985 when the United States and 15 other nations agreed to impose export controls on a number of chemicals that could be used to produce chemical weapons. Since then, the AG has expanded its membership and has expanded its export control list to cover other chemical and biological weapons-related items. AG member countries use the AG control list and guidelines as a basis for developing and imposing their national export controls.

License Requirements and Licensing Policy for AG Controls

The licensing requirements for chemicals, equipment, materials, software, technology, and entire plants imposed in accordance with AG commitments are as follows:

- A. The U.S. Government requires a license for the export to all destinations outside AG member countries of AG-controlled precursor and intermediate chemicals, which are capable of

¹⁰ Chapter 7 of this report addresses U.S. biological controls.

¹¹ *The Convention on the Prohibition of the Development, Production, Stockpiling and Use of Chemical Weapons and on their Destruction (the "Chemical Weapons Convention" or CWC) was ratified by the United States on April 25, 1997, and entered into force on April 29, 1997.*

being used in the production of toxic chemical warfare agents, as well as relevant process control software, technology for the use, production and/or disposal of such items, and the facilities designed to produce them.

The U.S. Government requires a license for the export to specified destinations of certain chemical manufacturing facilities and equipment, toxic gas monitoring systems and detectors that can be used in the production of chemical warfare agents, and the technology for the use of such items. The countries to which these licensing requirements apply are listed in Column CB:3 of the Commerce Country Chart, Part 738, Supplement No. 1 of the Export Administration Regulations (EAR).¹² These licensing requirements also apply for the export of these items to designated terrorist-supporting countries.

On June 10, 2003, the Department of Commerce published a rule reflecting decisions reached by the AG in intersessional agreement and at the June 2002 AG Plenary. At the urging of the United States, the control thresholds in Export Control Classification Number (ECCN) 2B352 for fermenters and cross flow filtration equipment were lowered to capture additional equipment that could be used in the production of chemical weapons. The rule (68 FR 34526) added eight biological toxins to the list of controlled items on the EAR; this action is referenced in Chapter 7 of this report. Additionally, editorial corrections were made to some chemical-related entries to clarify the scope of AG controls. This rule updated the list of State Parties to the CWC to add Andorra, Guatemala, Palau, Saint Vincent and the Grenadines, Samoa and Thailand. Since June 2003, Timor Leste, Tong, Sao Tome, Afghanistan, Kyrgyzstan, Cape Verde, and Belize have become state parties to the CWC.

On December 1, 2003, the Department of Commerce issued a revision to the rule issued on June 10, 2003 (68 FR 34526), amending the EAR to implement the understandings reached at the June 2002 plenary meeting of the Australia Group (AG). The June 10, 2003, final rule contained errors in the List of Items Controlled for Export Control Classification Numbers (ECCNs) 2E001 and 2E002 on the Commerce Control List (CCL), but also contained an error in the licensing policy provisions of the EAR that apply to items identified on the AG lists. The December 1 revision corrected those errors.

¹² *As of December 2003, the countries in the Commerce Country Chart CB column 3 included Afghanistan, Armenia, Azerbaijan, Bahrain, Belarus, Bulgaria, Burma, China (PRC), Egypt, Georgia, India, Israel, Jordan, Kazakhstan, North Korea, Kuwait, Kyrgyzstan, Lebanon, Macau, Moldova, Mongolia, Oman, Pakistan, Qatar, Russia, St. Kitts & Nevis, Saudi Arabia, Syria, Taiwan, Tajikistan, Turkmenistan, Ukraine, the United Arab Emirates, Uzbekistan, Vietnam, and Yemen.*

The U.S. Government also controls items subject to the EAR because of chemical or biological end use or end user concerns. These controls are part of the Enhanced Proliferation Control Initiative (EPCI), announced by the President on December 13, 1990.

- The U.S. Government requires a license for the export of any commodity, technology, or software when the exporter knows that it will be used in the design, development, production, stockpiling, or use of chemical weapons in, or by, specific countries (Country Group D:3, EAR, Part 740, Supplement No. 1). In addition, the U.S. Government may inform an exporter or reexporter that a license is required due to an unacceptable risk that the items will be used in, or diverted to, chemical weapons proliferation activities anywhere in the world.
- No U.S. person may knowingly support such an export, reexport, or transfer without a license. “Support” is defined as any action, including financing, transportation, or freight forwarding, that facilitates the export, reexport, or transfer of these items.
- In addition, no U.S. person may, without a license, perform any contract, service, or employment knowing that it will directly assist in the design, development, production, stockpiling, or use of chemical weapons in, or by, a country listed in Country Group D:3.

B. The Department of Commerce reviews applications for licenses on a case-by-case basis to determine whether the export would make a material contribution to the design, development, production, stockpiling, or use of chemical weapons. When the Department of Commerce determines that an export will make such a contribution, the license will be denied.

Trade Restrictions under the Chemical Weapons Convention

The Chemical Weapons Convention (CWC or Convention), which entered into force in April 1997, bans the development, production, stockpiling, retention, use or transfer of chemical weapons and establishes an extensive verification regime. The CWC Annex on Chemicals groups specified chemicals, which include both toxic chemicals and chemical precursors, into three “Schedules” based on factors specified in the Convention, such as the level of toxicity and other properties that enable their use in chemical weapons. The toxic chemicals and precursors on Schedule 1 pose the highest level of risk in light of the dangers identified in the Convention and have few, if any, commercial applications; the toxic chemicals and precursors on Schedule 2 pose a significant risk in light of the dangers identified in the CWC and are not produced in large commercial quantities; and the toxic chemicals and precursors on Schedule 3 pose a risk in light of the dangers identified in the CWC and may be produced in large commercial quantities. Chemical warfare agents deemed to have military application, which by their ordinary and direct chemical action produce a powerful physiological effect, are controlled by the Department of State under the International Traffic in Arms Regulations.

License Requirements and Licensing Policy for CWC Controls

The export restrictions and licensing requirements for chemicals and technology imposed in fulfillment of CWC treaty obligations are as follows:

A. Exports of Schedule 1 chemicals subject to Department of Commerce jurisdiction are banned to destinations that are not in countries that have ratified or acceded to the CWC, identified as States not Party to the Convention. A license and prior notification of a planned export is required for exports of Schedule 1 chemicals to all States Parties, including Canada. Licenses are required for the shipment of Schedule 2 chemicals to States not Party to the CWC. Shipments of certain Schedule 3 chemicals require a license to States Parties. End-use certificates from the governments of importing countries are required for exports of Schedule 3 chemicals to States not Party to the CWC.

In addition, the U.S. Government has unilaterally imposed a license requirement for chemical weapons reasons for the export of technology to produce PFIB, phosgene, cyanogen chloride, and hydrogen cyanide to all States not Party to the CWC, except Israel and Taiwan.¹³ This requirement is the result of interagency discussions stemming from concerns by agencies of the U.S. Government over the potential chemical weapons use of the four chemicals.

B. The Department of Commerce policy is to review export license applications for Schedule 1 chemicals to State Parties on a case-by-case basis. Exports may be approved only to State Parties and only for purposes not prohibited by the treaty. The Department of Commerce has a policy of denial for the export of Schedule 1 chemicals to States that are not a Party to the CWC.

The Department of Commerce has a general policy of denial for applications to export Schedule 2 chemicals to States not Party to the CWC. The Department of Commerce also will generally deny applications to export Schedule 3 chemicals to States not Party to the CWC, unless an end-use certificate from the importing country has been obtained.

The U.S. Government reviews exports and reexports of technology related to the development and production of four chemicals – PFIB, phosgene, cyanogen chloride, and hydrogen cyanide – on a case-by-case basis to most destinations for which a license is required. However, there is a policy of denial for Cuba, Iran, Iraq, Libya, Sudan, and North Korea. The recently enacted Syria Accountability and Lebanese Sovereignty Restoration Act of 2003 prohibits the export of all items on the CCL to Syria, unless the President exercises the waiver authority provided. The Department of Commerce will implement this prohibition, consistent with the President's

¹³ *A license also is required to export this technology for antiterrorism (AT) reasons.*

constitutional authority to conduct foreign policy. The impact of this prohibition is likely to be significant.

Analysis of Control as Required by Section 6(f) of The Act

A. The Purpose of the Control

The purpose of these controls is to support the efforts of the AG to halt the proliferation of chemical weapons and to comply with international obligations under the CWC. In addition, these controls implement certain measures specified in Executive Order 12735 of November 16, 1990, its successor, Executive Order 12938 of November 14, 1994, and EPCI. In so doing, the controls provide the U.S. Government with the authority to control the export of any item from the United States when there is a significant risk that it will be used for chemical weapon proliferation purposes.

The AG works to further nonproliferation objectives through the harmonization of export controls, the exchange of information, and other diplomatic means. In addition to furthering the objectives of the AG, these controls support U.S. compliance efforts with the CWC. To ensure that State Parties do not transfer chemicals that could assist States not Party to the CWC in acquiring chemical weapons, the CWC requires that State Parties restrict the export of certain chemicals listed in the CWC's Annex on Chemicals. The controls also support the goals of the 1925 Geneva Protocol for the Prohibition of the Use in War of Asphyxiating, Poisonous or other Gases, and of Bacteriological Methods of Warfare, which prohibits the use in wartime of chemical or biological weapons.

B. Considerations and/or Determinations of the Secretary of Commerce

1. *Probability of Achieving the Intended Foreign Policy Purpose.* The Secretary has determined that these controls are likely to achieve the intended foreign policy purpose, in light of other factors, including foreign availability from other countries and that the foreign policy purpose has been supported through negotiations with other countries. Many of the items covered by these controls have commercial uses and are widely available from foreign sources. Some of the major sources of these items are located in industrialized countries that are members of the AG and are State Parties to the CWC. Although it is not expected that export controls alone can prevent the proliferation of chemical weapons, these controls strengthen U.S. efforts to stem the spread of such weapons and continue to be a significant part of the overall nonproliferation strategy of the United States.

2. *Compatibility with Foreign Policy Objectives.* The Secretary has determined that these controls are compatible with U.S. foreign policy objectives and will not have any significant adverse foreign policy consequences with the extension of these controls. The U.S. Government has a strong interest in remaining at the forefront of international efforts to stem the proliferation

of chemical weapons. These controls are compatible with the multilateral export controls for chemicals and related equipment and technology agreed to by the AG. Moreover, the U.S. Government has a binding international obligation under the CWC to prohibit and eliminate chemical weapons, not to assist anyone, in any way, in chemical weapons activities, and to control certain chemical exports.

