



U.S. Department of Commerce

**Bureau of Industry and Security**

Annual Report to the Congress for Fiscal Year 2016

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## Bureau of Industry and Security Fiscal Year 2016 Annual Report

This report summarizes the activities of the Department of Commerce’s Bureau of Industry and Security (BIS) during Fiscal Year 2016, from October 1, 2015, through September 30, 2016.



*Under Secretary Eric L. Hirschhorn*

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*“The success of [Export Control Reform] reflects a strong interagency partnership and the significant effort, commitment, and cooperation at all levels of the U.S. Government.” – Remarks to the Legal Aspects of Trade Conference, June 2016.*

### **Background on BIS**

BIS advances U.S. national security, foreign policy, and economic objectives by ensuring an effective export control and treaty compliance system, and by promoting continued U.S. leadership in strategic technologies. BIS accomplishes its mission by maintaining and strengthening adaptable, efficient, and effective export control and treaty compliance systems.

BIS administers and enforces controls on the export of items with chiefly commercial uses that can also be used in conventional

arms, weapons of mass destruction, terrorist activities, or human rights abuses; less sensitive military items transferred from the Department of State under the President’s Export Control Reform (ECR) initiative; most commercial satellite and spacecraft items; and timber. BIS administers and enforces these controls in coordination with several other agencies. BIS implements these controls through the Export Administration Regulations (EAR). The EAR set forth license requirements and licensing policy for exports of these items.

Enforcement is an essential aspect of the BIS mission. Enforcement efforts encourage compliance, prevent and deter violations, disrupt illicit activities, and bring violators to justice. BIS achieves these important objectives through a law enforcement program focused on parties engaged in the export of sensitive commodities, software, and technology to end uses, end users, and destinations of concern.

BIS plays a significant role in the four major multilateral export control regimes and three treaties that cover different industry sectors: the Australia Group (chemical and biological nonproliferation), the Missile Technology Control Regime, the Nuclear Suppliers Group, the Wassenaar Arrangement (conventional arms and related goods, software, and technologies), the Chemical Weapons Convention (chemical weapons nonproliferation), the Additional Protocol to the U.S.-International Atomic Energy Agency Safeguards Agreement (nuclear weapons nonproliferation), and the

Biological Weapons Convention (biological weapons nonproliferation).

BIS also is responsible for a number of functions related to the defense industrial base, including conducting industry sector surveys and participating in the interagency Committee on Foreign Investment in the United States (CFIUS) process, and enforcing prohibitions related to certain foreign boycotts.



*Deputy Under Secretary Daniel O. Hill*

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BIS consults closely with industry on the development of regulatory policy through its Technical Advisory Committees (TACs). The TACs provide valuable industry input on trends in technology and the practicality and likely impact of export control developments. BIS also conducts numerous outreach events throughout the United States and overseas to educate and update the public on export controls and policy.

### **Export Control Reform**

In 2009, President Barack Obama directed the agencies involved in administering the U.S. export control system to conduct a broad-based review of export controls in order to enhance national security. This

review led to the ECR initiative. One of the key aspects of ECR has been the effort to move less sensitive items (primarily parts and components) from the less flexible U.S. Munitions List (USML) of the International Traffic in Arms Regulations (ITAR), administered by the Department of State, to the more flexible Commerce Control List (CCL) of the Export Administration Regulations (EAR), administered by BIS. This effort is increasing military interoperability with allied countries, strengthening the U.S. industrial base by reducing incentives for foreign manufacturers to design out and avoid using U.S. parts and components, and allowing the U.S. Government to focus resources on the most serious national security and proliferation concerns.

By December 31, 2016, 18 out of 21 USML Categories will be revised and in effect.

### *Continued Regulatory Efforts under ECR*

Over the course of fiscal year 2016, BIS and its interagency partners continued to publish proposed and finalized controls for additional groups of items. On February 19, 2016, BIS and the Department of State (State) published a second round of proposed revisions to fire control, lasers, imaging, and guidance equipment controlled in USML Category XII and the CCL. The two agencies published final rules for these controls on October 12, 2016, just after the end of the fiscal year. The revisions to this category become effective on December 31, 2016. In addition, on July 28, 2016, the two agencies published final rules to revise controls for toxicological items controlled in USML Category XIV and directed energy weapons under USML Category XVIII. These revisions will also become effective on December 31, 2016.

BIS and State also continued to seek public comments and to publish proposed changes for USML categories and corresponding CCL controls that have already been revised under ECR in order to ensure that such categories are clear, do not inadvertently control items in normal commercial use on the USML, and account for technological developments. On October 9, 2015, both agencies published notices of inquiry seeking public comment on USML Categories VI, VII, XIII, XX, and related CCL controls. On February 9, 2016, the two agencies published proposed rules revising controls for USML Categories VIII and XIX and related CCL controls. BIS anticipates continuing this process during the upcoming fiscal year.

#### *Harmonizing Definitions under the EAR and ITAR*

An additional aspect of ECR is to amend the EAR and ITAR to facilitate enhanced compliance while reducing unnecessary regulatory burdens. The two sets of regulations have evolved separately over decades with little coordination between BIS and State on the rules' structure and content. Thus, the EAR and ITAR often use different words, or the same words differently, to accomplish similar regulatory objectives.

Following proposed rules published on June 3, 2015, BIS and State published final rules on June 3, 2016. These final rules revised certain definitions within the EAR and ITAR. Within the EAR, BIS revised or defined important defined terms, including "export," "fundamental research," "release," and "transfer." Of note, the BIS final rule also clarified the scope of a BIS technology license, excluded certain activities from the definition of "deemed reexport," and clarified the application of controls to

electronically transmitted and stored technology and software.

#### *ECR Educational and Outreach Activities*

During the fiscal year, BIS continued to expend significant resources to inform the regulated community about ECR as additional revised USML categories and CCL controls became effective. BIS conducted more than 92 ECR outreach activities that reached more than 9,925 participants. These outreach activities included weekly teleconferences on specific ECR topics hosted by the Assistant Secretary of Commerce for Export Administration, BIS seminars, industry group meetings and seminars, small and medium-sized business conferences, webinars, and meetings with foreign governments. Further, BIS continued to utilize web-based decision tools to assist exporters. In FY 2016, the decision tools on the BIS website received more than 34,000 hits. In addition to outreach with the public, BIS continued to support U.S. Customs and Border Protection (CBP) and other law enforcement agencies around the United States with updated training materials. Also, BIS continued to work with CBP to implement and announce new requirements for the Automated Export System as additional final rules were published and became effective throughout the fiscal year.

#### *Strengthening Safeguards under ECR*

An additional key aspect of ECR is to create more effective safeguards, or "higher fences," to keep the most sensitive items and technology away from foreign entities that seek to harm our national interests. In FY 2012, the Administration established the Information Triage Unit (ITU), which is hosted and administered by BIS. The ITU is responsible for assembling, analyzing, and

disseminating information from all sources to inform agencies about the bona fides of foreign parties to a license application. During FY 2016, the ITU supported 484 license applications.

On December 19, 2013, BIS published a final rule strengthening the Unverified List. This change enhances BIS's ability to conduct end-use checks and increases U.S. Government insight into potential transactions of concern involving foreign parties whose *bona fides* BIS has been unable to verify. In rules published on October 7, 2015 and June 21, 2016, BIS added 48 persons to, amended five entries on, and removed two persons from the Unverified List. Listed persons are ineligible to receive items under a license exception and must sign a specific end-use statement consenting to an end-use check before receiving items not subject to a license requirement.

BIS and State also coordinated on end-use checks where USML and CCL items are co-located. As a result of ECR, opportunities for such coordination have increased where "600 series" parts and components are exported to the same location as USML end items.

Executive Order 13558 created the Export Enforcement Coordination Center. The Center strengthens the enforcement of U.S. export laws through the facilitation of partner agency communication and collaboration to keep our nation safe. The Department of Homeland Security (DHS) manages and operates the Export Enforcement Coordination Center. There are two Deputy Directors, one from the Department of Commerce and one from the Department of Justice.

### *ECR Licensing and Export Statistics*

In FY 2016, BIS processed 14,265 export license applications for exports of "600 series" items that transferred from the USML to the CCL; of the "600 series" licenses, BIS approved 12,945 license applications (90.7 percent), returned 1,274 applications without action (8.9 percent), and denied 46 applications (0.3 percent). In FY 2016, BIS's average processing time to review a license application for "600 series" items was 17.6 days.

Military aircraft and related commodities under ECCN 9A610 was the category of approved license applications with the highest total value (\$20.2 billion), followed by military gas turbine engines and related commodities (9A619 - \$12.4 billion), and military electronics (3A611 - \$7.9 billion).

For fiscal year 2016, U.S. companies exported over 141,650 shipments for a value of over \$4.8 billion for "600 series" items, and over 2,032 shipments for a value of over \$2.6 billion for 9x515 items (spacecraft and related items).

Japan, Canada and the United Kingdom received the largest value of "600 series" items from the U.S. under a BIS authorization. U.S. exporters used a BIS license authorization, License Exception Strategic Trade Authorization, and a "No License Required" designation to Canada most often (by value) to export "600 series" items.

French Guiana, Mexico, and France received the largest value of 9x515 items from the U.S. under a BIS authorization. U.S. exporters used the "No License Required" designation, BIS license authorization and License Exception

Strategic Trade Authorization most often (by value) to export 9x515 items.

The top exports by value of “515 Series” items were classified under 9A515 - \$2.6 billion (“Spacecraft” and related commodities) and 9B515 - \$10.5 million (“Test, inspection, and production “equipment” “specially designed” for “spacecraft” and related commodities”).

### **Revisions to Export Controls for Cuba**

On December 17, 2014, the President changed the United States’ policy to chart a new course in bilateral relations with Cuba and to further engage and empower the Cuban people. This new policy built upon actions taken since 2009 that supported the ability of the Cuban people to gain greater control over their own lives and determine their country’s future.

BIS published three rules in 2016 to further implement the President’s new Cuba policy. On January 27, 2016, BIS revised the licensing policy for exports and reexports to Cuba. BIS published a second rule on March 16, 2016, that made additional revisions to the licensing policy and certain license exceptions for Cuba. On October 17, 2016, BIS published a third rule that expanded the scope of certain license exceptions that are available for Cuba.

Pursuant to a number of laws, the United States continues a comprehensive embargo on trade with Cuba. Pursuant to that embargo, all items that are subject to the Export Administration Regulations (EAR) require a license for export or reexport to Cuba unless authorized by a license exception. BIS administers export and reexport restrictions on Cuba consistent with U.S. policy and relevant law. Accordingly, BIS may issue specific or general

authorizations in the form of licenses or license exceptions for transactions that support the goals of United States policy while the embargo remains in effect.

### **Removal of Short Supply Controls on Crude Oil**

On December 18, 2015, a provision in the “Consolidated Appropriations Act, 2016” that removed longstanding statutory limitations on the export of crude oil from the United States, took effect. As a result, short supply license requirements that applied to exports of crude oil from the United States were removed from the EAR, and crude oil previously classified as Export Control Classification Number 1C981 is now designated as EAR99. Crude oil exports are treated similar to exports of petroleum products. As an EAR99 item, crude oil remains subject to the EAR, and exports of crude oil continue to require authorization from BIS to embargoed or sanctioned countries and to persons subject to denial of export privileges. While limitations on the export of crude oil were removed immediately when the “Consolidated Appropriations Act, 2016” took effect, BIS published a final rule on May 12, 2016, that implemented the changes to the short supply controls and made other regulatory changes to bring the EAR into full conformity with the act.

### **Russia Sanctions**

In FY 2016, BIS published two regulations to ensure the efficacy of the existing sanctions on the Russian Federation for violating international law and fueling the conflict in eastern Ukraine. These rules added a total of 97 entities to the Entity List. These entities were added for acting contrary to U.S. national security or foreign policy interests, specifically for violating

international law and fueling the conflict in eastern Ukraine.

## Cyber Tools

In May 2015, BIS took the extraordinary step of publishing a proposed rule to implement the cyber tools entries agreed to at Wassenaar in 2013. In response to the proposed rule, BIS received substantial commentary on potential unintended consequences of these Wassenaar 2013 entries as well as our proposal to implement them in the EAR. Based on this feedback, and as a result of extensive outreach efforts and U.S. Government review, BIS submitted a proposal to the Wassenaar Arrangement this year to try to address some of the unintended consequences of the entries. Discussions on this proposal are ongoing. However, BIS has committed to not implementing domestically any regulations on these controls without first giving the public an opportunity to participate through the notice and comment process of a proposed rule.

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*(Please see Appendix H for additional export control reform information.)*

## Export Control Policy and Regulations



*Assistant Secretary for Export Administration Kevin J. Wolf*

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*“[Export controls] exist for serious national security and foreign policy purposes of common interest.” – Remarks to the BIS Update Conference, November 2015.*

## Export Licensing

### Export License Processing

In FY 2016, BIS processed 33,615 export license applications. This marked a 5.2% decrease from the 35,447 applications processed in FY 2015. BIS approved 28,761 license applications (85.6 percent), returned 4,552 applications without action (13.5 percent), and denied 302 applications (.9 percent). In FY 2016, BIS’s average processing time to review a license application was 22.4 days. This includes time for reviews by other agencies.

Instrumentation and navigation systems/equipment (7A103) was the ECCN with the highest total value of approved license applications. The greatest number of license application approvals under a single commodity classification was for Military

Aircraft and related commodities (ECCN 9A610), with 5,731 approved applications for exports and reexports worth \$20.2 billion.

### **License Applications Escalated for Interagency Resolution**

Under Executive Order 12981, BIS's Operating Committee (OC) – with membership including the Departments of Commerce, Defense, Energy, and State – is tasked with resolving interagency disagreement on specific license applications. In FY 2016, 329 cases were escalated to the OC for dispute resolution. Of those 329 cases, 36 were further escalated to the Assistant Secretary-level Advisory Committee on Export Policy for resolution.

### **Exports under License**

BIS obtains data from the Bureau of the Census (Census) on exports subject to BIS licensing requirements to evaluate the impact of controls on U.S. exports. For calendar year 2015 (the most recent data available to BIS for this report), U.S. companies exported \$14.1 billion of licensed items. Crude petroleum exports were responsible for 60.3 percent of the value of licensed exports (\$8.5 billion). BIS-licensed exports represented 0.9% of total U.S. exports. Exports under a BIS license exception totaled \$23.6 billion, representing 1.6 percent of overall U.S. exports.

