

## CHAPTER 6

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

#### **Export Control Program Description And Licensing Policy**

The United States maintains export controls on certain chemicals, equipment, materials, software, technology, and whole plants to further U.S. foreign policy opposing the proliferation and use of chemical weapons. The United States 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). Export controls on certain chemicals are also maintained in fulfillment of U.S. obligations under the Chemical Weapons Convention (CWC).

#### ***Australia Group Controls***

The AG was formed in 1985 when the United States and 15 other nations joined in imposing export controls on a number of chemicals that could be used to produce chemical weapons. Since then, the AG has expanded its membership and export control list to cover other chemical and biological weapons-related items. Based on this list, export controls are applied by each AG member on a national basis.

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

**A.** The United States requires a license for the export to all destinations, except AG member countries, of the precursor and intermediate chemicals used in the production of toxic chemical warfare agents; relevant process control software; technology for their use, production and/or disposal; and the facilities designed to produce them.

The United States 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 technology for the use of such items.

The countries to which these licensing requirements apply are indicated in Column CB:3 of the Commerce Country Chart, Export Administration Regulations (EAR), Part 738, Supplement No. 1.<sup>1</sup> These items are also controlled to designated terrorist-supporting countries.

In addition to items on the AG list, the United States controls other items subject to the EAR because of chemical or biological end-use or end-user concerns. These controls are part of the 1990 Enhanced Proliferation Control Initiative (EPCI). The United States also 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, specified countries (Country Group D:3, EAR, Part 740, Supplement No. 1<sup>2</sup>). The United States may inform the 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 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 United States will consider 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 BXA determines that an export will make such a contribution, the United States will deny the export.

### ***Trade Restrictions under the Chemical Weapons Convention (CWC)***

The CWC<sup>3</sup>, ratified in April 1997, bans the development, production, stockpiling, and retention of chemical weapons and provides for an extensive verification regime. The CWC Chemicals Annex groups specified chemicals, which include both toxic chemicals and chemical precursors, into three schedules based on 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 risk to the purpose of the CWC and have few commercial applications; the toxic chemicals and precursors on Schedule 2 pose a significant risk to the purpose of the CWC and have certain limited commercial applications; and the toxic chemicals and precursors on Schedule 3 pose a risk to the purpose of the CWC and have wide commercial applications. Chemical warfare agents deemed to have direct military application are controlled by the State Department under the International Traffic in Arms Regulations.

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 are subject to export controls and banned to countries that have not ratified the CWC (States not Party). A license and prior notification of a planned export is required for exports of Schedule 1 chemicals to all State Parties, including Canada.

All exports of Schedule 2 chemicals are prohibited to States not Party.

Shipments of certain Schedule 3 chemicals require a license to State Parties. End-use certificates from the governments of importing countries are required for exports of Schedule 3 chemicals to States not Party.

In addition, the United States has unilaterally imposed a licensing requirement for chemical weapons reasons for the export of technology to produce four chemicals to all States not Party, except Israel and Taiwan.<sup>4</sup> This requirement is the result of interagency discussions stemming from concerns by other agencies of the U.S. Government over the potential chemical weapons use of the four chemicals.

**B.** BXA generally approves applications to export Schedule 1 chemicals to State Parties and generally denies applications to export Schedule 1 chemicals to States not Party.

BXA generally denies applications to export Schedule 2 chemicals to States not Party. BXA also will generally deny an applications to export Schedule 3 chemicals to States not Party unless an end-use certificate from the importing country has been obtained.

The United States reviews exports and reexports of technology related to the development and production of four chemicals, including 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. For Syria, BXA applies a policy of denial for military end-users and end-uses and reviews applications for civilian end-users and end-uses on a case-by-case basis.

### **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 multilaterally-coordinated 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 of December 13, 1990. In so doing, the controls provide the United States 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 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, which prohibits the development, production, stockpiling, retention or transfer of chemical weapons. To ensure that State Parties do not transfer chemicals that could assist States not Party 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 first 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.*** 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 in industrialized countries that are members of the AG and State Parties to the CWC. While 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 United States' overall nonproliferation strategy. Accordingly, the Secretary has determined that these controls are likely to achieve the intended foreign policy purpose.

**2. *Compatibility with Foreign Policy Objectives.*** In extending these controls, the Secretary has determined that the controls are compatible with the foreign policy objectives of the United States. The United States 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 United States has a binding international commitment under the CWC to prohibit and eliminate chemical weapons, and to not assist anyone, in any way, in chemical weapons activities.

**3. *Reaction of Other Countries.*** The Secretary has determined that the reaction of other countries to these controls by the United States is not likely to render the controls ineffective in achieving their intended foreign policy purpose or to be counterproductive to U.S. foreign policy interests. The United States continues to discuss chemical and biological 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 and biological technology. The United States does not consider that the evidence supports this position. In international fora, the United States has sought to dispel this false perception by clarifying the purpose of the controls and by demonstrating that the United States denies very few export requests. All AG members have ratified both the CWC and the BWC and support the full implementation of both treaties.

**4. *Economic Impact on United States Industry.*** The Secretary has determined that the potential impact of these export controls on U.S. industry is minimal. In FY 2001, BXA received 728 license applications, valued at \$726.8 million, for the export or reexport of controlled chemical precursors and equipment. Of these, the United States approved 592 applications, denied two, and returned without action 103; thirty-one applications were still pending at the close of FY 2001. 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 countries without a license.

**5. *Enforcement of Control.*** 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, BXA 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, BXA'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**

BXA maintains ongoing interaction with the chemical industry on several levels: through individual companies seeking export licenses; through the Technical Advisory Committees (TACs); and through trade associations. BXA 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, BXA keeps industry representatives abreast of proposals for the review of items on the control list and gives them the opportunity to provide technical input.

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

On November 7, 2001, the Department of Commerce, via the *Federal Register* and the BXA Web page, solicited comments from industry on the effectiveness of foreign policy-based export controls. A more detailed review of the comments is available in Appendix I.

Goulds Pumps recommended the deletion of ECCN 2B350i from Category 2, stating that foreign availability of products that fall under this ECCN causes export controls placed upon these items to be ineffective and thus adversely impact U.S. companies' competitive position. Gould Pumps stated that the license process hinders the company's short lead-time business that necessitates shipping within four to six weeks following order placement.

#### **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. 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 like-minded export controls. The United States 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 United States 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 U.S.-origin 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 United States has used, and will continue to use, in an attempt to curb the use and spread of chemical weapons include:

- U.S. legislation: The Chemical and Biological Weapons Control and Warfare Elimination Act of 1991 (Title III, Pub. L. 102-182) provides for the imposition of sanctions on foreign entities and countries for certain kinds of chemical and biological weapons-related activity. The United States has imposed sanctions on certain entities for chemical weapons-related activities.
- 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 non-State Parties and creates an international organization to monitor the destruction of chemical weapons and the production, use, and trade of toxic chemicals and chemical precursors for industrial, agricultural, medical, and other peaceful purposes in countries party to the CWC.

BXA 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 is forwarded to the Organization for the Prohibition of Chemical Weapons (OPCW). BXA also escorts inspectors from the OPCW as they inspect certain U.S. chemical production 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 BXA 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 of these countries have acceded to the CWC and will take steps under this treaty to prevent chemical weapons proliferation.

## ***ENDNOTES***

1. *As of the date of this report, 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.*
2. *As of January 4, 2002, 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.*
  3. *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.*
  4. *A license also is required to export this technology for antiterrorism (AT) reasons.*