3. *Reaction of Other Countries.* The Secretary has determined that any adverse reaction to these controls is not likely to render the controls ineffective nor will any adverse reaction by other countries be counter-productive to U.S. foreign policy interests. The U.S. Government continues to discuss chemical export controls with countries outside of the AG to advance the goals of nonproliferation. The governments of some developing countries claim that AG export controls discriminate against less industrialized nations by depriving them of goods and assistance in the field of chemical technology. The United States believes these assertions are false. In fact, in international fora, the U.S. Government has sought to dispel this perception by clarifying the purpose of the controls and by demonstrating that the U.S. Government denies few export license requests for shipment to developing countries.

4. *Economic Impact on United States Industry.* The Secretary has determined that any adverse effect of these controls on the economy of the United States, including on the competitive position of the United States in the international economy, does not exceed the benefit to United States foreign policy objectives. In FY 2003, the Department of Commerce approved 779 license applications, valued at \$646.9 million, for the export or reexport of controlled chemical precursors and equipment. The majority of the value of these approvals (more than 90 percent) was for precursor chemicals controlled in ECCN 1C350; these chemicals have many commercial uses. Sixteen license applications valued at \$232,626 were denied, and 85 applications worth \$59.2 million were returned without action. The actual trade in these controlled commodities is significantly greater than the value of the license applications because exporters may export many of these commodities to selected AG member countries without a license.

5. *Effective Enforcement of Control.* The Secretary has determined the United States has the ability to effectively enforce these controls. The size, dispersion, diversity, and specialized nature of the dual-use chemical industry make detecting and investigating potential violations difficult for enforcement personnel. Challenges include distinguishing commercial procurement from chemical weapons-related transactions, and establishing appropriate commodity thresholds for targeting and tracking exports and reexports for verification of end use and end users. In addition, enforcement officers may be exposed to personal safety risks when seizing and inspecting chemical materials.

To meet the challenge of effective enforcement of these controls, the Department of Commerce has directed resources toward preventive enforcement, in addition to continued efforts to pursue all leads provided by intelligence, industry, and other sources on activities of concern. Analysis

of Shipper's Export Declarations helps ensure that the shipments labeled "No License Required" are in fact eligible for such treatment. Also, the Department of Commerce's extensive outreach program educates companies about export controls related to chemical products and helps prevent the illegal export of dual-use products that can be used to make chemical weapons.

C. Consultation with Industry

The Department of Commerce interacts with the chemical industry in a number of ways, including with individual companies seeking export licenses, through the Technical Advisory Committees (TACs), and through trade associations. The Department consults regularly with exporting firms on proposed export transactions and marketing plans to facilitate the thorough, yet prompt, review of export license applications. Through the TACs, the Department keeps industry representatives abreast of proposals for the review of items on the control list and gives them the opportunity to provide technical input.

The Department of Commerce works with chemical industry associations, including the American Chemistry Council and the Synthetic Organic Chemical Manufacturers Association, and with government agencies such as the Federal Bureau of Investigation and the Department of Defense, to gain valuable input regarding CWC implementation and to meet the United States' CWC responsibilities. (See Section E, "Alternative Means.")

In a October 21, 2003, *Federal Register* notice, the Department of Commerce solicited comments from industry on the effectiveness of U.S. foreign policy-based export controls. Comments were solicited from all six of the Department's TACs which advise the Bureau of Industry and Security (BIS), as well as from the President's Export Council Subcommittee on Export Administration. Comments also were solicited from the public via the BIS webpage. The comment period closed on November 21, 2003, and eight comments were received.

D. Consultation with Other Countries

These controls are consistent with the multilateral export control criteria of the AG, which includes many of the world's major chemical producers and traders. As such, the controls have been agreed through negotiations with the member countries of the AG. In addition, a number of non-AG countries, including Russia and Ukraine, have taken steps to adopt AG-type controls. An important element of the AG's efforts to curb the proliferation of chemical weapons is contacting non-members to encourage them to observe similar export controls. The U.S. Government continues to encourage harmonization of export control provisions among AG participants to ensure a level playing field for U.S. exporters.

E. Alternative Means

The U.S. Government continues to address the problem of the proliferation of chemical weapons on a number of fronts. Direct negotiations with countries intent on acquiring chemical weapons are not likely to prevent the use of controlled materials in such activities, nor are such negotiations likely to affect the behavior of these countries.

Alternative means to curtail the acquisition and development of chemical warfare capabilities, such as diplomatic negotiations, do not obviate the need for controls. Examples of additional means that the U.S. Government has used, and will continue to use, in an attempt to curb the use and spread of chemical weapons include:

- Sanctions: The Chemical and Biological Weapons Control and Warfare Elimination Act of 1991 (Pub. L. 102-182, Title III, Dec. 4, 1991, 105 Stat. 1245) provides for the imposition of sanctions on foreign entities and countries for certain kinds of chemical and biological weapons-related activity. The U.S. Government has imposed sanctions under this authority on certain entities for chemical weapons-related activities.
- Universality of the CWC: As another tool for stemming the proliferation of chemical weapons, the CWC imposes a global ban on the development, production, stockpiling, retention and use of chemical weapons. The CWC also prohibits the direct or indirect transfer of chemical weapons, restricts trade in certain chemicals to States not Party to the CWC and has created an international organization to monitor the destruction of chemical weapons and the production, use, and trade of toxic chemicals and chemical precursors in and among State Parties to the CWC.

As part of its CWC implementation activities, the Department of Commerce also collects industry reports regarding the production, processing, consumption, import and export of toxic chemicals and chemical precursors for purposes not prohibited by the CWC (e.g., industrial, agricultural, and other peaceful purposes), which are forwarded to the Organization for the Prohibition of Chemical Weapons (OPCW). The Department of Commerce also escorts inspectors from the OPCW as they inspect certain U.S. chemical facilities to verify that activities are consistent with the information provided in the industry reports and with other treaty provisions.

F. Foreign Availability

Past reviews conducted by the Department of Commerce revealed that a wide range of AG chemical precursors and production equipment was available from non-AG countries. Non-AG suppliers of precursors and/or related production equipment include Brazil, Chile, Colombia, India, Mexico, China (PRC), South Africa, the countries of the former Soviet Union, Taiwan, and Thailand. However, most have become Party to the CWC and will take steps under this

treaty to prevent chemical weapons proliferation. As such, the U.S. Government has made efforts through its membership in both the AG and CWC to secure the cooperation of foreign governments to control the foreign availability of chemical precursors and production equipment.

CHAPTER 7

Biological Agents and Associated Equipment and Technology (Sections 742.2, 744.4 and 744.6)¹⁴

Export Control Program Description And Licensing Policy

The U.S. Government exercises export controls over certain microorganisms, toxins, biological equipment, and related technology to further U.S. foreign policy interests in opposing the proliferation and use of biological weapons. The U.S. Government implements these export controls multilaterally in coordination with the Australia Group (AG), a forum of 33 nations cooperating to halt the proliferation of chemical and biological weapons. The U.S. Government also supports international efforts to effect a total ban on biological weapons in compliance with the Convention on the Prohibition of the Development, Production and Stockpiling of Bacteriological (Biological) and Toxin Weapons and on Their Destruction (BWC).¹⁵

Licensing Requirements and Licensing Policy

The licensing requirements for biological agents, related equipment, and technology, as specified on the Commerce Control List (CCL), are as follows:

A. The U.S. Government requires a license for the export to all destinations of certain human pathogens, zoonoses, toxins, animal pathogens, genetically modified microorganisms and plant pathogens, as well as the technology for their production and/or disposal.

The U.S. Government requires a license for the export to specified countries of certain dual-use equipment and materials that can be used in the production of biological agents, and related production technology. The countries for which this licensing requirement applies are those indicated in Column CB:3 of the Commerce Country Chart, Supplement No. 1 to Part 738 of the EAR, as well as the embargoed destinations identified in EAR Part 746.

¹⁴ Chapter 6 of this report addresses U.S. chemical controls.

¹⁵ *The Convention on the Prohibition of the Development, Production and Stockpiling of Bacteriological (Biological) and Toxin Weapons and on Their Destruction (BWC) was signed in 1972 and ratified by the United States in 1975.*

On December 1, 2003, the Department of Commerce issued a revision to the rule issued on June 10, 2003 (68 FR 34526), amending the Export Administration Regulations (EAR) to implement the understandings reached at the June 2002 plenary meeting of the Australia Group (AG). The June 10, 2003, final rule contained errors in the List of Items Controlled for Export Control Classification Numbers (ECCNs) 2E001 and 2E002 on the Commerce Control List (CCL), as well as an error in the licensing policy provisions of the EAR that apply to items identified on the AG lists. The December 1 revision corrected those errors.

The U.S. Government also controls items subject to the EAR because of biological end-use or end-user concerns. These controls are part of the Enhanced Proliferation Control Initiative (EPCI), announced by the President on December 13, 1990.

- The U.S. Government requires a license for the export of any commodity, technology, or software when the exporter knows that it will be used in the design, development, production, stockpiling, or use of biological weapons in, or by, specific countries (Country Group D:3, EAR, Part 740, Supplement No. 1¹⁶). In addition, the U.S. Government may inform an exporter or reexporter that a license is required due to an unacceptable risk that the items will be used in, or diverted to, biological weapons proliferation activities anywhere in the world.
- No U.S. person may knowingly support such an export, reexport, or transfer without a license. “Support” is defined as any action, including financing, transportation, or freight forwarding, that facilitates the export, reexport, or transfer of these items.
- In addition, no U.S. person may, without a license, perform any contract, service, or employment knowing that it will directly assist in the design, development, production, stockpiling, or use of biological weapons in, or by, a country listed in Country Group D:3.

B. The Department of Commerce will review applications for licenses on a case-by-case basis to determine whether the export would make a material contribution to the design, development, production, stockpiling, or use of biological weapons. When the Department of Commerce determines that an export will make such a contribution, the application will be denied.

¹⁶ *As of December 2003, the countries in Country Group D:3 included Afghanistan, Armenia, Azerbaijan, Bahrain, Belarus, Bulgaria, Burma, China (PRC), Cuba, Egypt, Georgia, India, Iran, Iraq, Israel, Jordan, Kazakhstan, North Korea, Kuwait, Kyrgyzstan, Lebanon, Libya, Macau, Moldova, Mongolia, Oman, Pakistan, Qatar, Russia, Saudi Arabia, Syria, Taiwan, Tajikistan, Turkmenistan, Ukraine, the United Arab Emirates, Uzbekistan, Vietnam, and Yemen.*

Analysis of Control as Required by Section 6(f) of The Act

A. The Purpose of the Control

The controls described above are intended to prevent a U.S. contribution to the proliferation and illegal use of biological weapons, and to support multilaterally coordinated control efforts. The controls also provide the regulatory authority to stop the export of any item from the United States when there is a significant risk that it will be used for biological weapons purposes. The controls implement certain measures directed in Executive Order 12735 of November 16, 1990, its successor, Executive Order 12938 of November 14, 1994, and the Enhanced Proliferation Control Initiative announced on December 13, 1990.