BIS continues to work with Census and the Department of Homeland Security's U.S. Customs and Border Protection to improve the Automated Export System (AES) and to increase exporter compliance with the EAR. In FY 2016, export reports through the AES portal were made available to U.S. exporters to review export transactions filed in AES.

### **Commodity Classifications**

To ascertain whether an export license is required from BIS, an exporter needs to classify the item to be exported by determining the ECCN and may request an official classification from BIS. In FY 2016, BIS processed 5,502 classification request applications, including encryption requests, in an average of 23 days.

Although exporters are encouraged to self-classify items, they often seek official classification determinations from BIS for business, recordkeeping, or other reasons unrelated to whether a classification could be determined without ambiguity.

### **Validated End-User Program**

In FY 2016, there were 11 Validated End Users (VEUs) in China with 46 locations and one in India with two locations. BIS amended the authorizations of five VEUs in FY 2016 and revised the entries of those VEUs in Supplement No. 7 to Part 748 of the EAR.

Since the July 2007 start of the VEU program, U.S. companies have made approximately 883 shipments totaling about \$661 million worth of controlled items to the VEUs, including 109 export shipments worth approximately \$7.8 million to VEUs in FY 2016.

### **Commodity Classification Determinations and Licensing of Encryption Items**

The FY 2010 removal of the commodity classification determination requirements for less sensitive encryption items resulted in a significant decrease in the number of encryption commodity classification requests. The 874 requests processed in FY 2016 shows a continuing decline in these

submissions – more than 200 fewer than were processed last year. The number of licenses has remained steady over the past three years despite increased use of encryption licensing arrangements, which authorize unlimited shipments of encryption products with notification and reporting requirements.

### **Commodity Jurisdiction Determinations**

A commodity jurisdiction (CJ) request is used to determine whether an item or service is subject to the export licensing authority of the Department of Commerce or the Department of State, Directorate of Defense Trade Controls (DDTC). Exporters may request a CJ determination by submitting the request to DDTC, which has final jurisdiction determination authority. According to the latest data available, calendar year 2015, BIS provided recommendations to the State Department on 1,160 CJ requests.

### **Export Compliance Program**

In FY 2016, BIS's Export Management and Compliance Division (EMCD) conducted 17 Export Management and Compliance Program (EMCP) reviews of corporate written compliance programs and conducted three seminars on how to develop an EMCP in Pittsburgh, Minneapolis, and Buffalo. In addition, EMCD conducted a webinar in March 2016 – that had over 1200 participants – on the elements of an effective EMCP. The webinar has been uploaded on the compliance page of the BIS website.

EMCD reviewed items exported under license exception Strategic Trade Authorization (STA). Fifty four STA reviews were completed during FY 2016. Of the 54 STA export reviews, 39 were completely compliant with STA

requirements, seven evinced minor technical errors, five exports were covered under authorizations other than license exception STA, and three were non-compliant and referred to Export Enforcement for further review. BIS's Munitions Control Division also conducted 60 license exception export reviews associated with "600 series"-related shipments.

During FY 2016, EMCD, working with BIS's Office of Technology Evaluation, initiated reviews of AES records to confirm appropriate compliance with EAR requirements. These reviews detected information in AES that was not consistent with EAR requirements. EMCD conducted 40 on-site visits in 10 different U.S. states to parties with AES filing errors and others of interest during FY 2016. EMCD met with exporters to understand better the specific reasons that errors occurred, find out what export compliance procedures they had in place, and offer export counseling assistance.

In July 2016, BIS deployed a new function in AES that provides the remaining balance of the license value to AES filers when the filer transmits electronic export information in AES. By doing so, the program will improve exporters' compliance with the shipping tolerance regulations in the EAR, which limit the export of items beyond the value shown on a license. AES will provide an alert message to the filer if the value of the license shipment exceeds the tolerance allowed on that license.

### **License Determinations**

License Determinations (LDs) are used to support enforcement actions by BIS and other agencies connected with potential violations of the EAR. In making LDs, BIS licensing officers analyze the commodities

and technologies involved in potential violations to determine the proper classification of the item and the licensing policy associated with it based on the specific facts of the case. LDs are the first step in many successful enforcement actions, as they help to determine whether or not a violation has occurred. In FY 2016, BIS completed 686 enforcement LDs for BIS's Office of Export Enforcement in an average of 18 days. In addition, BIS processed 1,350 LDs for the Federal Bureau of Investigation and the Department of Homeland Security in support of investigations of potential unlawful exports.

## **Foreign Policy-Based Controls**

### **Entity List-related Developments**

In FY 2016, BIS implemented the decisions of the End-User Review Committee (ERC), the interagency group that administers the Entity List, and published six Entity List-related rules. BIS published two additional Entity List-related rules that added entities specifically to help ensure the efficacy of existing sanctions on Russia.

The Entity List identifies foreign parties that are prohibited from receiving some or all items subject to the Export Administration Regulations (EAR) unless the exporter first secures a license. Those persons present a greater risk of diversion to weapons of mass destruction (WMD) programs, terrorism, or other activities contrary to U.S. national security or foreign policy interests. By publicly listing such persons, the Entity List is an important tool to prevent unauthorized trade in items subject to the EAR.

BIS can add to the Entity List a foreign party, such as an individual, business, research institution, or government organization, for the reasons cited above. In

most instances, license exceptions are unavailable for the export, reexport, or transfer (in-country) to a party on the Entity List of items subject to the EAR. Rather, a license is required for such transactions, and a license application is usually subject to a policy of denial. The prohibitions and license application review policy applicable to a particular party are set forth with that party's entry on the list. Procedures for removal from the Entity List appear in section 744.16 of the EAR. General Orders also may restrict exports to named individuals or entities.

Through publication of these six rules, 101 persons were added to the Entity List for acting contrary to the national security or foreign policy interests of the United States. An additional 97 persons were added to the Entity List specifically related to ensuring the efficacy of existing sanctions on Russia. Additionally, nineteen persons were removed from the Entity List in response to requests for removal, pursuant to the provisions of Section 744.16.

## **Export Enforcement**



*Assistant Secretary for Export Enforcement  
David W. Mills*

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*“Export Enforcement is committed to partnering with industry to comply with the EAR. Enhanced compliance and enforcement measures create effective safeguards to deter the diversion and misuse of EAR items and protect your reputation, investments, and profitability. Export Enforcement stands ready to assist you to assist us in securing America’s trade.”* – Remarks to the BIS Update Conference, November 2015.

### **New Administrative Enforcement Guidelines**

On June 22, 2016, BIS published an updated Guidance on Charging and Penalty Determinations in Settlement of Administrative Enforcement Cases (the BIS Guidelines). The new Guidelines promote greater transparency and predictability to the administrative enforcement process. The BIS Guidelines are found in Supplement No. 1 to part 766 of the EAR. The BIS Guidelines aim to make civil penalty determinations more predictable and transparent to the public and aligned with those promulgated by the Treasury Department’s Office of Foreign Assets Control (OFAC). OFAC administers most of its sanctions programs under the International Emergency Economic Powers Act (IEEPA), the same statutory authority by which BIS implements the EAR. OFAC uses the transaction value as the starting point for determining civil penalties pursuant to its Economic Sanctions Enforcement Guidelines. Under IEEPA, criminal penalties can reach 20 years imprisonment and \$1 million per violation, and administrative monetary penalties can reach \$250,000 (subject to adjustment in accordance with U.S. law, e.g., the Federal Civil Penalties Inflation Adjustment Act Improvements Act of 2015 (Pub. L. 114–74, sec. 701)) or twice the value of the

transaction, whichever is greater. Both agencies coordinate and cooperate on investigations involving violations of export controls that each agency enforces, including programs relating to weapons of mass destruction, terrorism, Iran, Sudan, Specially Designated Nationals and Specially Designated Global Terrorists.

### **Penalties**

BIS investigations in FY 2016 resulted in the criminal conviction of 32 individuals and businesses for export violations, as compared to 31 convictions in FY 2015. The penalties for these convictions came to \$274,500 in criminal fines, more than \$79,077,400 in forfeitures, and more than 883 months of imprisonment, compared to \$156,416,030 in criminal fines, more than \$84,496,015 in forfeitures, and more than 487 months of imprisonment in FY 2015.

In FY 2016, BIS investigations resulted in the completion of 39 administrative export and antiboycott actions against individuals and businesses and \$23,323,000 in civil penalties, as compared to 51 actions and \$15,111,200 in civil penalties in FY 2015. Of the 39 actions closed in FY 2016, four involved antiboycott violations that resulted in total civil penalties of \$268,000.

### **Prevention and Compliance**

In FY 2016, BIS continued to emphasize its enforcement activities that focus on prevention and compliance. Export Enforcement officials participate in the export licensing process by making recommendations on license applications, detaining shipments that may have been undertaken in violation of the EAR, and in some significant cases seeking the issuance of Temporary Denial Orders to prevent imminent export violations.

End-use checks continue to serve as a valuable safeguard and preventive enforcement tool for verifying the bona fides of foreign end-users, ensuring that exported items have been or will be properly used as authorized, and that license conditions are adhered to. BIS end use checks have been effective in revealing unauthorized end uses, including improper or unauthorized diversion, of items subject to BIS jurisdiction.

In FY 2016, BIS completed 985 end-use checks in 55 countries. Of these, 78 were Pre-License Checks (PLCs), which are conducted to prevent the export of sensitive items to unreliable parties, and 907 were Post-Shipment Verifications (PSVs), which assist the U.S. Government in monitoring such transactions to conclusion.

Approximately 57 percent of the checks were conducted by BIS Export Control Officers (ECOs) stationed at U.S. Embassies and consulates in Frankfurt, Beijing, Hong Kong, New Delhi, Dubai, and Singapore, who also have regional responsibilities. The remaining checks were conducted by Office of Export Enforcement Special Agents and Analysts deployed from the United States, or by Foreign Commercial Service Officers and support personnel stationed at various U.S. Embassies. BIS uses the results of the negative checks to prevent future exports to unsuitable end users and to take enforcement action where appropriate.

Pursuant to Section 1213 of the National Defense Authorization Act of 1998, there were no PSVs conducted on high performance computers in “Computer Tier 3” eligible countries during FY 2016, as there were no licenses issued for the specified items.

In situations where an end-use check indicates that a diversion of U.S.-origin goods has or may have occurred, or because the U.S. Government was unable to conduct the check or was otherwise unable to verify the existence or authenticity of the end user, the end user may be considered for inclusion on the Entity List or the Unverified List. Persons listed on the Unverified List are ineligible to receive items subject to the EAR by means of a license exception. Such persons must also sign an end-use statement consenting to an end-use check before receiving any items not subject to a license requirement. In FY 2016, BIS added 48 persons in Canada, Czech Republic, Finland, Georgia, Hong Kong, India, Latvia, Singapore, Switzerland, and the United Arab Emirates (UAE) to, and removed one Hong Kong person and one Pakistan person from, the Unverified List.

BIS completed a significant number of additional preventive enforcement actions in FY 2016, including the issuance of 570 warning letters, 262 detentions, and 96 seizures. One Temporary Denial Order and two Temporary Denial Order renewals were also completed. Fourteen Denial Orders and one amended order were issued under Section 11(h) of the EAA (which authorizes denial of export privileges of parties convicted under certain Federal statutes), and 1,611 outreach contacts were made with industry.

### **Antiboycott Activities**

The United States has long opposed the Arab League boycott of Israel. The antiboycott provisions of the Export Administration Act of 1979 were adopted to encourage or require U.S. persons to refuse to participate in foreign boycotts that the U.S. does not sanction.

During FY 2016, four companies agreed to pay civil penalties totaling \$268,000 to settle allegations that they violated the antiboycott provisions of the EAR, as compared to four companies that agreed to pay civil penalties totaling \$98,200 in FY 2015.

In FY 2016, through the Office of Antiboycott Compliance (OAC), BIS responded to 1,488 requests from U.S. companies for guidance on compliance with the antiboycott provisions of the EAR. BIS continued to reach out to exporters, manufacturers, freight forwarders, bankers, and attorneys involved in international trade, and to provide extensive counseling to individual companies with boycott-specific concerns.

OAC provided counseling to several U.S. entities seeking to remove boycott-related language from tenders and contracts originating in Bahrain, Bangladesh, and Qatar. OAC also continued to work with the U.S. Embassy in Baghdad to assist U.S. firms seeking to register their patents in Iraq and remove boycott-related language from government procurement tenders.

During FY 2016, officials from the Departments of Commerce, State, and the Treasury, and from the Office of the U.S. Trade Representative, approached individual member governments at Arab League meetings, regional summits and conferences, and in other contexts, to underline U.S. opposition to the Arab League boycott of Israel, and to encourage Arab League members to improve their commercial and diplomatic ties with Israel. This message resonates with many Arab League members because they recognize that the Arab League boycott serves as a barrier to participating in the global economy, to attracting foreign investment, and to expanding trade in the region. They also recognize that the Arab

League boycott has not stifled Israel's growing economy. As a result, several Arab League members have diminished enforcement of what they consider to be the secondary and tertiary aspects of the Arab League boycott. In addition, U.S. Embassies throughout the Middle East and North Africa continue to highlight and brief host governments regarding incidents of boycott-related requests made by local companies and government agencies in contracts and commercial documents sent to U.S. firms.

U.S. companies and their subsidiaries have encountered a significant number of boycott-related requests from Iraq in recent years. Data compiled by OAC indicate prohibited requests received by U.S. firms have increased from nine in FY 2008 to 51 in FY 2016, continuing a trend which OAC has monitored for over a decade. All of the prohibited requests reported to OAC in FY 2016 were contained in invitations to bid from the Iraqi Ministry of Health (MOH) requesting information about a firm's business relationship with Israel. While the Iraqi government agreed in 2014 that bidders on MOH tenders would no longer need to certify compliance with the Arab League boycott of Israel, U.S. companies still encounter boycott-related documentation requirements, particularly in the medical and pharmaceutical sectors.