The U.S. Government implements these controls in coordination with the AG. The AG works to accomplish this objective through the harmonization of export controls, the exchange of information, and other diplomatic means. In addition, these EAR controls demonstrate the commitment of the United States to its obligation under the BWC not to develop, produce, stockpile, acquire or retain biological agents, weapons, equipment or the means of delivery for warfare purposes or to assist others in such activities. The controls also advance the goals of the 1925 Geneva Protocol for the Prohibition of the Use in War of Asphyxiating, Poisonous or other Gases and of Bacteriological Methods of Warfare (Geneva Protocol), prohibiting the use in war of chemical or biological weapons.

B. Considerations and/or Determinations of the Secretary of Commerce

1. *Probability of Achieving the Intended Foreign Policy Purpose.* The Secretary has determined that these controls are likely to achieve the intended foreign policy purpose, in light of other factors, including the U.S. Government's negotiations with its partners in the AG and in the BWC. The Secretary has made this determination despite the existence of certain factors, including availability of these items from other sources, that challenge that achievement. These controls affirm U.S. opposition to the development, proliferation, and use of biological weapons and serve to distance the United States from such activities.

2. *Compatibility with Foreign Policy Objectives.* The Secretary has determined that these controls are compatible with U.S. foreign policy objectives and will not have any significant adverse foreign policy consequences with the extension of these controls. The U.S. Government has a strong interest in remaining at the forefront of international efforts to stem the proliferation of biological weapons. Also, these controls are compatible with the multilateral export controls for biological materials agreed to by the AG.

3. *Reaction of Other Countries.* The Secretary has determined that any adverse reaction to these controls is not likely to render the controls ineffective nor will any adverse reaction by other countries be counterproductive to U.S. foreign policy interests. The U.S. Government

continues to discuss biological export controls with countries outside of the AG to advance the goals of nonproliferation.

4. *Economic Impact on U.S. Industry.* The Secretary has determined that any adverse effect of these controls on the economy of the United States, including on the competitive position of the United States in the international economy, does not exceed the benefit to United States foreign policy objectives. In FY 2003, the Department of Commerce approved 695 license applications, valued at \$41 million, for the export or reexport of biological agents and equipment. The vast majority of the approvals were for toxins in Export Control Classification Number (ECCN) 1C351. This includes a \$32 million approved export of toxins to be used as raw materials for the production of medical products. The Department of Commerce denied four license applications for biological agents/equipment valued at \$339,870, and returned without action 34 license applications valued at \$168,144.

5. *Effective Enforcement of Control.* The Secretary has determined the United States has the ability to effectively enforce these controls. Enforcing controls on biological weapons materials poses problems similar to the enforcement of chemical controls, but with additional difficulties. Biological materials are microscopic organisms that require technical expertise and specialized facilities to identify and to handle them. Because of their size, biological agents can often be concealed and transported with ease.

To meet the challenge of effective enforcement of these proliferation controls, the Department of Commerce has redirected resources toward preventive enforcement. Enforcement personnel conduct an extensive, ongoing outreach program to educate industry about export controls. The program also is designed to increase industry's awareness of suspect orders for products or equipment that could be used for biological weapons proliferation. In cases where unlicensed shipments of biological materials have already taken place, the Department of Commerce has found that, as in other export control enforcement cases, commercial shipping documentation can form the basis for successful investigations and prosecutions.

C. Consultation with Industry

Exporters of biological products include commercial firms as well as academic and government entities. The Department of Commerce maintains ongoing interaction with individual exporters, Technical Advisory Committees (TACs), and trade associations to discuss proposed export transactions and marketing plans to facilitate the thorough, yet prompt, review of export license applications. Through the TACs, the Department of Commerce keeps industry representatives abreast of licensing proposals for items on the control list and gives them the opportunity to provide technical input. During the reporting period, the Department of Commerce representatives participated in briefings on chemical/biological export control issues for trade associations such as the Pharmaceutical Research and Manufacturers of America and the Biotechnology Industry Organization.

In an October 21, 2003, *Federal Register* notice, the Department of Commerce solicited comments from industry on the effectiveness of U.S. foreign policy-based export controls. Comments were solicited from all six of the Department's TACs, which advise the Bureau of Industry and Security (BIS), as well as from the President's Export Council Subcommittee on Export Administration. Comments also were solicited from the public via the BIS webpage. The comment period closed on November 21, 2003, and eight comments were received.

Sandia National Laboratories' Cooperative Monitoring Center provided a summary of new rules implemented by the U.S. Government since the attack of September 11, 2001, relating to the domestic lab-to-lab transfer of certain microbiological agents and toxins. Sandia notes that there are no comparable controls for the international transfer of these agents and recommends that these agents, currently controlled by Health and Human Services (HHS) and the U.S. Department of Agriculture (USDA), should be added to the CCL. Sandia provided a list of these HHS- and USDA-regulated pathogens. A detailed review of all comments received can be found in Appendix I.

D. Consultation with Other Countries

Recognizing that multilateral coordination of export controls and enforcement actions is the most effective means of restricting proliferation activities, the U.S. Government coordinates its controls on biological items with other countries in the AG. On June 10, 2003, the EAR provisions pertaining to biological controls were revised to add eight new toxins to the list of AG-controlled human and zoonotic pathogens and toxins described in Export Control Classification Number (ECCN) 1C351. The EAR was also revised to include medical products (ECCN 1C991) containing any of the eight toxins now subject to control. These revisions to the EAR, proposed by the United States, were made based on actions taken at the AG Plenary meeting held in June 2002. Additional actions taken at the AG Plenary that led to revisions in the EAR entries on chemicals and chemical equipment are referenced in Chapter 6 of this report.

The U.S. Government continues to address the problem of biological weapons proliferation through a variety of international fora and urges other AG members to pursue export control cooperation with non-members on a bilateral or regional basis.

E. Alternative Means

The U.S. Government continues to address the problem of biological weapons proliferation on a number of fronts. Direct negotiations with countries intent on acquiring biological weapons are not likely to prevent the use of U.S.-origin materials for such activities; neither are such negotiations likely to affect the behavior of these countries.

Alternative means to curtail the acquisition and development of biological warfare capabilities, such as diplomatic negotiations, do not obviate the need for controls. The following examples demonstrate additional means that have been, and will continue to be, used in an attempt to curb the use and spread of biological weapons:

- Regulations issued by the Public Health Service (42 CFR Part 72) pursuant to the “The Antiterrorism and Effective Death Penalty Act of 1996” (Sec. 511 of Pub. L.104-132, April 24, 1996, 110 Stat. 1214) place additional shipping and handling requirements on laboratory facilities that transfer or receive select infectious agents capable of causing substantial harm to human health.
- The Chemical and Biological Weapons Control and Warfare Elimination Act of 1991 (Pub. L.102-182, Title III, December 4, 1991, 105 Stat. 1245) provides for the imposition of sanctions on foreign persons or countries for certain kinds of chemical and biological weapons-related activity. To date, no sanctions have been imposed for biological weapons-related activities.

The negotiations and alternative means undertaken by the U.S. Government demonstrate that reasonable efforts have been made to achieve the purposes of the controls but these actions have not had the results that are as effective as the maintenance and renewal of the controls.

F. Foreign Availability

Most of the AG-controlled biological agents, and related equipment to produce them, are available from many sources. (Biological agents are, in fact, endemic.) Notwithstanding the difficulties related to the effective control of these items, the United States and its AG partners consider it necessary to maintain controls in order to stem shipments to potential proliferators. Foreign availability is a factor considered by the AG member countries in their coordination of controls.

CHAPTER 8

Missile Technology Controls (Sections 742.5 and 744.3)

Export Control Program Description And Licensing Policy

The Missile Technology Control Regime (MTCR) was created on April 16, 1987, by the United States, Canada, France, Germany, Italy, Japan, and the United Kingdom to limit the proliferation of missiles capable of delivering nuclear weapons. The MTCR was expanded in 1993 to include missile delivery systems for all types of weapons of mass destruction (WMD) and now has 33 member countries. See Appendix II for a complete list of MTCR member countries. There also are several countries, including Israel and Romania, that unilaterally adhere to the MTCR Guidelines.

The MTCR Guidelines and the Equipment, Software and Technology Annex form the basis for U.S. missile technology controls. The MTCR Guidelines provide licensing policy, procedures, review factors, and standard assurances on missile technology exports. The Annex is the list of missile-related items and is divided into two categories. Category I items include missile systems and major subsystems, production facilities, and production equipment for missile systems capable of delivering a 500 kg payload to at least a 300 km range. Category II items include materials, components, and production and test equipment associated with Category I items, as well as missile subsystems, production facilities, and production equipment for missile systems with a 300 km range, regardless of payload.

The Department of Commerce is responsible for administering controls on manufacturing equipment for Category I items, and all dual-use items in Category II. There are approximately 120 entries on the Commerce Control List (CCL) that are subject to missile technology controls. Category I items have a strong presumption of denial, and the transfer of production facilities for Category I items is prohibited. The Department of Commerce will approve the export of Category II items only after a case-by-case review. The United States observes the multilateral commitment to honor the denial of licenses by other members and to support such denials through a “no undercut” policy. This policy enhances efforts to prevent missile proliferation and prevents unfair commercial advantage among regime members.

MTCR member countries seek to foster the cooperation of non-member countries in limiting the spread of delivery systems for WMD and have focused such efforts in an MTCR-sponsored series of workshops and seminars. This effort – begun in 1996 – allows MTCR members and

invited non-members to explore different approaches to improve export controls and prevent missile proliferation.

Licensing Requirements and Licensing Policy

In summary, the licensing requirements and policy for missile technology controls described in Parts 742.5 and 744.3 of the Export Administration Regulations (EAR) are as follows:

A. The U.S. Government requires a license for the export or reexport to all destinations (except Canada) of those dual-use items specifically identified on the CCL as controlled for missile technology reasons. This exclusion for Canada is currently under review.

On September 22, 2003, the EAR was revised to reflect changes to the MTCR Annex that were agreed to by member countries at the September 2002 Plenary in Warsaw, Poland. The definitions for missile range and payload, which are key determinants of the level of control applicable to rocket and unmanned aerial vehicle systems (and had been the subject of several years of debate in the MTCR), were added to the list of terms in the Annex. Amendments to certain entries on the CCL to clarify the scope and jurisdiction of controls on global navigation satellite receiving equipment were also published and made effective by this rule (68 FR 54655).

Additionally, the U.S. Government controls items subject to the EAR due to missile-related end-use or end-user concerns. These controls are part of the Enhanced Proliferation Control Initiative (EPCI), announced by the President on December 13, 1990.

- The U.S. Government requires a license for the export of any commodity, technology, or software when the exporter knows that it will be used in the design, development, production, stockpiling, or use of missile-related projects in, or by, specific countries (Country Group D:4, EAR, Part 740, Supplement No. 1). In addition, the U.S. Government may inform an exporter or reexporter that a license is required due to an unacceptable risk that the items will be used in, or diverted to, missile-related proliferation activities anywhere in the world.
- No U.S. person may knowingly support such an export, reexport, or transfer without a license. “Support” is defined as any action, including financing, transportation, or freight forwarding, that facilitates the export, reexport, or transfer of these items.
- In addition, no U.S. person may, without a license, perform any contract, service, or employment knowing that it will directly assist in the design, development, production, stockpiling, or use of missiles or missile-related projects in, or by, a country listed in Country Group D:4.

B. The Department of Commerce will review applications for licenses on a case-by-case basis to determine whether the export would make a material contribution to the proliferation of missiles. When the Department of Commerce determines that an export will make such a contribution, the application will be denied.

Analysis of Control as Required by Section 6(f) of The Act

A. The Purpose of the Control

These controls curtail the availability of goods and technology and other support that could contribute to missile proliferation. U.S. export controls on specific types of missile-related equipment and technology, in coordination with other supplier countries, limits the proliferation of missile systems and related technology. These controls complement U.S. and international nuclear, chemical, and biological nonproliferation efforts by blocking the development of unmanned delivery systems for WMD. These controls lend clear U.S. support to the collective effort of the MTCR to address mounting international concern regarding missile proliferation.

B. Considerations and/or Determinations of the Secretary of Commerce

- 1. *Probability of Achieving the Intended Foreign Policy Purpose.*** The Secretary has determined that these controls are likely to achieve the intended foreign policy purpose, in light of other factors, including the limited foreign availability of these MT-controlled items from other countries and that the foreign policy purpose has been in part achieved through negotiations. Although some controlled items are available from other countries, cooperation among the United States, its MTCR partners, and other like-minded countries, many of which are major producers of the items under control, has hindered the efforts of proliferators to develop or acquire militarily-effective missiles. The Secretary has determined that extending these controls is likely to limit the spread of missile delivery systems.
- 2. *Compatibility with Foreign Policy Objectives.*** The Secretary has determined that these controls are compatible with U.S. foreign policy objectives and will not have any significant adverse foreign policy consequences with the extension of these controls. Halting the spread of missiles and related equipment and technology worldwide is a key U.S. national security and nonproliferation objective. Missile technology export controls are consistent with, and contribute to, achieving this objective. U.S. membership in the MTCR complements existing nuclear, chemical, and biological nonproliferation policies by curbing the spread of missile technology and equipment for the delivery of WMD.
- 3. *Reaction of Other Countries.*** The Secretary has determined that any adverse reaction to these controls is not likely to render the controls ineffective nor will any adverse reaction by other countries be counter-productive to U.S. foreign policy interests. The United States is confident that other members of and unilateral adherents to the MTCR, many of whom are also

the leading suppliers of missile-related technology, will continue to support and strengthen this control regime. MTCR partners share information regarding denials of Annex items and are committed to a “no undercut policy.” MTCR partners also share information about potential activities of proliferation concern, and have cooperated to interdict specific shipments of proliferation concern. The number of MTCR members and other countries willing to cooperate with the regime has increased over the past few years. Finally, the United States and its MTCR partners are actively engaged in an outreach program to encourage additional countries to adhere to the Guidelines and implement effective export controls on MTCR items.

4. *Economic Impact on U.S. Industry.* The Secretary has determined that any adverse effect of these controls on the U.S. economy, including on the competitive position of the United States in the international economy, does not exceed the benefit to U.S. foreign policy objectives. Only a narrow list of items are subject to missile controls and the effect on overall U.S. exports is limited. The commitment by MTCR to a “no undercut policy” helps ensure that no member obtains an unfair commercial advantage in the international marketplace.

In FY 2003, the Department of Commerce approved 590 applications, valued at \$955 million, for the export or reexport of missile-related items. Of these, 400 applications valued at \$850 million were for exports destined to Wassenaar member countries. In addition, the Department of Commerce denied 10 applications valued at \$7.9 million, and returned without action 20 applications valued at \$4 million. Comparatively few licenses for missile technology items are denied due to the following reasons: (1) exporters do not generally pursue transactions they understand will be rejected (based on the applicable licensing policy); and (2) most of the transactions are to countries that do not pose missile proliferation concerns (e.g., MTCR member-nations).

5. *Effective Enforcement of Control.* The Secretary has determined the United States has the ability to effectively enforce these controls. Multilateral controls on missile technology provide a strong framework for cooperative enforcement efforts overseas. However, there are challenges for the enforcement of controls on dual-use goods related to missile development. First, it is difficult to detect and investigate cases under the “knowledge” standard set by the EPCI “catch-all” provision. Second, some countries do not yet have “catch-all” laws or have different standards for “catch-all,” which complicates law enforcement cooperation. Third, identifying illegal exports and reexports of missile-related goods requires significant resources.

To enforce these controls effectively, the Department of Commerce continues to focus on preventive enforcement, including an outreach program to educate companies about export controls and to increase awareness of “red flags” that may indicate risky transactions. This program is an important component of the Department of Commerce’s efforts to prevent companies from illegally exporting dual-use products or equipment that could be used to make missiles. Recognizing the importance of export enforcement, the MTCR held its third

Enforcement Experts meeting at the MTCR Plenary in Buenos Aires, Argentina, in September 2003.

C. Consultation with Industry

The Department of Commerce normally holds discussions with industry representatives on issues involving the MTCR Annex through the Transportation Technical Advisory Committee (TransTAC), and other relevant TACs as appropriate. Further, the Department of Commerce participates in interagency working groups that review proposed changes to the Annex and engages in discussions of the proposals with companies that have relevant expertise.

In an October 21, 2003, *Federal Register* notice, the Department of Commerce solicited comments from industry on the effectiveness of U.S. foreign policy-based export controls. Comments were solicited from all six of the Department's TACs, which advise the Bureau of Industry and Security (BIS), as well as from the President's Export Council Subcommittee on Export Administration. Comments also were solicited from the public via the BIS webpage. The comment period closed on November 21, 2003, and eight comments were received.

D. Consultation with Other Countries

Consultation with other MTCR members is a fundamental element of U.S. missile technology control policy. Consultations with non-MTCR countries also are essential to U.S. missile nonproliferation policy. The U.S. Government shares information about activities of concern with other countries and seeks to prevent or stop certain transactions of missile proliferation concern. The United States also shares denial information with its MTCR partners.

As cited earlier, the Department of Commerce published an amendment to the EAR on September 22, 2003, to implement changes to the MTCR Annex that were agreed to by the United States and its MTCR partners at the September 2002 Plenary meeting.

E. Alternative Means

The missile sanction provisions in Section 73 of the Arms Export Control Act, and Section 11B of the Export Administration Act, provide for the imposition of export, import, and procurement sanctions on foreign entities engaged in certain kinds of activities relating to the transfer of MTCR Annex items to non-MTCR adherent countries. In the past, the United States has imposed missile sanctions on entities in China, Egypt, India, Iran, Macedonia, Moldova, North Korea, Pakistan, Russia, South Africa, and Syria. Missile sanctions are used to encourage the governments of the sanctioned entities to adopt responsible nonproliferation behavior and to send a clear message about the United States' strong commitment to missile nonproliferation.

Diplomatic efforts by the United States and MTCR partners to encourage additional countries to adhere unilaterally to the MTCR Guidelines continue. Such efforts are aimed at encouraging non-MTCR members to implement and enforce effective missile technology export controls. The United States has an obligation to maintain and renew its export controls based on its membership in the MTCR yet has pursued alternative means to achieve the purpose of the controls through its consultations with non-MTCR countries.

F. Foreign Availability

Possible suppliers of missile technology that are not MTCR members include, but are not limited to, China (PRC), Egypt, India, Israel, and Taiwan. Some of these countries, such as Israel, adhere unilaterally to the MTCR Guidelines and apply MTCR-type controls. The United States continues to approach other nations that produce MTCR Annex-controlled items to secure their cooperation in controlling the foreign availability of these items and urging their vigilance in applying MTCR Guidelines to help prevent missile proliferation. The U.S. Government has imposed sanctions on entities in a number of countries when those entities have not altered their proliferation behavior.

CHAPTER 9

High Performance Computers (Section 742.12)

Export Control Program Description And Licensing Policy

The United States maintains controls on high performance computers (HPCs) in recognition of the strategic and proliferation significance of HPCs, including software and technology. Such controls are adjusted from time to time to reflect advances in computer technology and expanding worldwide availability. The Export Administration Regulations (EAR) set forth special provisions for exports and reexports of HPCs and related software and technology controlled for “XP” reasons. “XP” controls supplement requirements that apply based on other control reasons. “XP” controls apply unless a License Exception is available, and vary according to destination, end-user, and end-use.

A license is required for “XP” reasons for exports and reexports of computers, including electronic assemblies and specially designed components, that have a composite theoretical performance (CTP) greater than 190,000 million theoretical operations per second (MTOPS) to “Tier III” countries. The Tier III countries are set forth in section 740.7(d) of the EAR. A license is also required for “XP” reasons for exports and reexports of computers having a CTP greater than 28,000 MTOPS to “Tier IV” countries. The Tier IV countries are Cuba, Iran, Iraq, Libya, North Korea, Sudan, and Syria. (See Chapters 4 and 5 of this report for additional foreign controls that apply to exports of computers to Tier IV countries.)

On January 14, 2003, the Department of Commerce amended the EAR to implement revisions that were agreed upon in the February 2002 meeting of the Wassenaar Arrangement on Export Controls for Conventional Arms and Dual-Use Goods and Technologies (Wassenaar Arrangement). This rule removed license requirements for exports and reexports of general purpose microprocessors to most destinations to conform with changes in the List of Dual-Use Goods and Technologies maintained and agreed to by governments participating in the Wassenaar Arrangement. This rule retained license requirements for exports and reexports to designated terrorist-supporting countries. In addition, this rule established a new license requirement for the export or reexport of general purpose microprocessors if, at the time of the export or reexport, the exporter or reexporter knows, has reason to know, or is informed by the Bureau of Industry and Security (BIS) that the item will be or is intended to be used for a military end-use in a country that is of concern for national security reasons or by a military end-user in such a country.

Analysis of Control as Required by Section 6(f) of The Act

A. The Purpose of the Control

Recognizing the strategic and proliferation significance of HPCs, the purpose of “XP” controls is to prevent the transfer or diversion of HPCs to end-users that may use the computers in an unauthorized manner, detrimental to U.S. foreign policy and national security interests.