*For additional information related to significant BIS enforcement activities, see Appendices C and D.*

## **Industry Outreach Activities**

### **Seminars and Conferences**

BIS's export outreach and educational offerings constitute the first line in BIS's contact with U.S. exporters and provide

guidance and transparency to new, as well as experienced, exporters regarding the EAR. BIS counseling operations have been instrumental in assisting the exporting community in understanding and complying with critical national security and foreign policy-based regulations. Each year, counselors in the BIS Office of Exporter Services' Outreach and Educational Services Division and Western Regional Office provide regulatory, policy and process guidance to tens of thousands of exporters, forwarders, universities and individuals, enabling them to meet their obligations under the EAR.

In FY 2016, BIS updated its outreach and educational content in furtherance of the ECR Initiative and related regulatory developments. BIS continued outreach activities designed to educate industry on these regulations. BIS's activities included seminars, webinars, teleconferences, and on-location panel sessions at various conferences. For example, Assistant Secretary Wolf spoke weekly via teleconference with industry representatives on the ECR rules, which govern how items previously on the USML are controlled on the CCL. These weekly teleconferences allowed BIS to address specific questions from the business community. Since beginning the weekly teleconferences, we have offered 217 sessions heard by over 15,000 listeners in the United States and elsewhere. These calls educated the regulated community on the reform rules and helped elicit useful stakeholder feedback.

One-on-one counseling assistance is provided on both coasts for extended periods of operation each day. In addition, counselors conduct numerous highly regarded and cost-effective seminars throughout the United States in the high

technology communities most affected by these regulations. Over the past few years, BIS has also developed additional capabilities to offer training online. These services have been particularly useful for small and medium-sized businesses that operate with more limited compliance resources.

In FY 2016, BIS reached 2,165 individuals through one or more of the Bureau's 21 domestic export control seminars conducted in 12 states. These seminars provided guidance to new and experienced exporters regarding the EAR, changes in export policy, and licensing procedures, as well as technical data issues. Ninety-three percent of attendees rated the seminars either "good" or "excellent" in FY 2016. BIS also participated as a speaker or with information booths at 14 additional events hosted by other organizations.

BIS held its 28th annual Update Conference on Export Controls and Policy on November 2-4, 2015, in Washington, D.C. The conference attracted over 1,100 participants. Under Secretary of Commerce for Industry and Security Eric L. Hirschhorn and Assistant Secretary of Commerce for Export Administration Kevin J. Wolf provided updates on the successful progress of the Export Control Reform Initiative. Assistant Secretary of Commerce for Export Enforcement David Mills provided an update on Export Enforcement, highlighting trends and several recent enforcement actions taken by BIS. Assistant Secretary Wolf again offered an open forum session which permitted participants to interact on issues relating to USML and CCL changes, industry advisory committee perspectives, and export controls and services for small and medium size enterprises. Update 2015 Conference information, including speeches,

videos and presentations, is available on the BIS website.

BIS held its 11th annual Export Control Forum in California on April 20-21, 2016 and attracted over 150 attendees, many of whom represented technology firms.

On its website, BIS provides an introductory series of easy-to-use training modules. Six of those modules mirror content provided in the “Complying with U.S. Export Controls” seminars that BIS offers around the United States. This service offers exporters and reexporters – particularly small and medium-sized enterprises – a cost-saving mechanism to learn about U.S. export controls.

BIS supports the interagency Trade Promotion Coordinating Committee (TPCC) as part of the TPCC’s U.S. Export Pavilion and Trade Officer Training Conference. It also participates on its own in a number of trade related events. In FY 2016, BIS participated in five trade shows, including one SelectUSA event sponsored by the Department of Commerce; the National Customs Brokers and Forwarders Association of America (NCBFAA); the Association of Export Control Officers (AUECO); the Association of Small Business Development Centers (ASBDC); and the American Association of Exporters and Importers (AAEI). BIS also participated in numerous industry events focused on specific issues, such as revised controls on exports to Cuba and Russia sanctions.

BIS continued to support the Census Bureau’s coordinated AES compliance seminars. In FY 2016, BIS participated in seminars in 13 U.S. cities on how to properly determine licensing requirements and report export control requirements in the

AES. In addition, BIS prepared exporters and forwarders for the changes in the AES to accommodate ECR.

BIS provided updated training information to U.S. Customs and Border Protection’s Outbound Division to ensure that port officers understand the ECR regulatory changes affecting controlled items in order to facilitate legitimate exports and disrupt unauthorized ones.

In addition, BIS continued to focus on the enforcement aspects of expanded outreach and deemed export compliance involving individuals and companies that had not previously submitted applications for actual or deemed export licenses. In FY 2016, BIS’s Office of Export Enforcement conducted more than 743 enforcement outreach visits to such individuals and companies within the export community. BIS also initiated 61 leads and cases involving allegations of deemed export licensing violations.

### **Project Guardian**

BIS maintains a constructive and cooperative relationship with the business community through outreach programs sponsored by BIS’s Export Enforcement arm. BIS’s Project Guardian focuses on specific goods and technologies that illicit proliferation networks actively seek to acquire. BIS contacts U.S. manufacturers and exporters of these goods and technologies to apprise them of these acquisition threats and to solicit cooperation in identifying and responding to suspicious purchase requests. In FY 2016, BIS initiated 231 Project Guardian leads and conducted 148 Project Guardian outreach contacts.

## **Counseling**

BIS received more than 29,159 phone and email inquiries through its counseling programs at BIS's Outreach and Educational Services Division in Washington, DC, and at the Western Regional Office in California. Through these programs, BIS provides guidance on regulations, policies, and practices and helps to increase compliance with U.S. export control regulations.

## **International Cooperation**

BIS participated in the G-7 contact sanctions group meetings on Russia sanctions. These meetings resulted in comparable U.S. and European Union sanctions on Russia.

BIS staff participated in bilateral discussions with Australia, Bangladesh, Belgium, Canada, China, Estonia, Finland, Germany, Hong Kong, Hungary, India, Israel, Japan, Malaysia, the Netherlands, the Republic of Korea, Singapore, Switzerland, Taiwan, Turkey, the United Arab Emirates, and the United Kingdom. BIS posted guidance on its website advising U.S. exporters about trade control requirements in 20 jurisdictions to promote compliance and to facilitate secure exports of U.S.-origin items to these destinations. This included providing due diligence resources to help U.S. exporters assess the legitimacy of new customers in these countries.

BIS continued to support State's Export Control and Border Security program by providing technical expertise.

## **International Regimes and Treaty Compliance**

BIS plays an important role in the U.S. Government's efforts to develop and refine the control lists and operational guidelines

for the four major multilateral export control regimes: the Australia Group (chemical and biological weapons), the Missile Technology Control Regime, the Nuclear Suppliers Group, and the Wassenaar Arrangement (conventional arms and related items).

### **Australia Group**

The Australia Group (AG), a multilateral export control regime, was formed in 1985 to help stem the proliferation of chemical and biological weapons through harmonized export controls. The AG now includes 41 countries and the European Union.

The AG meets annually and communicates between meetings to review and refine the list of controlled chemicals, biological agents, and related equipment and technology. The 2016 Intersessional Implementation Meeting was held February 1-2, in Brussels, Belgium. The 2016 Plenary Meeting was held June 6-10 in Paris, France. On June 7, 2016, BIS implemented changes to the CCL resulting from the Australia Group February 2015 intersessional decisions and the June 2015 plenary understandings. These regulatory changes are described in Appendix A of this report.

In FY 2016, BIS approved 3,549 license applications valued at \$1.1 billion for the export or reexport of items controlled by the AG. BIS denied eight license applications valued at \$5,939,428, and returned without action 171 license applications valued at \$169 million.

### **Missile Technology Control Regime**

The United States is a member of the Missile Technology Control Regime (MTCR), a multilateral export control

regime established in 1987. The MTCR currently includes 35 member countries that have agreed to coordinate their national export controls to prevent missile proliferation.

The annual MTCR Plenary was held in October 2015 in Rotterdam, Netherlands. Partners discussed the importance of regionally-focused nonproliferation efforts and effective controls over intangible technology transfers. Membership applications were discussed, but no decisions were reached to admit new members during the Plenary. However, Estonia and Latvia were welcomed as unilateral adherents to the MTCR Guidelines and Annex (control list). The Plenary adopted several changes to the MTCR Annex, to include the addition of control text for pneumatic flight controls and gel propellant rocket engines, and held its first-ever enforcement Table Top Exercise. The Regime's Information Exchange meeting (IE), Licensing and Enforcement Experts Meeting (LEEM), and Technical Experts Meeting (TEM) also met during Plenary week.

An intersessional Technical Experts Meeting (TEM) was held March 14-17, 2016 in Luxembourg City, Luxembourg, to discuss proposed changes to the MTCR Equipment, Software, and Technology Annex. Changes that were agreed to by Partners and that will necessitate modifications to the EAR include the addition of aerothermodynamic test facilities (i.e. plasma arc jet facilities and plasma wind tunnels) and a note clarifying that software for the conversion of a manned aircraft to an unmanned aerial vehicle is caught in the Annex.

On March 18, also in Luxembourg, a Technical Outreach Meeting (TOM) was held to update and educate non-partners on

the Annex and recent updates to it. Ten non-Partner countries were represented at the TOM.

In June 2016, India became the 35th member of the MTCR.

In FY 2016, BIS approved 1,099 applications, valued at \$136 billion, for the export or reexport of missile technology-controlled items. This dollar value has increased significantly since certain spacecraft (satellites) and related items were brought under the jurisdiction of the Department of Commerce. In addition, BIS denied 14 applications valued at \$5.8 million and returned without action 54 applications valued at \$89.7 million.

### **Nuclear Suppliers Group**

The Nuclear Suppliers Group (NSG) is a multilateral export control regime that was formally established in 1992 and now includes 48 Participating Governments (PGs). The regime seeks to impede the proliferation of nuclear weapons through the implementation of guidelines for the control of nuclear and nuclear-related exports. Members pursue the aims of the NSG through voluntary adherence to the NSG Guidelines, which are adopted either by consensus or through exchanges of information on developments of nuclear proliferation concern.

The 37th NSG Consultative Group (CG) Meeting, 3rd Preparatory Technical Experts Group (TEG) Meeting, and 2015 Zangger Committee (ZC) Meeting took place in Vienna, Austria, on November 2-6, 2015. The CG reviewed and took note of the NSG Chair's report on outreach, discussed bilateral relations with India and continued previous discussions on NSG relations with

States not Party to the Non-Proliferation Treaty (NPT).

The CG also held preliminary discussions on how NSG denials should be managed in the context of decisions taken by the Permanent Working Group (PWG) of the Joint Comprehensive Plan of Action (JCPOA) concerning transfers of NSG controlled items to Iran. The TEG made incremental progress on the question of harmonizing machine tool control parameters and thresholds with the Wassenaar Arrangement (WA), as well as reviewing new proposals submitted by several Participating Governments (PGs).

An Extraordinary Plenary of the NSG was held in Vienna, Austria, on January 21, 2016, to discuss interaction with the JCPOA and its procurement channel as well as the path forward to address existing denials to Iran.

The 2016 NSG Plenary, 39th Consultative Group (CG) Meeting, Information Exchange Meeting (IEM), and Licensing and Enforcement Experts Meeting (LEEM) were held in Seoul, Republic of Korea, on June 20-24, 2016. Discussions within the Plenary included outreach activities to non-Participating Governments, particularly those that are manufacturers or transshipment points, the outstanding membership applications of India and Pakistan, and the condemnation of recent Democratic People's Republic of Korea (DPRK) nuclear explosive tests and missile launches and a call for them to comply with United Nations Security Council Resolutions (UNSCRs). Upon the recommendation of the CG, the Plenary adopted six new technical changes put forward by the TEG.

Discussions on changes to machine tool controls were ongoing. Presentation topics in the IEM and LEEM included JCPOA implementation, financial information and counter proliferation, Iran's lithium enrichment activities before the JCPOA, procurement, the DPRK's nuclear program, denial notifications, proliferation red flags in finance and insurance sectors, and nuclear grade zirconium.

In FY 2016, BIS approved 2,009 applications, valued at \$1.6 billion, for the export or reexport of items controlled for nuclear nonproliferation reasons. In addition, BIS rejected 11 applications valued at \$4.6 million and returned without action 92 applications valued at \$144.2 million.

### **Wassenaar Arrangement**

The Wassenaar Arrangement (Wassenaar) is a multilateral arrangement addressing export controls on conventional arms and sensitive dual use goods and technologies. Wassenaar was founded in 1996 to replace the East-West technology control program under the Coordinating Committee for Multilateral Export Controls (COCOM) regime that ended in 1994. There are currently 41 countries participating in Wassenaar. Members are required to report approvals and denials of certain items controlled under the Wassenaar Arrangement. Reporting denials helps bring to the attention of member countries attempts to obtain strategic items that may undermine the objectives of Wassenaar.

Wassenaar has continued to keep pace with advances in technology and market trends. It has continued its efforts to contribute to international and regional security and stability by promoting transparency and greater responsibility in the transfer of conventional arms and dual use goods and technologies, thus preventing destabilizing

accumulations of such goods and technologies. Wassenaar members worked to ensure the detection and denial of undesirable exports, and to further refine the existing Control Lists and make them more readily understood and user-friendly for licensing authorities and exporters. This year further progress was made on a comprehensive and systematic review of the Wassenaar Control Lists to ensure their continued relevance.

In addition, new export controls were added in a number of areas, including on an additional explosive material. Existing controls were further clarified regarding biological agent protection and detection equipment, electronic devices for military helmets, and equipment that performs analogue-to-digital conversion. Some controls were relaxed, such as for specific types of machine tools and computers, technologies used in consumer industries (e.g. car production, domestic medical devices), optical mirrors for solar power installations, battery cells, underwater still cameras, and equipment incorporating information security.

Members adopted new *Best Practice Guidelines for Transit or Trans-shipment*. Members underlined the importance of further strengthening export controls and intensifying cooperation to prevent arms trafficking and the acquisition by terrorists of conventional arms, including small arms and light weapons, and dual-use goods and technologies. They discussed how to strengthen export control implementation in areas such as arms trade risk assessment, reexport, brokering and controls on intangible transfers of technology, as well as catch-all provisions. Finally, Wassenaar members established a framework for conducting the fifth internal assessment of the Arrangement – a wide ranging exercise

to review and evaluate its overall functions and improve its effectiveness and efficiency.