B. Considerations and/or Determinations of the Secretary of Commerce

1. *Probability of Achieving the Intended Foreign Policy Purpose.* The Secretary has determined that these controls are likely to achieve the intended foreign policy purpose, in light of other factors, including the availability from other countries and that the foreign policy purpose has been partially achieved through negotiations on export controls with the participating states of the Wassenaar Arrangement. The widespread availability of the components, technical know-how needed to build HPCs, and the speed with which the technology of these items improves, are challenges to achieving the control’s objectives. U.S. controls for HPCs are designed to permit the government to calibrate control levels and licensing conditions depending on the national security or proliferation risk posed by a specific destination, enhance U.S. national security, and preserve the technological lead of U.S. industry by ensuring that controls on computers are effective and do not unnecessarily impede legitimate computer exports.

2. *Compatibility with Foreign Policy Objectives.* The Secretary has determined that these controls are compatible with U.S. foreign policy objectives and will not have any significant adverse foreign policy consequences with the extension of these controls. The controls are consistent with the U.S. foreign policy goals of preventing U.S. exports that might contribute to destabilizing military capabilities and preventing the proliferation of weapons of mass destruction (WMD) and missiles. Since HPCs can be used in development of such weapons, U.S. export controls, in concert with those of our allies, permit denial of HPCs to potential proliferators. Extensive U.S. participation in various multilateral control groups, specifically the Wassenaar Arrangement, demonstrates the U.S. commitment in this regard.

3. *Reaction of Other Countries.* The Secretary has determined that any adverse reaction to these controls is not likely to render the controls ineffective nor will any adverse reaction by other countries be counter-productive to U.S. foreign policy interests. Since many of the countries that have the capacity to produce HPCs share U.S. opposition to the proliferation of WMD, there is a high degree of cooperation between the United States and its partners in multilateral export control regimes.

4. *Economic Impact on U.S. Industry.* The Secretary has determined that any adverse effect of these controls on the U.S. economy, including on the competitive position of the United

States in the international economy, does not exceed the benefit to U.S. foreign policy objectives. Revisions to HPC control thresholds enable U.S. industry to remain competitive in the world market and ensure that U.S. national security interests are maintained by keeping sensitive computers under export controls. The current CTP level of 190,000 MTOPS reflects advances in computer technology, mass-market conditions, and increased foreign availability.

In FY 2003, the Department of Commerce did not approve any licenses for export of computers listed under Export Control Classification Number (ECCN) 4A003. Seven cases, valued at \$397,680, were returned without action – mainly because a license was not required. There were no denials for exports of HPCs in FY 2003.

5. *Effective Enforcement of Control.* The Secretary has determined the U.S. Government has the ability to effectively enforce these controls. As long as HPC controls are imposed on the most advanced models, which are generally manufactured by a few companies and not in large supply, there are no particular enforcement concerns. However, if technology outpaces the control levels, it may become difficult to enforce controls on lower-level items that are manufactured for the mass market.

C. Consultation with Industry

The Department of Commerce, through its Information Systems Technical Advisory Committee (ISTAC) and computer-related industry associations, holds ongoing discussions with the private sector on HPC controls. Industry has repeatedly urged that improvements in performance and the widespread ability to cluster uncontrolled, low-level computers to achieve high performance computing be taken into account in adjusting export control policy. The U.S. Government takes these factors into account when reviewing computer controls.

In an October 21, 2003, *Federal Register* notice, the Department of Commerce solicited comments from industry on the effectiveness of U.S. foreign policy-based export controls. Comments were solicited from all six of the Department's TACs, which advise BIS, as well as from the President's Export Council Subcommittee on Export Administration. Comments also were solicited from the public via the BIS webpage. The comment period closed on November 21, 2003, and eight comments were received.

Sun Microsystems submitted comments, some of which pertain to high performance computer controls. Sun recommended that the "scope of Tier III controls should be narrowed substantially in order to recognize the realities of the networked world and to discontinue the dangerous and counterproductive pretension that controlling commercial computing power will be either viable or effective in the coming years." Sun further commented that Tier III countries should be those "identified in the CIA's semiannual WMD report to Congress under Section 721 of the Intelligence Authorization Act for FY 1997" rather than the extensive list of countries currently included in Computer Tier III. Sun is concerned about the proposed regulation published by BIS

in the *Federal Register* on October 24, 2003, to impose a cap of 150,000 MTOPS on transfers to countries and nationals outside the former Computer Tier I group and a cap of 75,000 MTOPS on Computer Tier III, as Sun contends that such action would basically reinstate the former Tier II type controls on technology. Sun feels the U.S. Government should shift its focus from performance metrics to accelerating the advantage the U.S. military already has in exploiting these technologies.

While none of its comments specifically addressed high performance computer controls, the Industry Coalition on Technology Transfer (ICOTT) provided general comments about all foreign policy-based export controls, stating that these controls are unilateral and largely ineffective. ICOTT recommended that unilateral controls should only be used when the symbolism of the act of imposing controls outweighs the injury to American workers and businesses. In addition, ICOTT suggested that if unilateral controls are to be imposed while the United States negotiates with its trading partners to seek multilateral support, those unilateral controls should be of limited duration. A detailed review of all comments received can be found in Appendix I.

D. Consultation with Other Countries

The United States actively consults with allies, its Wassenaar Arrangement partners, and other potential supplier nations to ensure that they understand the basis for U.S. controls. The United States is working particularly closely with Japan in this regard.

E. Alternative Means

The United States will continue to use diplomatic efforts to discourage other nations from acquiring HPCs for use in the WMD development and other uses that threaten U.S. interests. The United States also works closely with other supplier countries, most of whom are members of the Wassenaar Arrangement, to increase the effectiveness of multilateral controls. However, these efforts can only supplement, not replace, the effectiveness of actual export controls.

F. Foreign Availability

The key to effective HPC export controls is to set control levels just above the level of computer capability that end-users with security and proliferation risks can obtain from non-U.S. sources due to widespread availability. The ability of these end-users to achieve high performance computing capability by clustering together lower-level components is a factor in determining the appropriate control level. HPC control levels are intended to maintain realistic export control levels in this dynamic market. According to private sector forecasts, multi-processor systems may soon be available on a worldwide basis from foreign manufacturers, including configurations that exceed current U.S. computer control thresholds. In addition, the ability to cluster computers together using off-the-shelf components to achieve high performance

computing power has become widespread. The U.S. Government's ongoing consultations with its Wassenaar Arrangement partners reflect the U.S. Government's efforts to obtain international cooperation in controlling foreign availability, as evidenced by the January 14, 2003, publication of an amendment to the EAR.

CHAPTER 10

Encryption (Section 742.15)

Export Control Program Description and Licensing Policy

Encryption items can be used to maintain the secrecy of information, and thereby may be used by persons abroad to harm U.S. national security, foreign policy, and law enforcement interests. The U.S. Government has a critical interest in ensuring that important and sensitive information of the public and private sector is protected.

Since the transfer of dual-use encryption items from the United States Munitions List to the Commerce Control List (CCL) on December 6, 1996, export controls on encryption have evolved, consistent with electronic commerce, national security, and law enforcement concerns. The U.S. Government's encryption policy rests on three principles: (1) a review of encryption products in advance of sale; (2) a streamlined export reporting system; and (3) a license process that preserves the U.S. Government's ability to review the sale of strong encryption products to foreign governments, military organizations, and nations of concern.

The Department of Commerce published a rule in the *Federal Register* on June 17, 2003, to update the existing U.S. export controls on dual-use encryption items subject to the Export Administration Regulations (EAR). The purpose of the rule was two-fold: (1) to implement the December 2002 changes to the Wassenaar Arrangement's "List of Dual-use Goods and Technologies"; and (2) to further clarify U.S. encryption export policy and ensure that it is consistent with the widespread use of encryption products by individuals, businesses, and governments.

The June 17, 2003, rule clarified three points: (1) when encryption commodities and software may be given *de minimis* treatment; (2) when short-range wireless devices incorporating encryption may be given "mass market" or retail treatment; and (3) that specially designed medical equipment and software are not controlled as encryption or "information security" items under the EAR. The rule also expanded the authorizations according to which travelers departing the United States may take encryption for their personal use, and provided additional guidance on when exporters are required to submit encryption review requests for new products that will be sold or otherwise exported for other than "personal use" overseas. Finally, the rule implemented changes to the Wassenaar Arrangement's "List of Dual-use Goods and Technologies," finalized

in December 2002, that eliminate national security-based controls on certain types of “personalized smart cards” and equipment controlling access to copyright protected data.

The U.S. Government’s updated encryption policy continues to allow Americans to use strong encryption products to protect their privacy, intellectual property, and other valuable information at home and abroad. However, the June 17, 2003, rule did not change the license requirements or longstanding licensing policies on encryption exports to designated state sponsors of terrorism or sanctioned persons.

Analysis of Control as Required by Section 6(f) of the Act

A. The Purpose of the Control

Encryption export controls protect U.S. national security, foreign policy, and law enforcement interests. Encryption products can, for example, be used to conceal the communications of terrorists, drug smugglers, and others intent on harming U.S. interests. Cryptographic products and software also have military and intelligence applications that, in the hands of hostile nations, could pose a threat to U.S. national security. These controls are consistent with Executive Order (E.O.) 13026 issued on November 15, 1996, and the Presidential Memorandum of the same date.

B. Considerations and/or Determinations of the Secretary of Commerce

1. *Likelihood of Achieving the Intended Foreign Policy Purpose.* The Secretary has determined that these controls are likely to achieve the intended foreign policy purpose, in light of other factors, including the availability of encryption items from other countries and that the foreign policy purpose cannot be achieved through negotiations or other alternative means. Commensurate with the growth of electronic commerce and the Internet, the number of countries with the technology to produce highly sophisticated, dual-use encryption products continues to grow. However, since much of the world’s commercial cryptography is supplied by a core group of information technology (IT) industry leaders using standard algorithms and protocols, encryption export controls can be effective in achieving their intended foreign policy purpose. Consistent with E.O. 13026 of November 15, 1996, and the Presidential Memorandum of the same date, the Secretary has determined that the updated U.S. encryption export controls achieve the intended purpose of implementing technical review procedures for commercial encryption items and restricting the export of encryption items in situations that would be contrary to U.S. national security or foreign policy interests.

2. *Compatibility with Foreign Policy Objectives.* The Secretary has determined that these controls are compatible with U.S. foreign policy objectives and will not have any significant adverse foreign policy consequences with the extension of these controls. The controls are consistent with the U.S. foreign policy goal of preventing U.S. exports (and subsequent reexports) that might contribute to destabilizing military capabilities or to international terrorists

or criminals aimed at the United States. Updated U.S. encryption export controls implement multilateral agreements and protect U.S. citizens overseas, as well as critical infrastructure assets at home.