In FY 2016, BIS approved 20,348 applications, valued at \$198.9 billion, for the export or reexport of items controlled for national security reasons. In addition, BIS rejected 192 applications, valued at \$83.6 million, and returned without action 2,515 applications valued at \$10.5 billion. One application was revoked at a value of \$0.07 million.

## **Treaty Compliance**

BIS serves as the lead agency for ensuring U.S. industry compliance with the Chemical Weapons Convention (CWC), serves as a lead agency for implementation of the Additional Protocol (AP) to the Agreement Between the United States of America and the International Atomic Energy Agency for the Application of Safeguards in the United States, and participates in activities to strengthen international implementation of the Biological Weapons Convention (BWC).

### **Chemical Weapons Convention**

The United States ratified the Convention on the Prohibition of the Development, Production, Stockpiling, and Use of Chemical Weapons and their Destruction (the Chemical Weapons Convention, or CWC) on April 25, 1997. There are currently 192 States Parties to the CWC. The CWC provides for an extensive verification regime to ensure CWC States Parties adherence to its terms. BIS works actively with the Department of State, other CWC States Parties, and the Technical Secretariat (TS) of the Organization for the Prohibition of Chemical Weapons (OPCW) to ensure that all 192 States Parties to the CWC are implementing the CWC's

provisions in a rigorous, analytically sound, and equitable manner.

The CWC requires many commercial chemical facilities to submit compliance data in the form of declarations that include chemical production, processing, consumption, and import/export activities, and requires chemical traders to also submit reports on exports and imports of scheduled chemicals. BIS collects and compiles this information, and then submits it to the U.S. National Authority (Department of State) to transmit to the Technical Secretariat of the OPCW (TS/OPCW), which is the international organization charged with implementing the CWC.

During FY 2016, BIS collected 838 declarations and reports from 532 facilities and trading companies. BIS managed the inspections at 21 chemical facilities that were selected for inspection by the TS/OPCW, one of which was subject to onsite chemical analysis of a number of drawn samples, and successfully demonstrated United States compliance with the CWC, protected the facilities' confidential business information and other trade secrets, and minimized the burden imposed by the inspections.

BIS assisted the U.S. company that was contracted by the OPCW to destroy precursor chemicals from the Syrian chemical weapons program. This included preparations for TS/OPCW verification activities on destruction of the chemicals. BIS also gathered requisite data and prepared congressionally-mandated reports on the implementation of the CWC, including: (1) an annual report on the cost of inspections to both industry and the government; and (2) an annual certification that implementation of the treaty had no

negative impact on availability of Schedule 1 chemicals to industry.

BIS attended international meetings with States Parties and supported the permanent U.S. Delegation to the OPCW (in The Hague, Netherlands) with officials from Washington, DC during meetings of the Executive Council, the Conference of States Parties, and other meetings of the policy-making and technical organs of the OPCW.

### **U.S. Additional Protocol to the U.S.-International Atomic Energy Agency (IAEA) Safeguards Agreement**

The Additional Protocol is a bilateral treaty that supplements and amends verification arrangements under the existing U.S.-IAEA Safeguards Agreement. The Additional Protocol requires the United States to provide the IAEA with information on certain civil nuclear and nuclear-related items, materials, and activities not covered by the Safeguards Agreement.

The Additional Protocol entered into force for the United States on January 6, 2009. Under Executive Order 13458, BIS is the lead agency for all subject commercial activities and locations not licensed by the Nuclear Regulatory Commission (NRC) or an NRC Agreement State, and not located at certain other government sites. BIS administers the compliance program involving private sector nuclear fuel cycle activities that are not subject to the jurisdiction of the NRC. BIS receives declarations from industry, academia, the NRC and the Department of Energy, to assemble the U.S. national declaration and other reports to the IAEA.

The Additional Protocol declaration for 2016 was submitted to the IAEA on May 2, 2016. This declaration contained 301

changes and new activities. BIS also submitted quarterly reports on the export of nuclear equipment.

### **Biological Weapons Convention**

The Biological Weapons Convention (BWC) prohibits developing, producing, stockpiling, or otherwise acquiring or retaining biological agents or toxins for non-peaceful purposes. The BWC entered into force in 1975. In 2001, international efforts to develop a verification regime for the BWC failed, in part due to the inability to develop a modality that could distinguish between peaceful and non-peaceful purposes. Nevertheless, the BWC establishes the international norm prohibiting the development, production and stockpiling of biological weapons. In FY 2016, BIS actively supported U.S. Government efforts, in accordance with the *National Strategy for Countering Biological Threats*, to improve confidence in States Parties' compliance with the BWC.

BIS prepared for and participated in the annual Meeting of States Parties (December 14 – 18, 2015) and the meeting of the Review Conference Preparatory Committee (August 8 – 12, 2016) in Geneva, Switzerland. BIS also participated in the numerous working groups preparing U.S. positions for the 8th Review Conference (November 7 – 25, 2016). In particular, the BIS delegate to the Review Conference will be the Team Lead for the Committee of the Whole's review of the implementation of Articles III (export controls) and X (cooperation). BIS brings the U.S. private sector's perspective into discussions on the full range of issues pertinent to the BWC through consultations with its Materials Technical Advisory Committee and various trade and professional associations.

### **Short Supply Controls**

In FY2016, BIS revised the short supply controls to remove restrictions on exports of crude oil from the United States consistent with the provisions of the "Consolidated Appropriations Act, 2016." BIS published a final rule on May 16, 2016, that fully implemented these changes. Crude oil is now designated EAR99. BIS continues to implement short supply controls on western red cedar, as required by section 7(i) of the EAA, and specified other timber as required by the Forest Resources Conservation and Shortage Relief Act, as amended.

### **U.S. Defense Industrial and Technological Base Programs**

BIS's mission includes supporting continued U.S. technology leadership in industries that are essential to U.S. national security. Activities in this regard include:

#### **Administering the Defense Priorities and Allocations System**

BIS's administration of the Defense Priorities and Allocations System (DPAS) continues to play an important role in supporting the deployment of U.S. and allied forces abroad, meeting critical national defense and homeland security requirements, and facilitating recovery from natural disasters. The U.S. Government places DPAS priority ratings on approximately 300,000 contracts and orders annually to support national defense requirements.

In FY 2016, BIS worked closely with the Departments of Agriculture, Defense, Energy, Health and Human Services, Homeland Security, and Transportation to implement regulations providing standards and procedures for prioritizing contracts and

orders to promote the national defense under emergency and non-emergency conditions.

In FY 2016, BIS undertook 14 official actions under the DPAS authorizing certain entities to use the DPAS to place priority ratings on contracts in support of national security programs.

### **Committee on Foreign Investment in the United States**

BIS participates in the Committee on Foreign Investment in the United States (CFIUS) by evaluating export control equities in transactions that could result in foreign control of a U.S. business. In FY 2016, BIS worked closely with the Department of Commerce's International Trade Administration (ITA) and interagency CFIUS partners to review 165 CFIUS filings to determine the effects of those transactions on the national security of the United States. The filings are reviewed pursuant to the Foreign Investment and National Security Act of 2007 regulations published by the Department of the Treasury.

### **Monitoring the Strength of the U.S. Defense Industrial and Technological Base**

In FY 2016, BIS conducted the following industrial base assessment activities:

BIS continued work on the Industrial Capabilities Assessment which is being performed in cooperation with the U.S. Department of Defense, Defense Security Service (DSS). This effort will focus on U.S. Government contractors and facilities that design, manufacture, test, and evaluate various defense and high-technology products and their components. Approximately 12,000 cleared facilities will be surveyed over three years. BIS has

received over 8,000 completed surveys to date.

BIS continued work on the U.S. bare printed circuit board (PCB) industrial base assessment in FY 2016. This assessment is being performed in coordination with the U.S. Navy, Naval Surface Warfare Center, Crane Division (NSWC Crane). The primary goal of this assessment is to assist the U.S. defense community in understanding the health and competitiveness of organizations manufacturing bare circuit boards at facilities located in the United States for commercial and U.S. Government applications. BIS received 185 completed PCB company surveys and is currently conducting analysis activities and preparing the final report.

BIS also continued work on the comprehensive survey and assessment of the U.S. Air Force C-17 Aircraft program industrial base which has ended production in Long Beach, California. This assessment is being performed in coordination with the Department of Defense, Office of Economic Adjustment (OEA). The survey will gather information on the impact of the C-17 shutdown on the nationwide supply chain network of approximately 700 companies. This will allow OEA to provide assistance to local communities with companies severely impacted by the shutdown and job loss. BIS earlier had matched the needs of over 20 community colleges, educational and training programs, and other organizations in the Long Beach, CA region with surplus tooling and equipment from the shutdown of the C-17 aircraft facility.

BIS initiated a survey and assessment of the health and competitiveness of the U.S. textile, apparel, and footwear industry. The assessment, requested by the U.S. Congress,

updates a similar BIS assessment conducted for Congress in 2003. This survey will cover topics including employment, production, competitors and customers, supply chain, financial information, research and development, effectiveness of the Berry Amendment, and future industrial challenges. The resulting aggregate data and subsequent analysis will allow textile, apparel, and footwear industry representatives and government policy officials to monitor trends, benchmark industry performance, and raise awareness of potential issues of concern. Approximately 2,000 surveys will be distributed to industry in late 2016.

BIS also initiated a survey and assessment of organizations responsible for the research, design, engineering, development, manufacture, test, and integration of rocket propulsion and high-technology products, components, and related services. This assessment is being performed in coordination with the U.S. National Aeronautics and Space Administration (NASA), Marshall Space Flight Center. The principal goal of this assessment is to gain an understanding of the intricate supply chain network supporting the development, production, and sustainment of products and services across the defense, intelligence, civil, and commercial propulsion sectors. The data will also be used to understand the multi-tier structure of the U.S. propulsion industry, its interdependencies, and the commonality of suppliers and products across programs and agencies. Approximately 300 surveys will be distributed to industry in early 2017.

Finally, BIS initiated a survey and assessment of the U.S. semiconductor design and fabrication industry. This assessment will update a comprehensive 2009 assessment of the U.S. semiconductor

design and fabrication infrastructure that baselined then current and projected future commercial and national security capabilities of this critical industrial sector. This two phase study effort will (1) reevaluate U.S. design and fabrication capabilities, and (2) through a second survey assess important elements of the related semiconductor industrial supply chain network including electronic design tools, IP design libraries, test, and packaging. The overall assessment will cover topics such as financial health, production capacity, workforce, research and development (R&D), global competition, foreign sourcing and dependencies, and mergers and acquisitions. Approximately 400 surveys will be distributed to industry in early 2017.

BIS also completed its twentieth congressionally mandated report on the impact of offsets in defense trade. The report was transmitted to Congress on March 10, 2016. On March 1, 2016, BIS published an amendment to the Offset Reporting Regulation in the *Federal Register*. The amendment clarifies that companies need to report offset activity not only for items controlled under the International Traffic in Arms Regulations (ITAR), but also under the “600 series” of the EAR. The Offset Reporting Regulation had defined defense exports as being items subject to the ITAR, however, subsequent to the last amendment to the Offset Reporting Regulation, the ECR initiative brought certain items formerly controlled under the ITAR to the EAR under the “600 series.” The amendment made it clear that companies are required to report offsets associated with the sale of “600 series” items because they are defense articles.

In FY 2016, BIS reviewed 90 proposed transfers of excess defense equipment to foreign governments through the

Department of Defense's Excess Defense Articles program and provided the Department of Defense with determinations whether these transfers would interfere with the ongoing sales or marketing activities of U.S. industry. BIS also reviewed 136 proposed international armament cooperative agreements and provided the Department of Defense with comments on these agreements' commercial implications and potential effects on the international competitive position of the U.S. defense industrial and technological base.

During FY 2016, BIS continued to co-chair the interagency National Defense Stockpile Market Impact Committee (MIC) with the Department of State's Bureau of Energy Resources. The MIC advises the Defense Logistics Agency regarding proposed plans to sell portions of the material in the stockpile and proposed plans to acquire new material. The advice relates to avoiding undue market disruptions during the sale or acquisition of such materials.

### **Supporting the U.S. Defense Industry's International Competitiveness**

In FY 2016, BIS continued to administer the Department of Commerce's North Atlantic Treaty Organization (NATO) Security Investment Program (NSIP), a certification requirement for U.S. companies interested in competing to supply goods and services in NSIP-funded procurements.

During FY 2016, BIS vetted and approved 231 U.S. firms that were interested in participating in NATO procurement competitions.

## **Appendix A: Regulatory Changes in Fiscal Year 2016**

BIS published more than 40 notices, rules, or other items in the *Federal Register* during FY 2016, including the following:

### **Export Control Reform (ECR)**

On October 9, 2015, BIS published a notice of inquiry requesting comments regarding controls on military vehicles, vessels of war, submersible vessels, oceanographic equipment, and auxiliary and miscellaneous equipment.

On February 9, 2016, BIS published a rule proposing revisions and clarifications to military aircraft, gas turbine engines, and related items controls.

On February 19, 2016, BIS published a second proposed rule to add to the Commerce Control List fire control, range finder, optical, and guidance and control equipment that the President determines no longer warrant control on the United States Munitions List.

On June 3, 2016, BIS published a rule updating and clarifying definitions in the Export Administration Regulations and harmonizing certain definitions with those in the International Traffic in Arms Regulations.

On July 28, 2016, BIS published a rule adding to the Commerce Control List items that the President determines no longer warrant control on the United States Munitions List under Category XIV (Toxicological Agents) or Category XVIII (Directed Energy Weapons).

On August 17, 2016, BIS published a rule harmonizing Destination Control Statements

across the Export Administration Regulations and the International Traffic in Arms Regulations.

### **Commerce Control List (0Y521 Series)**

On November 16, 2015, BIS published a rule adding XBS Epoxy System to the 0Y521 series of Export Control Classification Numbers. On August 8, 2016, BIS published a rule adding targets for the production of tritium and related technology to the 0Y521 series.

### **Offsets Reporting**

On March 1, 2016, BIS published an amendment to the Offset Reporting Regulation clarifying that companies need to report offset activity not only for items controlled under the International Traffic in Arms Regulations (ITAR), but also under the “600 series” of the EAR. The Offset Reporting Regulation had defined defense exports as being items subject to the ITAR, but subsequent to the last amendment to the Offset Reporting Regulation, the ECR initiative moved certain items formerly controlled under the ITAR to the EAR under the “600 series.” The amendment made it clear that companies are required to report offsets associated with the sale of “600 series” items because they are defense articles.

### **Entity List**

In FY 2016, BIS implemented the decisions of the End-User Review Committee (the interagency group that administers the Entity List) and published ten Entity List-related rules, including two rules related to Russian sanctions. The persons were added on the basis that they were engaging in activities contrary to U.S. national security or foreign policy interests. Four of these

rules also removed persons from the Entity List. A rule that created a temporary general license to restore *status quo ante* license requirements to two listed entities was published on March 24; the validity of the temporary general license was subsequently extended in rules published on June 28 and August 19.

## **Country Policy**

BIS published two rules implementing or maintaining sanctions on Russia. On December 28, 2015, BIS added 16 persons under 17 entries to the Entity List. On September 7, 2016, BIS added 81 persons under 86 entries to the Entity List.

On January 27, March 16, and October 17, 2016, BIS published rules to further implement the President's new approach to Cuba policy.

On January 27, 2016, BIS published a final rule to amend the exceptions to the general policy of denial in Part 746.2 of the EAR for exports and reexports to Cuba by identifying additional types of exports and reexports that are subject to a general policy of approval: items for safety of civil aviation and safe operation of commercial aircraft engaged in international air transportation, certain telecommunications and agricultural items, items to human rights organizations or individuals and non-governmental organizations that promote independent activity intended to strengthen civil society in Cuba, and items for use by U.S. news bureaus. The rule also amended the exceptions to the general policy of denial in the EAR for exports and reexports to Cuba by identifying types of exports and reexports that will be reviewed to determine, on a case-by-case basis, whether such transactions meet the needs of the Cuban people. These include exports and reexports

for this purpose made to state-owned enterprises and agencies and organizations of the Cuban government that provide goods and services to the Cuban people, unless the exports and reexports either primarily generate revenue for the state or are destined for use by military or security agencies. BIS made these changes to further implement the Administration's policy of empowering and engaging the Cuban people. The rule retained the prohibition on the export or reexport of items subject to the EAR to Cuba without a license or applicable license exception.

On March 16, 2016, BIS published a final rule to allow vessels departing the United States on temporary sojourn to Cuba with cargo for other destinations to travel to Cuba under a license exception rather than having to obtain a license for the cargo bound for those other destinations to transit Cuba. The rule also authorized exports of certain items to persons authorized by the Department of the Treasury to establish and maintain a physical or business presence in Cuba. Finally, the rule adopted a licensing policy of case-by-case review for exports and reexports of items that would enable or facilitate exports of items produced by the private sector in Cuba, subject to certain limitations.

On October 17, 2016, BIS published a final rule that makes cargo transiting Cuba via aircraft on temporary sojourn eligible for License Exception Aircraft, Vessels and Spacecraft (AVS). This rule also makes exports or reexports of eligible items sold directly to eligible individuals in Cuba for their personal use or their immediate family's personal use eligible for License Exception Support for the Cuban People (SCP). Finally, this rule revises the lists of Cuban government and Cuban Communist Party officials that are ineligible for provisions of three license exceptions:

individual gift parcels (GFT), consumer communications devices (CCD), and software and commodities that will be used by the private sector or by individuals to improve the free flow of communications or support certain private sector activities in Cuba (SCP). This rule limits ineligible recipients to members of the Council of Ministers, flag officers of the Revolutionary Armed Forces, and members of the Politburo.

### **Wassenaar Arrangement**

On September 20, 2016, BIS published a rule amending the Commerce Control List to implement the agreements reached at the December 2015 plenary meeting of the Wassenaar Arrangement on Export Controls for Conventional Arms and Dual Use Goods and Technologies. This rule revised control list entries in many CCL categories, including the information security category, and updated related provisions.

### **Chemical and Biological Weapons**

On June 7, 2016, BIS implemented changes to the Commerce Control List resulting from the Australia Group February 2015 intersessional decisions and the June 2015 plenary understandings. Specifically, this rule amended the Commerce Control List by adding the chemical diethylamine, amending the entry that controls certain human and zoonotic pathogens and toxins by adding two viruses that were not previously listed, by updating the nomenclature of certain viruses that were already listed, amending the entry that controls equipment capable of handling biological materials to reflect updates to the controls on biocontainment chambers, isolators, and biological safety cabinets and controls on aerosol inhalation equipment, updating the controls on freeze-drying (lyophilization) equipment, and

reflecting the addition of Angola and Burma as States Parties to the Chemical Weapons Convention (CWC).

### **Missile Technology Control Regime**

On April 4, 2016, BIS implemented changes to the Commerce Control List based on the 2015 Missile Technology Control Regime plenary agreements.

### **Validated End-Users**

In FY 2016, BIS implemented the decisions of the End-User Review Committee (the interagency group that administers the Validated End-User Program) and published three rules modifying the list of Validated End-Users in the People's Republic of China.

### **Retrospective Regulatory Review**

On June 7, 2016, BIS published a rule proposing to remove Special Iraq Reconstruction License provisions determined to be no longer useful.

On August 23, 2016, BIS published a rule proposing revision to the time limit on certain temporary exports to Mexico under License Exception TMP (Temporary imports, exports, reexports, and transfers (in-country)).

### **Unverified List (UVL)**

The EAR imposes restrictions on exports, reexports, and transfers involving persons listed on the UVL. These restrictions, including the suspension of license exceptions, enhance U.S. Government insight into transactions involving listed persons and support BIS's ability to conduct end-use checks. On October 7, 2015, BIS added 12 persons to the UVL. Then on June

21, 2016, BIS added 36 persons to the UVL. The suitability and reliability of these persons as parties to transactions subject to the EAR could not be verified through the successful conduct of end-use checks. In the October 2015 rule, BIS removed two persons from the UVL based on the successful completion of an end-use check, and added new addresses for five listed persons.

### **Penalty Guidance**

On December 26, 2015, BIS published a rule proposing guidance on charging and penalty determinations in settlement of administrative enforcement cases. On June 22, 2016, BIS published the final guidance.

### **Crude Oil**

On May 12, 2016, BIS published a rule removing short supply license requirements on exports of crude oil.

## **Appendix B: Bureau of Industry and Security Administrative Information**

### **Performance Based Programs**

BIS has continued to develop performance-based budgets based on OMB guidance. BIS budget submissions continue to be directly tied to the Bureau's performance goals and measures, and BIS will continue to develop performance-based budgets that display the cost of achieving its performance goals. Budget requests are integrated with performance goals and describe the anticipated effects of resource requirements on performance. BIS contributes to three of the Department's five Strategic Goals and Objectives as follows:

1. Trade and Investment – Increasing U.S. exports by overhauling and simplifying the Nation's export control system
2. Data – Improving data based services, decision-making, and data sharing within the Department and with other parts of the Federal government; and
3. Operational Excellence – Strengthening organizational capabilities to drive customer-focused, outcomes-driven mission performance.

The ECR initiative combines the efforts of the Commerce USXPORTS Exporter Support System (CUESS) program and a collaborative effort with the Department of Defense to expand the role of USXPORTS to include the Interagency Referral Sub-system to support the adjudication of dual-use export licenses and overall BIS's licensing process. This effort has initiated multiple projects to support the building and

expansion of the BIS mission critical technology platform and orderly retirement of the Export Control Automated Support System (ECASS) mainframe. As part of this effort, several subprojects are either being researched, completed or under way:

1. Simplified Network Application Process Redesign (SNAP-R) enhancements to support submission of Individual Validated Licenses (IVL);
2. Enhancement of entity screening in the Investigative Management System Redesign (IMS-R) application;
3. Establishment of a technology platform to support various self-managed business applications such as the Committee on Foreign Investment in the United States (CFIUS), Offsets, Defense Priorities and Allocations System (DPAS), and Consolidated List;
4. Enhancement of electronic license determination requests in the Investigative Management System Redesign (IMS-R) application and the Commerce USXPORTS Exporter Support System (CUESS) to include requests from external agencies;
5. Implementation of SIPRNet for the headquarters office and the BIS field offices;
6. Implementation of the Entity History System (EHS) to provide licensing officers the ability to research the results of previous export license requests by applicant and commodity;
7. Enhancement to the Commerce USXPORTS Exporter Support System (CUESS) and USXPORTS to incorporate automated capabilities for

initiating referrals and collecting the associated referral responses for dual use licenses request among all interagency partners in one centralized secure system.

8. Development of a single export license application; and
9. Implementation of single export licensing portal.

The fully deployed collaborative systems and interfaces will provide BIS business users with a modernized export licensing system while protecting export control applications and data from foreign intrusions.

**Cooperation with Auditing Agencies and Responses to Requests from the Public and the Courts**

BIS program controls are sound and recommendations resulting from the Government Accountability Office (GAO) and the Department of Commerce's Office of Inspector General (OIG) are being addressed. BIS continues to work with

GAO and OIG on their studies of BIS programs and control systems, as well as to address audit findings and recommendations. During FY 2016, we submitted periodic reports to the Office of the CFO and Assistant Secretary for Administration on the status of BIS corrective actions of all open GAO and OIG recommendations. BIS management also monitored the progress of corrective actions on the basis of these reports.

One GAO study and two OIG studies addressing BIS programs and activities were completed in FY 2016. The studies were:

GAO:

- 1) U.S. Critical Materials Supply: GAO 16-699

OIG:

- 1) Continuous Monitoring Strategy and Practices OIG: OIG-16-003-A
- 2) USXPORTS Audit: OIG-16-037-A

## Appendix C: Summaries and Tables of Closed Export Enforcement Cases

*Table 1  
Criminal Convictions during Fiscal Year 2016<sup>1</sup>*

<i>Sentencing Date</i>	<i>Defendant</i>	<i>Criminal Charges</i>	<i>Criminal Sanctions</i>	<i>Case Details</i>
10/15/15	Amex Computers Inc.	One count of aiding and abetting the intentional submission of false information through the Automated Export System in violation of 18 USC 2 and 13 USC 305 <sup>2</sup>	Forfeiture of \$100,000	False information submitted through the Automated Export System regarding exports of commodities to the United Arab Emirates, Zimbabwe and Kenya
10/23/15	Mozaffar Khazae	One count of unlawful export and attempted export of defense articles from the United States in violation of 22 USC 2778	97 months in prison; three years of supervised release; a \$50,000 criminal fine; forfeiture of \$59,945; and a \$100 special assessment	Export of controlled materials and technical data to Iran
10/27/15	Mao Peng	One count of conspiracy to use the Automated Export System to further illegal activity in violation of 13 USC 305; one count of conspiracy to commit wire fraud in violation of 18 USC 1349; and one count of conspiracy to commit identity theft in violation of 18 USC 1028	27 months in prison; three years of supervised release; \$517,265 in restitution; forfeiture of \$3.1 million; and a \$300 special assessment	Conspiracy to use the Automated Export System to further illegal activity through the export of luxury vehicles to China
11/05/15	Hassan Salame	One count of export of a defense article without a license in violation of 22 USC 2778; one count of possessing firearms and ammunition in violation of 18 USC 922 and 924; and one count of making false statements on a Shipper's Export Declaration in violation of 18 USC 1001	45 months in prison; three years of supervised release; and a \$300 special assessment	Export of firearms and ammunition to Lebanon

<sup>1</sup> Four convictions are not included in this chart because the information has been sealed by the court.

<sup>2</sup> Amex Computers Inc. entered into a non-prosecution agreement with the Government and accepted responsibility for the charges noted.

11/09/15	Chen Chee Onn	One count of smuggling goods from the United States in violation of 18 USC 554	12 months and one day in prison; three years of supervised release; a \$10,000 criminal fine; and a \$100 special assessment	Attempted export of computers and computer systems to Iran via Malaysia
11/10/15	Kenneth Wei Xian Chua	One count of smuggling goods from the United States in violation of 18 USC 554	Time served in prison (two months); three years of supervised release; a \$3,500 criminal fine; and a \$100 special assessment	Attempted export of computers and computer systems to Iran via Malaysia
11/19/15	Mark Henry	One count of conspiracy to violate the Arms Export Control Act in violation of 18 USC 371; and one count of violation of the Arms Export Control Act in violation of 22 USC 2778	78 months in prison; three years of supervised release; and a \$200 special assessment	Attempted export of microwave amplifiers to China
12/15/15	Eric Schneider	One count of conspiracy to export defense articles from the United States in violation of 18 USC 371	Time served in prison; one year of supervised release; 500 hours of community service; and a \$100 special assessment	Export of military antennas to Singapore and Hong Kong in connection with Corezing International Pte. Ltd.,
01/06/16	FIMCO FZE	One count of conspiracy to export, sell and supply U.S. goods and technology to Iran in violation of 50 USC 1702 and 1705	\$100,000 criminal fine and a \$400 special assessment	Export of a bar peeling machine to Iran through the United Arab Emirates
01/04/16	Joshua Cortez	One count of conspiracy in violation of 18 USC 371	Three years of probation; \$293,457 in restitution; and a \$100 special assessment	Export of stolen ballistic glasses to various countries
01/27/16	Sihai Cheng	One count of conspiracy to commit export violations in violation of 50 USC 1705; Four counts of illegal exports of U.S. goods to Iran in violation of 50 USC 1705; one count of conspiracy to smuggle goods in violation of 18 USC 371	108 months in prison; forfeiture of property; and a \$600 special assessment	Export of pressure transducers to Iran via China
03/30/16	Oguzhan Aydin	One count of exportation of munitions without the required validated export license in violation of 22 USC 2778; and one count of money laundering in violation of 18 USC 1956	30 months in prison; five years of supervised release; \$25,000 criminal fine; forfeiture of \$62,196; and a \$200 special assessment	Attempted procurement of aircraft parts for export to Iran via Turkey

06/02/16	Fokker Services BV	One count of conspiracy to unlawfully export U.S.-origin goods and services to Iran, Sudan and Burma in violation of 18 USC 371 and 50 USC 1705 <sup>3</sup>	Forfeiture of \$10.5 million	Export of aircraft parts, technologies, and services to Iran, Sudan and Burma
06/10/16	Amin al-Baroudi	One count of conspiracy to violate the International Emergency Economic Powers Act and sanctions against Syria in violation of 50 USC 1705	32 months in prison; two years supervised release; forfeiture of seized items; and a \$100 special assessment	Export of commodities, including tactical equipment, to Syria via Turkey for ultimate use by organizations with ties to foreign terrorist organizations
06/22/16	Aaron Menard	One count of conspiracy to steal government property in violation of 18 USC 371	15 months in prison; three years of supervised release; and a \$100 special assessment	Export of stolen items from the U.S. military to various countries
06/23/16	Sevinj Taghiyeva	One count of conspiracy to commit wire fraud in violation of 18 USC 371	Time served in prison; two years of supervised release; and a \$100 special assessment	Export of controlled microelectronics to Russian end users
06/29/16	Kan Chen	One count of violating the International Emergency Economic Powers Act in violation of 50 USC 1705; one count of conspiring to violate the Arms Export Control Act and the International Traffic in Arms Regulations in violation of 18 USC 371; and one count of attempting to violate the Arms Export Control Act and the International Traffic in Arms Regulations in violation of 22 USC 2778	30 months in prison; three years of supervised release; forfeiture of \$42,260; forfeiture of goods related to the violation; and a \$300 special assessment	Export of optical sighting devices and rifle scopes to China
06/30/16	Alexander Brazhnikov	One count conspiracy to violate the International Emergency Economic Powers Act in violation of 18 USC 371; one count conspiracy to smuggle goods from the United States in violation of 18 USC 371; and one count of conspiracy to commit money laundering in violation of 18 USC 1956	70 months in prison; three years of supervised release; a \$75,000 criminal fine; forfeiture of \$65 million and two real properties; and a \$300 special assessment	Export of munitions and electronic components to Russia
07/06/16	Joseph Bagley	One count of conspiracy to steal government property in violation of 18 USC 371	11 months in prison; three years of supervised release; and a \$100 special assessment	Export of stolen items from the U.S. military to various countries

<sup>3</sup> Fokker BV entered into a Deferred Prosecution Agreement with the Government and accepted responsibility for the charges noted.