3. *Reaction of Other Countries.* The Secretary has determined that the continued implementation of U.S. encryption export controls is generally accepted in the worldwide community, and that any adverse reaction to these controls is not likely to render the controls ineffective, nor are they counter-productive to the foreign policy interests of the United States. Other allied countries, particularly those capable of producing highly sophisticated encryption products, recognize the need to control exports of such products for national security and law enforcement reasons. The U.S. Government and its key trading and security partners recognize the desirability of securing critical infrastructures, developing new technologies and standards, preventing cybercrime, and promoting electronic commerce, while restricting goods that could compromise common security and foreign policy interests. As a result, members of the Wassenaar Arrangement and other international fora, such as the European Union, continue to work with the U.S. Government on encryption export controls and generally share U.S. security concerns and economic interests relative to trade in encryption.

4. *Economic Impact on U.S. Industry.* The Secretary has determined that any adverse effect of these controls on the U.S. economy, including on the competitive position of the United States in the international economy, does not exceed the benefit to U.S. foreign policy objectives. The Secretary has determined that the continued implementation of updated encryption regulations will allow U.S. industry to maintain its leadership position in the global market for encryption and other IT products, while ensuring that essential protections for U.S. national security and foreign policy interests, as well as the public safety, are upheld.

Throughout FY 2003, the Bureau of Industry and Security (BIS) processed a substantial number of pre-export encryption review requests for a variety of products with encryption features. Specifically, BIS processed review requests concerning commodities and software for desktop and laptop computers, wireless handheld devices, e-business applications, network security, and telecommunications platforms. Except for high-end networking products, source code items, and products for which the cryptography has been customized or tailored to customer specification, commercial encryption products may be exported and reexported to any destination outside Country Group E:1 after a one-time technical review has been conducted pursuant to either the License Exception ENC (15 C.F.R. § 740.17) or the “mass market” encryption (15 C.F.R. § 742.15(b)(2)) provisions of the EAR.

In FY 2003, BIS received over 1,400 technical review requests for 2,400 controlled encryption products, components, toolkits, and source code items. These encryption reviews comprised 34 percent of BIS’s total output of commodity classifications in FY 2003. Of the 1,759 encryption products reviewed during the fiscal year, 82 percent (or 1,444 encryption reviews) were classified

as “retail” (964) or “mass market” (480) encryption items, making them eligible for export and reexport without a license to government and non-government end-users in most countries.

Additionally, during FY 2003 BIS approved 373 license applications for “non-retail” encryption items (such as high-end routers and other network infrastructure equipment) and technology (excluding so-called “deemed exports” that are eligible under License Exception ENC to most foreign national employees). These 373 licenses, valued at \$71.1 million, were destined to non-sanctioned end-users outside Country Group E:1 for which licenses were required.

For other encryption license applications completed under the EAR in FY 2003, the Department of Commerce rejected two applications for encryption commodities (classified under ECCN 5A002) valued at \$173,352 and returned without action (RWA) 89 applications for encryption items (classified under ECCN 5A002, 5D002 and 5E002) valued at \$19.8 million. Many of the latter applications did not require a license, as the transaction was authorized under License Exception ENC.

5. *Effective Enforcement of Control.* The Secretary has determined the United States has the ability to effectively enforce these controls. Detection of some encryption transactions is difficult since encryption components are often incorporated into other products and encryption software can be transferred over the Internet. However, the importance and value ascribed to commercial encryption products does lead to traceable transfers and distributions. Over the course of implementing U.S. encryption export controls under the EAR, the Department of Commerce has determined that it is easier to enforce controls on proprietary encryption technology and commercial encryption commodities and software than it would be to restrict free distributions of “open source” encryption software under a license requirement.

C. Consultation with Industry

The U.S. Government continually consults with U.S. industry regarding encryption policy. The objective of these consultations is to develop updated policy solutions to assist law enforcement, protect U.S. national security, ensure continued U.S. technological leadership, and promote the privacy and security of U.S. firms and citizens engaged in electronic commerce in an increasingly networked world. Such consultations have proven successful, as evidenced by the increasing number of encryption items submitted for technical review, constructive industry input on matters of regulations and policy, and continued industry commitment to assist law enforcement to better understand current and future encryption technologies.

In reviewing and examining U.S. encryption policy during FY 2003, the Department of Commerce worked closely with the BIS Technical Advisory Committees (TACs), such as the Regulations and Procedures Technical Advisory Committee (RPTAC) and the Information Systems Technical Advisory Committee (ISTAC), and industry groups such as the Alliance for Network Security (ANS) and the exporting community. Leading up to the publication of updated

encryption regulations on June 17, 2003, U.S. industry provided valuable input on its business models and practices for making encryption classification decisions, creating “mass market” products, and seeking *de minimis* determinations.

In an October 21, 2003, *Federal Register* notice, the Department of Commerce solicited comments from industry on the effectiveness of U.S. foreign policy-based export controls. Comments were solicited from all six of the Department’s TACs which advise BIS, as well as from the President’s Export Council Subcommittee on Export Administration. Comments were also solicited from the public via the BIS webpage. The comment period closed on November 21, 2003, and eight comments were received.

While none of its comments specifically addressed encryption controls, the Industry Coalition on Technology Transfer (ICOTT) provided general comments about all foreign policy-based export controls, stating that these controls are unilateral and largely ineffective. ICOTT recommended that unilateral controls should only be used when the symbolism of the act of imposing controls outweighs the injury to American workers and businesses. In addition, ICOTT suggested that if unilateral controls are to be imposed while the United States negotiates with its trading partners to seek multilateral support, those unilateral controls should be of limited duration. A detailed review of all comments received can be found in Appendix I.

D. Consultation with Other Countries

The U.S. Government has taken the lead in global efforts to prevent international criminals, terrorists, and designated state sponsors of terrorism from acquiring sophisticated encryption products, and urged other supplier nations to adopt export controls comparable to those of the United States. As a result, the major industrial partners of the U.S. Government maintain export controls on encryption equipment and technology. U.S. encryption policy reflects active consultation with other nations, such as members of the Wassenaar Arrangement and the European Union. In this manner, the U.S. Government and the other participants in the Wassenaar Arrangement have established multilateral controls for dual-use encryption items.

In December 1998, Wassenaar Arrangement members agreed to move encryption items from the Sensitive List to the Basic List of dual-use goods and technologies. In addition, a Cryptography Note replaced the General Software Note (GSN) as the basis for evaluating “mass market” encryption items covered by the Wassenaar control list. In December 2000, Wassenaar member countries agreed to remove the 64-bit key length restriction from the Cryptography Note. Accordingly, all “mass market” encryption products, regardless of key length, are decontrolled under the Wassenaar Arrangement and licensing requirements for other encryption items have been eased. In December 2002 (and subsequently implemented by the United States in the June 17, 2003, encryption rule), certain limited types of “personalized smart cards” and “copy protection” items were removed from national security-based controls under the Wassenaar Arrangement control list.

E. Alternative Means

The U.S. Government has undertaken a range of diplomatic efforts, both bilateral (with the Government of Israel, for example) and multilateral (in the Wassenaar Arrangement), to encourage other nations to adopt appropriate restrictions on the export of encryption products. Through cooperation with law enforcement officials in friendly countries, the U.S. Government also has sought to keep encryption products out of the hands of terrorists and criminals. These alternative efforts can only supplement, but not replace, the effectiveness of actual export controls.

F. Foreign Availability

The United States recognizes the ongoing adoption and widespread use of encryption overseas, and the continued development of foreign-made encryption hardware and software. The U.S. Government continues to monitor global IT marketplace and encryption policy developments, so that updated U.S. regulations will enable American companies to maintain technological leadership in a manner that safeguards U.S. national security and public safety interests. The U.S. Government does consult with other governments to secure cooperation in controlling the foreign availability of encryption items. However, the U.S. Government's foreign policy concerns override the impact of foreign availability.

CHAPTER 11

Significant Items; Hot Section Technology (Section 742.14)

Export Control Program Description and Licensing Policy

Certain technology transferred from the United States Munitions List to the Commerce Control List (CCL) is subject to “enhanced control.” This technology is designated on the CCL by the acronym “SI,” which stands for “Significant Items.” The technology controlled for SI reasons is “hot section” technology for the development, production, or overhaul of commercial aircraft engines, components and systems. Items controlled for “significant items” reasons are included in Export Control Classification Number (ECCN) 9E003 on the CCL.

The licensing policy for “hot section” technology is as follows:

- The United States requires a license for exports and reexports to all destinations, except Canada, for “hot section” technology, which is also controlled for national security reasons.
- The U.S. Government reviews all license applications for “hot section technology” on a case-by-case basis to determine whether the proposed export or reexport is consistent with U.S. national security and foreign policy interests.

Analysis of Control as Required by Section 6(f) of the Act

A. The Purpose of the Control

This control provides a mechanism for the United States to monitor the export of this technology to prevent its use in a manner that would adversely effect U.S. nonproliferation goals or the military balance within a region.

B. Considerations and/or Determinations of the Secretary of Commerce

1. Probability of Achieving the Intended Foreign Policy Purpose. The Secretary has determined that these controls are likely to achieve the intended foreign policy purpose, in light of other factors, including foreign availability from other countries and that the foreign policy purpose has been partially achieved through negotiations on export controls with the participating states of the Wassenaar Arrangement.

- 2. *Compatibility with Foreign Policy Objectives.*** The Secretary has determined that these controls are compatible with U.S. foreign policy objectives and will not have any significant adverse foreign policy consequences with the extension of these controls. The control is consistent with U.S. foreign policy goals to promote peace and stability and to prevent U.S. exports that would contribute to inappropriate military capabilities abroad.
- 3. *Reaction of Other Countries.*** The Secretary has determined that any adverse reaction to these controls is not likely to render the controls ineffective nor will any adverse reaction by other countries be counter-productive to U.S. foreign policy interests. “Hot section” technology for commercial jet engines is subject to dual-use export controls by other allied countries. These countries also recognize the desirability of restricting goods that could compromise shared security and foreign policy interests.
- 4. *Economic Impact.*** The Secretary has determined that any adverse effect of these controls on the economy of the United States, including on the competitive position of the United States in the international economy, does not exceed the benefit to U.S. foreign policy objectives. In FY 2003, the Department of Commerce approved 128 licenses for technology controlled under ECCN 9E003. Of the 128 licenses approved, most licenses involved “hot section” technology. The total dollar value of the approvals was \$10.3 million. One application, involving the transfer of engine “hot section” technology to a foreign national employed in the United States, was denied. Additionally, 18 applications were returned without action.
- 5. *Effective Enforcement of Control.*** The Secretary has determined that the United States has the ability to effectively enforce these controls. The U.S. Government does not experience any unusual problems in enforcing these controls. Manufacturers and intermediary companies are familiar with U.S. controls on these products and technology. These items also are subject to multilateral controls. Therefore, cooperation from foreign government enforcement agencies is useful in preventing and punishing violators.

C. Consultation with Industry

As needed, the Department of Commerce consults with the Transportation Technical Advisory Committee, although there are no major changes envisioned to controls on the CCL.