07/08/16	Daofu Zhang	One count of conspiracy to traffic in counterfeit goods in violation of 18 USC 2320	15 months in prison; forfeiture of \$63,000; and a \$100 special assessment	Attempted export of controlled computer chips to China
07/12/16	Iliya Berdichevski	One count of smuggling goods from the United States in violation of 18 USC 554	Two years of probation; 100 hours community service; and a \$100 special assessment	Export of rifle scopes to Ukraine
07/21/16	Alexander Fishenko	13 counts of exportation of items from the United States to Russia in violation of the International Emergency Economic Powers Act in violation of 50 USC 1702 and 1705; one count of illegal exportation from the United States to Russia in violation of the Arms Export Control Act in violation of 22 USC 2778; one count of conspiracy to violate the International Emergency Economic Powers Act and the Arms Export Control Act and commit fraud in violation of 18 USC 371; two counts of obstruction of justice in violation of 18 USC 1519; one count of conspiracy to commit money laundering in violation of 18 USC 1956; and one count of acting as an agent of a foreign government in violation of 18 USC 951	120 months in prison; three years of supervised release; forfeiture of \$150,000 and real property; and a \$1,900 special assessment	Export of controlled microelectronics to Russian end users, including Russian military and intelligence services.
08/01/16	Shehzad John	One count of attempted exportation of items on the Commerce Control List without a license in violation of 50 USC 1705	71 months in prison; three years of supervised release; a \$10,000 criminal fine; and a \$100 special assessment	Export of commodities, including optical scopes and laser sights, to Pakistan
08/23/16	Oguzhan Aydin	One count of violation of the International Emergency Economic Powers Act, Iranian Transaction Regulations, aiding and abetting and causing an act to be done in violation of 50 USC 1705 and 18 USC 2	Nine months and 10 days in prison; three years of supervised release; and a \$100 special assessment	Facilitation of the sale of aircraft engines to Mahan Air in Iran
08/29/16	Shahin Tabatabaei	One count of conspiracy to violate the International Emergency Economic Powers Act in violation of 50 USC 1705	27 months in prison; three years of supervised release; and a \$100 special assessment	Export of solenoid valves, pressure transducers, motors and thermal imagers to Iran
09/01/16	Syed Vaqar Ashraf	One count of conspiracy to export controlled defense articles without a license in violation of 18 USC 371	33 months in prison and three years of supervised release	Export of gyroscopes and optical receiver modules for unmanned aerial vehicles for a listed entity in Pakistan

09/02/16	Svetalina Zagon	One count of conspiracy to commit wire fraud in violation of 18 USC 371	Time served in prison; one year of supervised release; and a \$100 special assessment	Export of controlled microelectronics to Russian end users
09/12/16	Asim Fareed	One count of conspiracy to commit false statements to the government in violation of 18 USC 371	Two years of probation; a \$1,000 criminal fine; and a \$100 special assessment	Conspiracy to make false statements related to the export of U.S.-origin commodities to Iran

**Table 2**  
**Department of Commerce Export Enforcement Administrative Cases during Fiscal Year 2016**

<b>Order Date</b>	<b>Respondent</b>	<b>Charges</b>	<b>Statutory or Regulatory Provisions Violated<sup>4</sup></b>	<b>Result</b>
10/05/15	Rex Gene Maralit	Underlying criminal conviction for violating Section 38 of the Arms Export Control Act (“AECA”) by knowingly and willfully exporting from the United States to the Philippines various firearms and firearms accessories and components designated on the U.S. Munitions List (“USML”), without the required State Department licenses.	Section 38 of the AECA	Export privileges denied until March 27, 2025, pursuant to Section 766.25 of the EAR (see also Section 11(h) of the EAA).
10/05/15	Wilfredo Maralit	Underlying criminal conviction for violating Section 38 of the AECA by knowingly and willfully exporting from the United States to the Philippines various firearms and firearm accessories and components designated on the USML, without the required State Department licenses.	Section 38 of the AECA	Export privileges denied until March 27, 2025, pursuant to Section 766.25 of the EAR (see also Section 11(h) of the EAA).
11/23/15	EGYPTAIR Airlines Company	Reexported U.S.-origin Boeing aircraft, controlled for anti-terrorism reasons, from Egypt to Sudan pursuant to lease agreements without the required BIS licenses. (ECCN 9A991.b)	764.2(a) [2]	Settlement Agreement – civil penalty of \$140,000.
11/23/15	Barracuda Networks, Inc. and Barracuda Networks, Ltd.	Acted with knowledge of violations of the Export Administration Regulations (“EAR” or “Regulations”) in selling and/or servicing U.S.-origin encryption-controlled devices and related software to Syria, Iran and Sudan. (ECCNs 5A002, 5D002, and 5D992)	Barracuda Networks, Inc.: 764.2(e) [26]  Barracuda Networks, Ltd.: 764.2(e) [11]	Settlement Agreement – civil penalty of \$1.5 million.
12/10/15	Gregorio L. Salazar	Made a false or misleading statement to BIS in the course of an investigation and in connection with effecting an export, by making a false or misleading statement in a disclosure letter submitted to BIS.	764.2(g) [1]	Settlement Agreement – civil penalty of \$50,000.

<sup>4</sup> For administrative enforcement cases under Part 766 of the EAR, the number shown in brackets is the number of violations alleged.

12/10/15	GLS Solutions, Inc.	Sold or transferred a FLIR High Performance Infrared Camera, controlled for national security and regional stability reasons, for export from the United States to Venezuela with knowledge that a violation of the Regulations had occurred or was about or intended to occur. (ECCN 6A003.b.4)	764.2(e) [1]	Settlement Agreement – civil penalty of \$50,000, of which \$32,000 is suspended.
01/07/16	Mahan Airways; Pejman Mahmood Kosarayanifard a/k/a Kosarian Fard; Mahmoud Amini; Kerman Aviation a/k/a GIE Kerman Aviation; Sirjanco Trading LLC; Ali Eslamian; Mahan Air General Trading LLC; Skyco (UK) Ltd.; Equipco (UK) Ltd.; Mehdi Bahrami; Al Naser Airlines, a/k/a al-Naser Airlines a/k/a Alnaser Airlines and Air Freight Ltd.; Ali Abdullah Alhay a/k/a Ali Alhay a/k/a Ali Abdullah Ahmed Alhay; Bahar Safwa General Trading; Sky Blue Bird Group a/k/a Sky Blue Bird Aviation a/k/a Sky Blue Bird Ltd. a/k/a Sky Blue Bird FZC; and Issam Shammout a/k/a Muhammad Isam Muhammad Anwar Nur Shammout a/k/a Issam Anwar	Temporary denial order (“TDO”) in matter that has involved the re-export and attempted or intended re-export of U.S.-origin Boeing 747s, false statements to BIS regarding the ultimate destination and end-user of the aircraft, and a failure to comply with a BIS order to return the aircraft to the United States. This matter also has involved exports and reexports, or attempted or intended exports or reexports, of U.S.-origin McDonnell Douglas aircraft, U.S.-origin jet engines, Airbus aircraft with U.S-origin engines, and other items subject to the Regulations during renewal periods of the TDO.		TDO renewed for 180 days.

01/19/16	Ribway Airlines Company Limited, John Edward Meadows, Jeffrey John James Ashfield, AF-Aviation Limited, and Andy Farmer	Temporary denial order (“TDO”) in matter that has involved the attempted reexport of two Boeing 737 aircraft from Romania to Iran, including to or for Caspian Airlines, a Specially Designated Global Terrorist.		Initial TDO for 180 days.
02/03/16	Qiang Hu, a/k/a Johnson Hu	Underlying criminal conviction for violating the International Emergency Economic Powers Act (“IEEPA”) by knowingly and willfully conspiring, combining, confederating and agreeing with other persons known and unknown to cause the export of U.S. origin pressure transducers (manometer types 622B, 623B, 626A, 626B, 627B, 722A, and 722B), from the United States to end-users in China and elsewhere in violation of the Regulations, Executive Order 13222, and IEEPA.	IEEPA	Export privileges denied until July 24, 2024, pursuant to Section 766.25 of the EAR (see also Section 11(h) of the EAA).
02/11/16	Viacheslav Zhukov	Underlying criminal conviction for violating IEEPA by knowingly and willfully combining, conspiring, and agreeing to unlawfully export controlled firearm accessories from the United States to co-conspirators in Russia without the required BIS licenses.	IEEPA	Export privileges denied until March 5, 2022, pursuant to Section 766.25 of the EAR (see also Section 11(h) of the EAA).
03/01/16	Ribway Airlines Company Limited, John Edward Meadows, Jeffrey John James Ashfield, moreJet Ltd., Stefan Piotr Kondak a/k/a Stefan Peter Kondak and AC AVIATIE UK Limited, f/k/a Bin Vali Aviation Limited	Temporary denial order (“TDO”) in a matter involving the attempted reexport of two Boeing 737 aircraft from Romania to Iran.		TDO amended to add three respondents and to delete two respondents.
03/14/16	Chemical Partners Europe S.A.	Took actions to evade the Regulations in connection with the export of coatings, pigments and paints from the United States to Iran via Belgium, including items that are suitable for use in nuclear facilities or have marine applications.	764.2(h) [6]	Settlement Agreement – civil penalty of \$350,000.

03/18/16	Nuveen Sirirojnananont	Underlying criminal conviction for violating Section 38 of the AECA by knowingly and willfully causing to be exported from the United States to Thailand firearms designated as defense articles on the USML, without the required State Department licenses.	Section 38 of AECA	Export privileges denied until August 26, 2024, pursuant to Section 766.25 of the EAR (see also Section 11(h) of the EAA).
04/11/16	Paweena Pechner and related person CheapShop4You LLC.	Underlying criminal conviction for violating Section 38 of the AECA by knowingly and willfully causing to be exported from the United States to Thailand firearms designated as defense articles on the USML, without the required State Department licenses.	Section 38 of AECA	Export privileges denied until July 17, 2024, pursuant to Section 766.25 of the EAR (see also Section 11(h) of the EAA).
04/11/16	Alexandre Astakhov	Underlying criminal conviction for violating Section 38 of the AECA by knowingly and willfully attempting to export, and aiding and abetting the attempted export, from the United States to Russia of two L-3 CNVD-T thermal clip-on night vision devices designated as defense articles on the USML, without the required State Department license.	Section 38 of AECA	Export privileges denied until May 7, 2025, pursuant to Section 766.25 of the EAR (see also Section 11(h) of the EAA).
05/04/16	Ali Khanaman Mohammadi	Underlying criminal conviction for violating IEEPA by knowingly and willfully conspiring to export a Series 446 Rate Integrating Gyroscope, Model LC08, from the United States to Iran.	IEEPA	Export privileges denied until August 25, 2025, pursuant to Section 766.25 of the EAR (see also Section 11(h) of the EAA).
05/24/16	Unisol International	Sold and/or transferred thermal imaging cameras, items controlled for national security and regional stability reasons and valued at approximately \$67,080, to Ecuador (on two occasions), Venezuela (on two occasions), and Mexico (on one occasion), with knowledge that a violation of the Regulations had occurred or was about or intended to occur. (ECCN 6A003.b.4.)	764.2(e) [5]	Settlement Agreement – civil penalty of \$250,000, of which \$100,000 is suspended subject to a two-year probationary period.

06/02/16	Fokker Services B.V.	Sold, transferred, transported and/or forwarded to, and/or serviced for, end users in Iran, including Iranian military end users, parts and components used in aircraft avionics and navigation systems and in engine, communications, and other aircraft systems, and other aircraft parts and components, items controlled on missile technology, national security, and/or anti-terrorism grounds, and valued in total at approximately \$9,573,583, with knowledge that violations of the Regulations had occurred or were about or intended to occur in connection with the items; acted contrary to the terms of a (temporary) denial order by exporting and reexporting to Iran Air parts and components used in aircraft avionics and navigation systems and other aircraft systems, and/or servicing such parts and components owned or controlled by Iran Air, items controlled on missile technology, national security, and/or anti-terrorism grounds and valued in total at approximately \$999,141; and exported and reexported to Sudan aircraft parts and components, items controlled on national security and anti-terrorism grounds and valued at approximately \$152,381, without the required BIS licenses. (1A001 (including 1A001.c), 7A103 (including 7A103.a), 6A998, 7A994, 9A991.d, and 9A991.e).	764.2(e) [144] 764.2(k) [96] 764.2(a) [13]	Settlement Agreement – civil penalty of \$10,500,000.
06/03/16	Weiss Envirotronics, Inc.	Exported environmental test chambers, items controlled for missile technology reasons and valued at approximately \$3,626,741, to the People’s Republic of China without the required BIS licenses. (ECCN 9B106.a)	764.2(a) [20]	Settlement Agreement – civil penalty of \$575,000, of which \$400,000 is suspended during a two-year probationary period; complete two audits of its export controls compliance program, with the audit reports due, respectively, no later than 15 months and 27 months from the date of the Order.