In a October 21, 2003, *Federal Register* notice, the Department of Commerce solicited comments from industry on the effectiveness of U.S. foreign policy-based export controls. Comments were solicited from all six of the Department’s Technical Advisory Committees (TACs), which advise BIS, as well as from the President’s Export Council Subcommittee on Export Administration. Comments also were solicited from the public via the BIS webpage. The comment period closed on November 21, 2003, and eight comments were received.

D. Consultation with Other Countries

The United States has taken the lead in international efforts to stem the proliferation of sensitive items, urging other supplier nations to adopt and apply export controls comparable to those of the United States. The major industrial partners of the United States maintain export controls on this equipment and technology and control them as dual-use commodities. Pursuant to their agreement to establish a regime for the control of conventional arms and sensitive dual-use goods and technologies, the participants in the Wassenaar Arrangement have agreed to control these items and to ensure that transfers of such items are carried out responsibly and in furtherance of international peace and security.

E. Alternative Means

The U.S. Government has undertaken a wide range of diplomatic endeavors, both bilateral and multilateral, to encourage the proper control over these items, and has been successful in reaching multilateral agreement (in the Wassenaar Arrangement) to control these items. The United States has specifically encouraged efforts to prevent the unauthorized use or diversion of these items to activities contrary to U.S. national security and foreign policy concerns. However, these efforts do not replace the continued need for the controls.

F. Foreign Availability

Although the United States has been the world leader in this technology, other countries produce “hot section” technology. Most countries that are producers of “hot section” technology are participants in the Wassenaar Arrangement and control these items as dual-use items in accordance with their national licensing policies. The commitment of the U.S. Government and its Wassenaar partners to maintain controls reflects the cooperation among governments to control foreign availability.

CHAPTER 12

Nuclear Nonproliferation (Sections 742.3 and 744.2)

Export Control Program Description and Licensing Policy

The U.S. Government maintains controls on exports of nuclear-related items under the authority of the Nuclear Nonproliferation Act of 1978 (NNPA) in order to further the country's nuclear nonproliferation policy. Although these controls are primarily based on the NNPA, they have been included in this report because they are usually grouped with the other nonproliferation controls referenced elsewhere. Controls based on nuclear end-uses and end-users are maintained under the authority of Section 6 of the Export Administration Act (the Act), as part of the Enhanced Proliferation Control Initiative (EPCI). EPCI controls are described in detail in Chapters 6, 7, and 8 of this report.

On October 22, 2003, the Department of Commerce published an amendment to the Export Administration Regulations (EAR) that added Kazakhstan to Country Group A, Column A:4, as a result of the admission of that country to the Nuclear Suppliers' Group (NSG).

Licensing Requirements and Licensing Policy

The Department of Commerce requires a license for the export of the following items:

- Commodities, related technology, or software that could be of significance for nuclear explosive purposes (i.e., the Nuclear Referral List included in the Commerce Control List).
- Any commodity, related technology, or software that the exporter knows, or has reason to know, will be used directly or indirectly in any of the following activities:
 - Nuclear explosive activities including the design, development, manufacture, or testing of nuclear weapons or nuclear explosive devices.
 - Unsafeguarded nuclear activities including the design, development, or manufacture 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

safeguards at the facility or installation, when it contains any source of special fissionable material, or where any such obligation is not met.

- Safeguarded and unsafeguarded nuclear activities, including the design, construction, fabrication, or operation of the following facilities, or components for such facilities: (i) facilities for the chemical processing of irradiated special nuclear or source materials; (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.
- The Department of Commerce may inform the exporter that a license is required for any item subject to the Export Administration Regulations when there is an unacceptable risk of use in or diversion to any of the activities described above.

Factors considered in reviewing applications for licenses include:

- The stated end-use of the item.
- The significance for nuclear purposes of the particular component and its availability elsewhere.
- The types of nuclear nonproliferation assurances or guarantees given in a particular case.
- The nonproliferation credentials of the recipient country.

Analysis of Control as Required by Law¹⁷

Section 17(d) of the Export Administration Act and Section 309(c) of the NNPA are interpreted to provide that: (1) nuclear nonproliferation controls do not expire annually and determinations to extend them are thus not required; and (2) the criteria and other factors set forth in Sections 6(b) through 6(f) of the Act are not applicable to these controls.

The Congress is, therefore, notified that these controls continue in effect. These controls further the nuclear nonproliferation policy of the United States and have made it more difficult for nations to acquire sensitive nuclear technology or equipment.

¹⁷ *The analysis, required by law, differs for nuclear nonproliferation controls. It is governed by the Nuclear Nonproliferation Act of 1978 (NNPA). Therefore, the headings under this section differ from the rest of the report.*

These controls support U.S. international nuclear nonproliferation obligations. The U.S. Government maintains ongoing discussions with other countries to coordinate export controls for nuclear nonproliferation purposes and is a member of the multilateral NSG. The NSG, composed of 40 members, sets forth export control guidelines applicable to a list of nuclear-related dual use items (see Appendix II for a complete list of regime members.) The United States also is a member of the Zangger Committee, a multilateral group formed in the early 1970s to establish guidelines for the export control provisions of the Nuclear Nonproliferation Treaty.

The Departments of Commerce and Energy, in consultation with the Departments of State, Defense, and the Nuclear Regulatory Commission, regularly review and revise this list of U.S. dual-use items controlled for nuclear nonproliferation reasons. Referred to as the Nuclear Referral List (NRL), this list conforms with our international commitments under the NSG.

APPENDIX I

Summary of Public Comments on Foreign Policy-Based Export Controls

The Department of Commerce's Bureau of Industry and Security (BIS) requested public comments on existing foreign policy-based export controls maintained under Section 6 of the Export Administration Act (EAA) through a *Federal Register* notice published October 21, 2003. Comments were solicited from all six of the Department's Technical Advisory Committees (TACs), which advise BIS, as well as from the President's Export Council Subcommittee on Export Administration. Comments also were solicited from the public via the BIS webpage. BIS requested comments on how existing foreign policy controls have affected exporters and the overall public. The notice invited public comments about issues such as the effectiveness of controls when foreign availability exists; whether the goals of the controls can be achieved through other means such as negotiations; the compatibility of the controls with the overall U.S. policy toward a country in question; the effect of controls on U.S. economic performance; and the ability to enforce the controls.

BIS received eight responses from the following organizations: Analog Devices, Inc.; Federal Express Corporation; Industry Coalition on Technology Transfer (ICOTT); Jupiter Aluminum Corp.; National Chamber of Industries & Commerce, U.P. India; Sandia National Laboratories; the Sensors and Instrumentation Technical Advisory Committee (SITAC); and Sun Microsystems. BIS has made all comments received available for review in the BIS Freedom of Information Act Reading Room available on the BIS webpage. BIS also makes the comments available for public review upon request. This Appendix summarizes the comments received.

Industry Comments

On November 24, 2003, Analog Devices, Inc., (ADI) submitted the following comments relating to its items controlled in Categories 3, 4, and 5 of the Commerce Control List (CCL) for national security reasons: "It is extremely difficult for ADI to know if their equipment will 'make a significant contribution' to the military potential of the customer country because the control parameters are of necessity subjective and not well defined." ADI further commented that the subjective nature of reviews, and the interagency consultation process, have led to delays of two to three years in receiving a license, which is detrimental to both to long-term planning and customer relations. ADI estimates that in a particular market segment, they lose \$15-\$20 million a year to foreign competition that can obtain approvals faster from their own governments. ADI

foresees a general risk of U.S. industry losing its competitive and technological edge by not being able to access export markets.

On November 19, 2003, Federal Express Corporation submitted comments proposing the elimination of Part 736.2(b)(8) (General Prohibition Eight) of the EAR, which requires a license or license exception for exports or reexports through or transit through a number of countries. Federal Express states this regulation was put in place during the Cold War and most of the countries that fall under the jurisdiction of this regulation now have very friendly relations with the United States. Some are even members of multilateral export control regimes. A number of states subject to U.S. unilateral embargoes, however, are not on this list. This requirement places a large burden on Federal Express given the nature of its business.

Second, Federal Express recommends “smart” sanctions that target only specific activities of concern rather than the broad embargos that are currently in place for a number of countries. This would level the playing field for U.S. companies with their worldwide competition. Lastly, Federal Express cites confusion between BIS regulations and those of the Department of the Treasury’s Office of Foreign Assets Control (OFAC). The requirements in the Iran provisions of the EAR conflict with those of OFAC’s regulations. Of particular concern are the EAR regulatory provisions for Sudan, which are silent with regard to the U.S. embargo.

On November 17, 2003, the Industry Coalition on Technology Transfer (ICOTT) wrote to express concern over foreign policy-based export controls which ICOTT described as unilateral and, therefore, largely ineffective. ICOTT recommended that unilateral controls should only be used when the symbolism of the act of imposing controls outweighs the injury to American workers and businesses. If unilateral controls are to be imposed while the U.S. Government negotiates with its trading partners to seek multilateral support, those unilateral controls should be of limited duration.

On November 21, 2003, Jupiter Aluminum expressed concern over the ability of Chinese scrap aluminum purchasers to acquire United States scrap and export it to China. Jupiter asserts that China’s ability to acquire U.S. scrap stems from unfair trade practice including currency manipulation and fake shipping documents. The large scale purchase of U.S. scrap by the Chinese is driving up the costs of doing business in the United States and in the future, the United States may not have a scrap industry. Jupiter would like the U.S. Government to use existing export regulations to stop the export of scrap to China.

On October 24, 2003, the National Chamber of Industries and Commerce, U.P. (NCIC) expressed concern about the continued U.S. requirement for an export license for EAR99 items to India. NCIC asserts that news reports indicate that the U.S. Government is no longer asking India to sign the Nuclear Nonproliferation Treaty to promote better trade relations. Therefore, the export license requirement for EAR99 items, even to listed nuclear entities, should be removed since EAR99 items do not directly contribute to a nuclear or missile program. NCIC

notes that if it is not possible to waive the EAR99 licensing requirement completely, then several possibilities to streamline exporting should be examined, including bulk licences, licence exceptions for shipment value, or expedited processing of license applications.

On November 21, 2003, Sandia National Laboratories' Cooperative Monitoring Center wrote to express concern that human, animal and plant pathogens shipped within the United States require prior approval of the relevant federal agency. However, exporting the same pathogens to another country is regulated by BIS and may or may not require a licence. This gap could contribute to the proliferation of biological weapons. The lab has provided a list of 25 pathogens it recommends be added to the CCL to prevent proliferation.

On October 21, 2003, BIS's Sensors and Instrumentation Technical Advisory Committee (SITAC) submitted several comments. First, they emphasized their comments from prior years, which they felt have not been addressed, namely that Category 6 commodities related to commercial night vision and thermal imaging equipment (specifically 6A002, 6A003, 6E001, and 6E002), which are controlled for Regional Stability (RS) Column 1, should instead be controlled in RS Column 2 as a first step toward reviewing RS controls. Although RS1 includes all countries except Canada, the imposition of RS2 controls would allow items classified under these ECCNs to be exported to Canada, most European Union member states, Japan, and several other countries without a license.

Due to the development of foreign competition in the United Kingdom, France, Israel, and Japan in recent years, the SITAC stated that "the negative effect on U.S. companies far exceeds the perceived benefit to the foreign policy objective." SITAC noted the importance of thermal imaging for firefighting, law enforcement, and security organizations worldwide and stated that the U.S. call for building a large international coalition to combat terrorism is undermined when allies' access to available U.S. technology is restricted. SITAC further stated that treating all regions with the exception of Canada as being potentially unstable "dilutes the focus on regions where stability may truly be in question." Second, they emphasized that foreign competition to the U.S. focal plane array (FPA) equipment industry has become quite vigorous, suggesting that U.S. regional stability controls are harming U.S. industry without significant regional stability benefits. Finally, they renewed their call for moving six ECCN items from RS1 to RS2 controls since this would "level the playing field" with foreign competition without harm to U.S. interests.

The final public comment received was from Sun Microsystems. Sun Microsystems commented on Section 744 Proliferation Controls, known specifically as the "EPCI" (the Enhanced Proliferation Control Initiative) provisions, and controls on high performance computers (HPCs). The company believes that EPCI catch-all requirements cause substantial unnecessary costs associated with export compliance for global information technology (IT) companies. The burden to IT companies lies in "policies, procedures, and automated systems [that] must be constructed to screen thousands of transactions involving uncontrolled or uncontrollable

products, and techniques [that] must be devised to stop transactions for which an exporter has ‘reason to know’ that the ultimate end-use will involve weapons of mass destruction.”

In addition, IT companies spend “substantial money and time on screening shipments of *de minimis*, irrelevant and uncontrollable items, or attempting to enforce compliance with such a system, [which] detracts from the ability of both companies and enforcement authorities to enforce what really matters.” Sun Microsystems calls for a “complete, authoritative list of entities presenting proliferation concerns, including those end-users to whom exports were previously subject to enhanced controls (*i.e.*, export prohibition or licensing).” The company also suggested the creation of new practices pursuant to which the Department of Commerce: “(1) processes voluntary company requests to screen individual end-users for a particular transaction in no more than 14 days, and (2) permits voluntary one-time end-user reviews and certifications so that companies can export to a given end-user, free of EPCI liability, until the exporter is notified otherwise.” In addition the U.S. Government must publish all denials on some type of an entity list to prevent those entities from seeking the same transaction with another vendor.

With regard to HPCs, the “scope of Tier III controls should be narrowed substantially in order to recognize the realities of the networked world and to discontinue the dangerous and counterproductive pretension that controlling commercial computing power will be either viable or effective in the coming years.” Tier III countries should be those “identified in the CIA’s semiannual WMD report to Congress under Section 721 of the Intelligence Authorization Act for FY 1997” rather than the extensive list of countries currently included in Computer Tier III. Sun is concerned about the proposed regulation on computer transfer since it will essentially reimpose Tier II type controls. Sun feels the U.S. Government should shift its focus from performance metrics to accelerating the advantage the U.S. military already has in exploiting these technologies.

APPENDIX II
Multilateral Export Control Regimes in 2003

WASSENAAR	AG	MTCR	NSG
Argentina	Argentina	Argentina	Argentina
Australia	Australia	Australia	Australia
Austria	Austria	Austria	Austria
Belgium	Belgium	Belgium	Belgium
			Belarus
		Brazil	Brazil
Bulgaria	Bulgaria		Bulgaria
Canada	Canada	Canada	Canada
Czech Republic	Czech Republic	Czech Republic	Czech Republic
	Cyprus		Cyprus
Denmark	Denmark	Denmark	Denmark
	European Commission (Observer)		European Commission (Observer)
Finland	Finland	Finland	Finland
France	France	France	France
Germany	Germany	Germany	Germany
Greece	Greece	Greece	Greece
Hungary	Hungary	Hungary	Hungary
	Iceland	Iceland	
Ireland	Ireland	Ireland	Ireland
Italy	Italy	Italy	Italy
Japan	Japan	Japan	Japan
			Kazakhstan
			Latvia
Luxembourg	Luxembourg	Luxembourg	Luxembourg
Netherlands	Netherlands	Netherlands	Netherlands
New Zealand	New Zealand	New Zealand	New Zealand
Norway	Norway	Norway	Norway
Poland	Poland	Poland	Poland
Portugal	Portugal	Portugal	Portugal
Romania	Romania		Romania
Russia		Russia	Russia
Slovak Republic	Slovak Republic		Slovak Republic
			Slovenia
		South Africa	South Africa
Rep. of Korea (South Korea)	Rep. of Korea (South Korea)	Rep. of Korea (South Korea)	Rep. of Korea (South Korea)
Spain	Spain	Spain	Spain
Sweden	Sweden	Sweden	Sweden
Switzerland	Switzerland	Switzerland	Switzerland
Turkey	Turkey	Turkey	Turkey
Ukraine		Ukraine	Ukraine
United Kingdom	United Kingdom	United Kingdom	United Kingdom
United States	United States	United States	United States

AG: Australia Group; **MTCR:** Missile Technology Control Regime; **NSG:** Nuclear Suppliers Group

APPENDIX III

Computer Tier Country Chart in 2003

COMPUTER TIER	COUNTRIES
1	Antigua & Barbuda, Argentina, Australia, Austria, Bahamas, Bangladesh, Barbados, Belgium, Belize, Benin, Bhutan, Bolivia, Botswana, Brazil, Brunei, Burkina Faso, Burma, Burundi, Cameroon, Canada ¹⁸ , Cape Verde, Central African Republic, Chad, Chile, Colombia, Congo, Costa Rica, Cote d'Ivoire, Cyprus, Czech Republic, Denmark, Dominica, Dominican Republic, Ecuador, El Salvador, Equatorial Guinea, Eritrea, Estonia, Ethiopia, Fiji, Finland, France, Gabon, Gambia (The), Germany, Ghana, Greece, Grenada, Guatemala, Guinea, Guinea-Bissau, Guyana, Haiti, Holy See, Honduras, Hong Kong, Hungary, Iceland, Indonesia, Ireland, Italy, Jamaica, Japan, Kenya, Kiribati, Korea (Republic of), Latvia, Lesotho, Liberia, Liechtenstein, Lithuania, Luxembourg, Madagascar, Malawi, Malaysia, Maldives, Mali, Malta, Marshall Islands, Mauritius, Mexico, Micronesia (Federated States of), Monaco, Mozambique, Namibia, Nauru, Nepal, Netherlands, New Zealand, Nicaragua, Niger, Nigeria, Norway, Palau, Papua New Guinea, Panama, Paraguay, Peru, Philippines, Poland, Portugal, Romania, Rwanda, St. Kitts & Nevis, St. Lucia, St. Vincent and Grenadines, San Marino, Sao Tome & Principe, Senegal, Seychelles, Sierra Leone, Singapore, Slovak Republic, Slovenia, Solomon Islands, Somalia, South Africa, Spain, Sri Lanka, Surinam, Swaziland, Sweden, Switzerland, Taiwan, Tanzania, Thailand, Togo, Tonga, Trinidad & Tobago, Turkey, Tuvalu, Uganda, United Kingdom (The) and all territories thereof, Uruguay, Venezuela, Western Sahara, Western Samoa, Zaire, Zambia, and Zimbabwe.
3	Afghanistan, Albania, Algeria, Andorra, Angola, Armenia, Azerbaijan, Bahrain, Belarus, Bosnia & Herzegovina, Bulgaria, Cambodia, China (People's Republic of), Comoros, Croatia, Djibouti, Egypt, Georgia, India, Israel, Jordan, Kazakhstan, Kuwait, Kyrgyzstan, Laos, Lebanon, Macau, Macedonia (The Former Yugoslavia Republic of), Mauritania, Moldova, Mongolia, Montenegro, Morocco, Oman, Pakistan, Qatar, Russia, Saudi Arabia, Serbia, Tajikistan, Tunisia, Turkmenistan, Ukraine, United Arab Emirates, Uzbekistan, Vanuatu, Vietnam, and Yemen.
4	Cuba, Iran, Iraq, Libya, North Korea, Sudan, and Syria.

¹⁸ Exports of HPC items classified on the Commerce Control List under Export Control Classification Number (ECCN) 4A003 can be exported to Canada with no license required (NLR) rather than under the license exception for high performance computers (CTP). The record keeping requirements do not apply for HPC exports to Canada. Retransfer and reexport restrictions still apply.

APPENDIX IV**Selected Rules Published by the Department of Commerce in 2003**

Publication Date	Federal Register Citation	Rule
1/14/03	68 FR 1796	Revision of Export Controls for General Purpose Microprocessors (Final Rule)
3/5/03	68 FR 10586	Implementation of the 2002 Wassenaar Arrangement List of Dual-Use Items: Revisions to Categories 2, 3, 4, 5, 6, 7, 8, and 9 of the Commerce Control List, General Software Note, and Reporting Requirements
4/2/03	68 FR 16144	Revisions to the Export Administration Regulations Related to the Missile Technology Control Regime (MTCR)
4/3/03	68 FR 16208	Exports and Reexports of Explosives Detection Equipment and Related Software and Technology; Imposition and Expansion of Foreign Policy Controls
6/6/03	68 FR 34192	Imposition and Expansion of Controls on Designated Terrorists
6/10/03	68 FR 34526	Implementation of the Understandings Reached at the June 2002 Australia Group (AG) Plenary Meeting and the AG Intersessional Decision on Cross Flow Filtration Equipment – Chemical and Biological Weapons Controls in the Export Administration Regulations
6/17/03	68 FR 35783	Export Administration Regulations: Encryption Clarifications and Revisions.
6/30/03	68 FR 38599	Exports and Reexports to the Federal Republic of Yugoslavia
9/18/03	68 FR 54655	Revisions to the Export Administration Regulations Based on the 2002 Missile Technology Control Regime Plenary Agreements
10/22/03	68 FR 60288	Addition of Kazakhstan to the Nuclear Suppliers Group (NSG), and other revisions.
10/24/03	68 FR 60891	Computer Technology and Software, and Microprocessor Technology Eligible for Export or Reexport Under License Exception

Publication Date	Federal Register Citation	Rule
12/01/03	68 FR 67030	Revisions and Clarifications to the Export Administration Regulations -- Chemical and Biological Weapons Controls: Australia Group; Chemical Weapons Convention; Correction
12/01/03	68 FR 67147	Impact of Implementation of the Chemical Weapons Convention on Commercial Activities Involving "Schedule 1" Chemicals through Calendar Year 2003