06/15/16	Ribway Airlines Company Limited, John Edward Meadows, Jeffrey John James Ashfield, moreJet Ltd., and AC AVIATIE UK Limited, f/k/a Bin Vali Aviation Limited	Temporary denial order (“TDO”) in matter involving the attempted reexport of two Boeing 737 aircraft from Romania to Iran.		TDO amended to remove two respondents.
06/15/16	Dennis Haag	Underlying criminal conviction for violating Section 38 of the AECA by knowingly and willfully exporting from the United States to South Africa rifle barrels and other parts designated as defense articles on the USML, without the required State Department licenses.	Section 38 of AECA	Export privileges denied until September 24, 2019, pursuant to Section 766.25 of the EAR (see also Section 11(h) of the EAA).
06/15/16	Jose Orence Cocchiola	Underlying criminal conviction for violating Section 38 of the AECA by knowingly and willfully attempting to export from the United States to Venezuela defense articles, namely, 9mm pistols, without the required State Department licenses.	Section 38 of AECA	Export privileges denied until August 19, 2019, pursuant to Section 766.25 of the EAR (see also Section 11(h) of the EAA).
06/15/16	Ismael Reta	Underlying criminal conviction for violating Section 38 of the AECA by intentionally and knowingly conspiring and agreeing to knowingly and willfully export, attempt to export, and cause to be exported into Mexico from the United States defense articles, namely a Colt Model M4 5.56mm rifle, a Romarm Model WASR-10 7.62x39mm rifle, a Berretta Model 92FS 9mm pistol, 262 rounds of 5.56mm ammunition and 50 rounds of 7.62x39mm ammunition, without the required State Department licenses.	Section 38 of AECA	Export privileges denied until June 15, 2025, pursuant to Section 766.25 of the EAR (see also Section 11(h) of the EAA).
06/17/16	Fulfill Your Packages Inc.	Took actions to evade the Regulations in connection with an intended unlicensed export of a FLIR thermal imaging camera, an item controlled for national security and regional stability reasons and valued at approximately \$2,617, from the United States to the People’s Republic of China. (ECCN 6A003.b.4)	764.2(h) [1]	Settlement Agreement – civil penalty of \$250,000, of which \$190,000 is suspended subject to a two-year probationary period.

06/17/16	Worthington Products, Inc. and Paul Meeks	Conspired to export a waterway barrier debris system, designated as EAR99 and valued at approximately \$420,256, from the United States to a Specially Designated National in Iran without the required U.S. Government authorization. (EAR99).	764.2(d) [1]	Settlement Agreement – civil penalty of \$250,000; export control compliance training annually for five years; and five-year suspended denial of export privileges.
06/30/16	Alcon Pharmaceuticals Ltd. and Alcon Laboratories, Inc.	<p>Alcon Pharmaceuticals Ltd.:</p> <p>Ordered from the United States and then transferred and/or forwarded to Iran, via third countries, including, but not limited to, Switzerland, various types of U.S.-origin medical devices and equipment valued at approximately \$8,106,260, with knowledge that a violation of the Regulations had occurred or was about or intended to occur in connection with the items; reexported to Syria various types of U.S.-origin medical devices and equipment valued at approximately \$72,927, including from a warehouse/ distribution center in France, without the required BIS licenses. (EAR99)</p> <p>Alcon Laboratories, Inc.:</p> <p>Exported to Iran, via third countries, medical devices and equipment valued at approximately \$3,652,378, without the required U.S. Government authorization. (EAR99)</p>	<p>Alcon Pharmaceuticals Ltd.:</p> <p>764.2(e) [100] 764.2(a) [45]</p> <p>Alcon Laboratories, Inc.:</p> <p>764.2(a) [43]</p>	Settlement Agreement – joint and several civil penalty of \$8,100,000.

07/07/16	<p>Mahan Airways; Pejman Mahmood Kosarayanifard a/k/a Kosarian Fard; Mahmoud Amini; Kerman Aviation a/k/a GIE Kerman Aviation; Sirjanco Trading LLC; Ali Eslamian; Mahan Air General Trading LLC; Skyco (UK) Ltd.; Equipco (UK) Ltd.; Mehdi Bahrami; Al Naser Airlines, a/k/a al-Naser Airlines a/k/a Alnaser Airlines and Air Freight Ltd.; Ali Abdullah Alhay a/k/a Ali Alhay a/k/a Ali Abdullah Ahmed Alhay; Bahar Safwa General Trading; Sky Blue Bird Group a/k/a Sky Blue Bird Aviation a/k/a Sky Blue Bird Ltd. a/k/a Sky Blue Bird FZC; and Issam Shammout a/k/a Muhammad Isam Muhammad Anwar Nur Shammout a/ka Issam Anwar</p>	<p>Temporary denial order (“TDO”) in matter that has involved the re-export and attempted or intended re-export of U.S.-origin Boeing 747s, false statements to BIS regarding the ultimate destination and end-user of the aircraft, and a failure to comply with a BIS order to return the aircraft to the United States. This matter also has involved exports and reexports, or attempted or intended exports or reexports, of U.S.-origin McDonnell Douglas aircraft, U.S.-origin jet engines, Airbus aircraft with U.S-origin engines, and other items subject to the Regulations during renewal periods of the TDO.</p>		<p>TDO renewed for 180 days.</p>
07/12/16	<p>Fang Liwu</p>	<p>Underlying criminal conviction for violating IEEPA by knowingly and willfully engaging in transactions to export, attempting to export, and aiding and abetting the export of CC-10 vacuum gauges to Iran without obtaining the required U.S. Government authorization.</p>	<p>IEEPA</p>	<p>Export privileges denied until July 20, 2025, pursuant to Section 766.25 of the EAR (see also Section 11(h) of the EAA).</p>

07/19/16	Donald V. Bernardo, a/k/a Don Bernardo	Underlying criminal conviction for violating Section 38 of the AECA by knowingly and willfully engaging in brokering activities involving Venezuela in negotiating and arranging contracts, purchases, sales, and transfers of C-130 Hercules military transport aircraft, in return for a fee, commission, and other consideration, without first registering with the State Department.	Section 38 of AECA	Amended the Denial Order issued against Respondent Bernardo on December 6, 2013, in order to update the information regarding his last known address.
07/22/16	R&A International Trading, Inc., d/b/a R&A International Logistics, and Rukhsana Kadri, a/k/a Roxanne Kadri	Conspired to conceal and misrepresent the identity of the exporter or U.S. principal party in interest (“USPPI”) on Shipper’s Export Declarations (“SEDs”) or Automated Export System (“AES”) records in connection with hundreds of exports occurring over the course of more than two years, primarily to trading companies in the United Arab Emirates and involving computer and electronic equipment valued in total at approximately \$22 million; made false statements on SED/AES filings in connection with this group of transactions; solicited a false statement during the course of an investigation in an effort to conceal and further the conspiracy; and made a series of false statements to BIS during the investigation. (EAR99).	764.2(d) [1] 764.2(g)(1)(ii) [1] 764.2(c) [1] 764.2(g)(1)(i) [1]	Settlement of litigated matter –civil penalty of \$500,000, for which the respondents are jointly and severally liable, with \$150,000 to paid over the course of one year, and the remaining \$350,000 suspended subject to a five-year probationary period; and five-year suspended denial of export privileges. (Case settled during the first day of trial before the administrative law judge. In entering into and as part of the settlement agreement, Respondents admitted each of the allegations and violations charged by BIS).
08/12/16	Walter Anders and Terand, Inc.	Caused, aided, and/or abetted the export of U.S.-origin T300 carbon fiber, controlled for nuclear proliferation reasons and valued at approximately \$288,736, to Singapore without the required BIS licenses. (ECCN 1C210.a)	764.2(b) [8]	Settlement Agreement – export privileges denied for eight years.
08/22/16	Spectrolab, Inc.	Sold and transferred a solar simulator, valued at \$414,679, for export to Pakistan, knowing or with reason to know that the intended end user was Pakistan’s Space and Upper Atmosphere Research Commission (“SUPARCO”), an entity on BIS’s Entity List. (EAR99)	764.2(e) [1]	Settlement Agreement – civil penalty of \$90,000.
09/14/16	Francisco Javier Mendoza-Esquivel	Underlying criminal conviction for violating Section 38 of the AECA by intentionally and knowingly conspiring and agreeing to knowingly and willfully export, attempt to export, and cause to be exported to Mexico 5,860 rounds of 7.62 x 39 mm caliber ammunition without the required State Department licenses.	Section 38 of the AECA	Export privileges denied until August 11, 2025, pursuant to Section 766.25 of the EAR (see also Section 11(h) of the EAA).

09/29/16	Technoline SAL	Causing, aiding, or abetting unlicensed exports or reexports of U.S.-origin mass spectrometers, gas chromatographs and consumables, liquid chromatograph-mass spectrometer systems, and liquid chromatograph modules, items controlled for anti-terrorism reasons and valued at approximately \$583,109, to government end-users in Syria. (ECCN 3A999)	764.2(b)[7]	Settlement Agreement – civil penalty of \$450,000, of which \$275,000 is suspended during a two-year probationary period; and a two-year suspended denial of export privileges.
09/30/16	Russell Henderson Marshall	Underlying criminal conviction for knowingly and willfully violating the terms of a Section 11(h) order that BIS had previously issued against Marshall’s employer, Universal Industries Limited, Inc., of Boynton Beach, Florida. Marshall knowingly and willfully engaged in negotiations concerning selling, delivering, or otherwise servicing a transaction involving temperature transmitters used on F-16 fighter jets and a saddle part for the J-69 engine used on T-37 military trainer aircraft, which are 600 Series items under the Regulations and were to be exported to Thailand and Pakistan, respectively.	IEEPA	Export privileges denied until April 24, 2025, pursuant to Section 766.25 of the EAR (see also Section 11(h) of the EAA).

**Table 3**

**Summary of Antiboycott Cases Closed in Fiscal Year 2016**

<i>Company Name &amp; Location</i>	<i>Date Order Signed</i>	<i>Alleged Violations of EAR<sup>5</sup></i>	<i>Settlement Amount</i>
<b>Gaylord Industries</b> (Tualatin, OR)	06/07/16	2 x 760.2(d) - Furnishing information about business relationships with boycotted countries or blacklisted persons  3 x 760.5 - Failure to report receipt of a boycott request	\$9,000
<b>RHDC International, LLC (Houston)</b> (Houston, TX)	08/11/16	5 x 760.5 - Failure to report receipt of a boycott request	\$9,000
<b>Westlake Vinyls Company LP</b> (Houston, TX)	09/28/16	1 x 760.2(d) - Furnishing information about business relationships with boycotted countries or blacklisted persons  3 x 760.5 - Failure to report receipt of a boycott request	\$12,000
<b>Coty Middle East FZCO</b> (Dubai, UAE)	09/29/16	70 x 760.2(d) - Furnishing information about business relationships with boycotted countries or blacklisted persons	\$238,000

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<sup>5</sup> The references are to the number of alleged violations of the identified subsections of EAR part 760.

**Appendix D:  
Boycott Requests Reported to the  
Office of Antiboycott Compliance, U.S. Department of Commerce  
Fiscal Year 2016**

Country	Prohibited Boycott- Related Requests	Permissible Boycott- Related Requests	Amended Boycott- Related Requests	Boycott- Related Exceptions	Totals
Algeria	0	1	0	4	5
Bahrain	4	2	1	1	8
Iraq	51	0	1	2	54
Jordan	1	0	0	0	1
Kuwait	14	1	4	3	22
Lebanon	5	5	0	0	10
Libya	2	6	1	1	10
Oman	3	7	1	1	12
Qatar	30	31	5	7	73
Saudi Arabia	9	4	1	13	27
Syria	0	0	0	2	2
United Arab Emirates	86	71	14	154	325
Yemen	0	0	0	0	0
<b>Total (Arab League members)</b>	<b>205</b>	<b>128</b>	<b>28</b>	<b>188</b>	<b>549</b>
Bangladesh	0	1	2	24	27
Iran	0	0	0	0	0
Malaysia	1	1	0	673	675
Nigeria	0	0	0	0	0
Pakistan	1	2	0	17	20
All other Countries	6	2	2	12	22
<b>Total (All countries, including Arab League members)</b>	<b>213</b>	<b>134</b>	<b>32</b>	<b>914</b>	<b>1293</b>

**Prohibited boycott-related requests** describe those requests to take an action that would be prohibited under Section 760.2 of the EAR, mainly actions to enforce the secondary and tertiary aspects of a foreign unsanctioned boycott.

**Permissible boycott-related requests** are for actions that fall outside the prohibitions of the EAR but nonetheless still require compliance with some level of a foreign unsanctioned boycott.

**Amended boycott-related requests** were ones that were prohibited as an initial matter, but were subsequently adjusted and reclassified as permissible or as an exception under the EAR.

**Boycott-related exceptions** are requests to take actions that would be prohibited, but for a specific provision in the EAR that allows the action.

**Appendix E: APPROVED APPLICATIONS FOR COUNTRY GROUP D1 AND CUBA  
CLOSED OUT 2015-10-1 THROUGH 2016-9-30**

<b>CCL</b>	<b>DESCRIPTION</b>	<b>APPLICATION</b>	<b>DOLLAR VALUE</b>
<b>ALBANIA</b>			
3A002	GENERAL PURPOSE ELECTRONIC EQUIPMENT	1	\$127,609
3D980	SOFTWARE FOR DEV/PROD/USE OF ITEMS IN 3A980/3A981	1	\$100
4D980	SOFTWARE FOR DEV/PROD/USE WITH 4A980 ITEMS	1	\$250,100
5A002	SYSTEMS/EQUIPMENT/INTEGRATED CIRCUITS FOR INFO SEC	5	\$108,327
5D002	SOFTWARE FOR INFORMATION SECURITY	4	\$150,023
6A003	CAMERAS	1	\$60,000
	<b>TOTAL APPLICATIONS: 8</b>		
	<b>TOTAL CCL'S: 6</b>		
	<b>TOTAL DOLLAR VALUE: \$696,159</b>		
<b>ARMENIA</b>			
0A984	SHOTGUNS, BUCKSHOT SHOTGUN SHELLS	1	\$100,000
0A987	OPTICAL SIGHTING DEVICES FOR FIREARMS	3	\$82,585
1C230	BERYLLIUM	1	\$455
3E001	TECH FOR DEV OR PROD OF CERTAIN ITEMS IN 3A/3B/3C	2	\$2
3E002	OTHER TECHNOLOGY FOR ITEMS IN CATEGORY 3	2	\$2
4D001	SOFTWARE FOR CERTAIN EQUIPMENT/SOFTWARE IN 4A/4D	2	\$2
4E001	TECHNOLOGY FOR DEV/PROD/USE OF CERTAIN EQUIP/SOFTW	2	\$2
5A002	SYSTEMS/EQUIPMENT/INTEGRATED CIRCUITS FOR INFO SEC	2	\$41
5D001	SOFTWARE FOR DEV/PROD/USE OF ITEMS IN 5A/5B/5D/5E	2	\$2
5D002	SOFTWARE FOR INFORMATION SECURITY	2	\$17
5E001	SPECIFIC TECHNOLOGY AS LISTED	2	\$2
	<b>TOTAL APPLICATIONS: 9</b>		
	<b>TOTAL CCL'S: 11</b>		
	<b>TOTAL DOLLAR VALUE: \$183,110</b>		
<b>AZERBAIJAN</b>			
0A987	OPTICAL SIGHTING DEVICES FOR FIREARMS	1	\$27,540
2B350	CHEMICAL MANUFACTURING FACILITIES AND EQUIPMENT	3	\$25,281
3A001	ELECTRONIC DEVICES/COMPONENTS	1	\$15,514
3D001	SOFTWARE FOR DEV OR PROD OF EQUIP IN 3A001.b to 3A002.g or 3B	2	\$2,000,000
3E001	TECH FOR DEV OR PROD OF CERTAIN ITEMS IN 3A/3B/3C	2	\$200,000
5A002	SYSTEMS/EQUIPMENT/INTEGRATED CIRCUITS FOR INFO SEC	2	\$10,001,700
5A992	INFORMATION SECURITY EQUIPMENT	1	\$100,000
5D002	SOFTWARE FOR INFORMATION SECURITY	4	\$1,069,004
5D992	SOFTWARE NOT CONTROLLED BY 5D002	1	\$1,000,000
5E002	TECHNOLOGY FOR DEV/PROD/USE OF INFO SECURITY	1	\$100,000
5E992	TECHNOLOGY FOR INFORMATION SECURITY/CRYPTOLOGY	1	\$100,000
6A001	ACOUSTICS	1	\$41,459,500

7D001	SOFTW FOR DEV/PROD OF EQUIP CONTROLLED BY 7A/7B, EXCEPT 7A994	2	\$2,000,000
7D002	SOURCE CODE FOR INERTIAL NAVIGATION EQUIPMENT	2	\$2,000,000
7E001	TECH FOR DEV OF EQUIP/SOFTW CONTROL BY 7A/7B/7D	2	\$200,000
7E002	TECH FOR PRODUCTION OF EQ. COTROLLED BY 7A/7B	2	\$200,000
7E003	TECH FOR REPAIR OF EQUIPMENT IN 7A001 TO 7A004	2	\$200,000
9A515	SPACECRAFT AND RELATED COMMODITIES	2	\$178,000,000
9B515	TEST, INSPECTION, AND PRODUCTION "EQUIPMENT" "SPECIALLY DESIGNED" FOR "SPACECRAFT" AND RELATED COMMODITIES	2	\$60,000,000
9D515	SOFTWARE SPECIALLY DESIGNED FOR THE DEVELOPMENT, PRODUCTION OPERATION, INSTALLATION, MAINTENANCE, REPAIR, OVERHAUL, OR REFURBISHING OF SPACECRAFT	3	\$20,650,000
9E515	TECHNOLOGY REQUIRED FOR THE DEVELOPMENT, PRODUCTION, OPERATION, INSTALLATION, REPAIR, OVERHAUL, OR REFURBISHING OF SPACECRAFT AND RELATED COMMODITIES	4	\$3,400,000

**TOTAL APPLICATIONS: 14**

**TOTAL CCL'S: 21**

**TOTAL DOLLAR VALUE: \$322,748,539**

#### BELARUS

0A987	OPTICAL SIGHTING DEVICES FOR FIREARMS	4	\$687,485
1A004	PROTECTIVE AND DETECTION EQUIPMENT	1	\$57,128
1C981	CRUDE PETROLEUM/TAR SANDS/CRUDE SHALE	1	\$1,800,000,000
3A001	ELECTRONIC DEVICES/COMPONENTS	6	\$484,431
3A981	POLYGRAPHS/FINGERPRINT ANALYZERS/CAMERAS/EQUIP	1	\$32,790
5A002	SYSTEMS/EQUIPMENT/INTEGRATED CIRCUITS FOR INFO SEC	5	\$35,006
5D002	SOFTWARE FOR INFORMATION SECURITY	4	\$18
6A003	CAMERAS	1	\$5,036
6A005	OPTICAL EQUIPMENT (LASERS)	1	\$97,300
7A103	INSTRUMENTATION, NAV EQUIP/SYSTEMS NOT IN 7A003	2	\$17,200

**TOTAL APPLICATIONS: 23**

**TOTAL CCL'S: 10**

**TOTAL DOLLAR VALUE: \$1,801,416,394**

#### BURMA

0A978	LAW ENFORCEMENT STRIKING WEAPONS	1	\$20
0A979	POLICE HELMETS, SHIELDS AND PARTS	1	\$20

**TOTAL APPLICATIONS: 2**

**TOTAL CCL'S: 2**

**TOTAL DOLLAR VALUE: \$40**

#### CAMBODIA

0A987	OPTICAL SIGHTING DEVICES FOR FIREARMS	1	\$250
1A004	PROTECTIVE AND DETECTION EQUIPMENT	1	\$31,200
1A007	DEVICES DESIGNED TO INITIATE ENERGETIC CHARGES	1	\$95,003,900

1C351	HUMAN AND ANIMAL PATHOGENS AND TOXINS	1	\$20
3E002	OTHER TECHNOLOGY FOR ITEMS IN CATEGORY 3	1	\$1
4E001	TECHNOLOGY FOR DEV/PROD/USE OF CERTAIN EQUIP/SOFTW	1	\$1
5A002	SYSTEMS/EQUIPMENT/INTEGRATED CIRCUITS FOR INFO SEC	6	\$55,100
5D002	SOFTWARE FOR INFORMATION SECURITY	3	\$18
7A103	INSTRUMENTATION, NAV EQUIP/SYSTEMS NOT IN 7A003	1	\$240,000

**TOTAL APPLICATIONS: 12**

**TOTAL CCL'S: 9**

**TOTAL DOLLAR VALUE: \$95,330,490**

CHINA

0A987	OPTICAL SIGHTING DEVICES FOR FIREARMS	31	\$5,760,130
1A002	COMPOSITE STRUCTURES OR LAMINATES	1	\$6,000,000
1A003	MANUFACTURES OF NON-FLUORINATED POLYMERIC SUBST	1	\$3,900
1A004	PROTECTIVE AND DETECTION EQUIPMENT	176	\$103,049,189
1A007	DEVICES DESIGNED TO INITIATE ENERGETIC CHARGES	1	\$350,000
1A999	SPECIFIC PROCESSING EQUIPMENT, N.E.S	2	\$987,991
1B119	FLUID ENERGY MILLS	3	\$363,425
1B201	FILAMENT WINDING MACHINES	6	\$5,538,899
1C001	MATERIALS USED AS ELECTROMAGNETIC WAVE ABSORBERS/ POLYMERS	1	\$41,000
1C006	FLUIDS AND LUBRICATING MATERIALS	27	\$15,949,925
1C008	NON-FLUORINATED POLYMERIC SUBSTANCES	4	\$191,208
1C010	FIBROUS/FILAMENTARY MATERIALS USED IN MATRIX STRUC	12	\$1,713,843
1C111	PROPELLANTS AND CONSTITUENT CHEMICALS	7	\$13,127,988
1C202	ALLOYS, OTHER THAN THOSE CONTROLLED BY 1C002.B.3 OR 1C002.B.4	47	\$10,834,952
1C210	FIBROUS/FILAMENTARY MATERIALS NOT CONTROLLED BY 1C010	8	\$66,382,060
1C225	BORON AND BORON COMPOUNDS/MIXTURES AND LOADED MATE	3	\$11,280
1C226	PARTS MADE FROM TUNGSTEN, TUNGSTEN CARBIDE OR TUNGS	2	\$4,000
1C227	CALCIUM CONTAINING BORON AND OTHER IMPURITIES	5	\$3,101
1C228	MAGNESIUM CONTAINING IMPURITIES OTHER THAN CALCIUM	5	\$1,685
1C229	HIGH PURITY BISMUTH WITH LOW SILVER CONTENT	7	\$6,310
1C230	BERYLLIUM	5	\$67,731
1C231	HAFNIUM	16	\$3,739,565
1C232	HELIUM-3 OR HELIUM ISOTOPICALLY ENRICHED IN THE HE	3	\$5,925,304
1C233	LITHIUM	11	\$8,057,317
1C234	ZIRCONIUM, WITH A HAFNIUM CONTENT	17	\$1,371,650
1C240	NICKEL POWDER OR POROUS NICKEL METAL	5	\$440,303
1C350	CHEMICALS, PRECURSORS FOR TOXIC CHEMICAL AGENTS	19	\$81,257,887
1C351	HUMAN AND ANIMAL PATHOGENS AND TOXINS	30	\$527,254
1C981	CRUDE PETROLEUM/TAR SANDS/CRUDE SHALE	4	\$4,800,000,000
1C990	FIBROUS AND FILAMENTARY MATERIALS	1	\$5,000
1D003	SOFTWARE DESIGNED FOR EQUIP CONTROLLED UNDER 1A004	35	\$4,900,546
1E001	TECH FOR DEV OF CERTAIN EQUIP IN 1A/1B/1C	3	\$3

1E002	OTHER TECHNOLOGY	1	\$6,720
1E351	TECHNOLOGY FOR USE OF MICROBIOLOGICAL MATERIALS	2	\$2
2A226	VALVES NOT CONTROLLED BY 0B001	2	\$41,851
2A291	NUCLEAR REACTOR AND NUCLEAR POWER PLANT RELATED EQ	1	\$337,875
2A292	PIPING/FITTINGS/VALVES MADE/LINED WITH NAMED ALLOY	1	\$1
2A983	EXPLOSIVES OR DETONATOR DETECTION EQUIPMENT	2	\$125,883
2B001	NUMERICAL CONTROL UNITS/MOTION CONTROL BOARDS	42	\$25,901,480
2B002	NUMERICALLY CONTROLLED MACHINE TOOLS FOR OPTIC	1	\$882,744
2B006	DIMENSIONAL INSPECTION/MEASURING SYSTEMS OR EQUIPM	70	\$4,485,718
2B008	ASSEMBLIES/UNITS/INSERTS FOR MACHINE TOOLS IN 2B00	1	\$188,197
2B201	MACHINE TOOLS FOR REMOVING OR CUTTING METALS	20	\$7,039,854
2B230	PRESSURE TRANSDUCERS	125	\$14,482,090
2B231	VACUUM PUMPS	1	\$1
2B350	CHEMICAL MANUFACTURING FACILITIES AND EQUIPMENT	329	\$85,773,257
2B351	TOXIC GAS MONITORING SYSTEMS & DEDICATED DETECTORS	7	\$349,288
2B352	EQUIPMENT FOR HANDLING BIOLOGICAL MATERIALS	165	\$29,962,216
2B999	SPECIFIC PROCESSING EQUIPMENT, N.E.S.	1	\$2,768
2D002	ADAPTIVE CONTROL/ELECTRONIC DEVICE SOFTWARE	9	\$80,536
2E001	TECHNOLOGY SUPPORTING EQUIPMENT/SOFTW IN 2A/2B/2D	11	\$9
2E002	TECH SUPPORTING PROD OF CERTAIN ITEMS IN 2A/2B	15	\$110
2E003	OTHER TECHNOLOGY	2	\$1,001
2E201	TECH FOR USE OF EQUIP/SOFTW CONTROLLED BY 2A/2B/2D	1	\$1,000
2E301	TECHNOLOGY FOR USE OF COMMODITIES CONTROLLED BY 2B	7	\$7
3A001	ELECTRONIC DEVICES/COMPONENTS	201	\$2,054,521,453
3A002	GENERAL PURPOSE ELECTRONIC EQUIPMENT	41	\$3,892,867
3A225	INVERTERS/CONVERTERS/FREQUENCY CHANGERS/ GENERATORS	15	\$681,598
3A230	HIGH SPEED PULSE GENERATORS	4	\$64,190
3A231	NEUTRON GENERATOR SYSTEMS INCLUDING TUBES	3	\$34,408,280
3A233	MASS SPECTROMETERS	496	\$69,955,352
3A292	OSCILLOSCOPES AND TRANSIENT RECORDERS	2	\$27,121
3A981	POLYGRAPHS/FINGERPRINT ANALYZERS/CAMERAS/EQUIP	1	\$29,250
3A991	ELECTRONIC DEVICES AND COMPONENTS	3	\$10,003
3A992	GENERAL PURPOSE ELECTRONIC EQUIPMENT	3	\$1,885,323
3A999	SPECIFIC PROCESSING EQUIPMENT, N.E.S.	23	\$2,320,410
3B001	EPITAXIAL EQUIPMENT FOR SEMICONDUCTORS	31	\$27,869,229
3B002	ION IMPLANTATION EQUIPMENT FOR SEMICONDUCTORS	2	\$3,000,001
3B991	OTHER MFG/TEST EQUIPMENT NOT CONTROLLED BY 3B	7	\$7
3B992	EQUIPMENT FOR THE INSPECTION/TESTING OF COMPONENTS	6	\$6
3C001	HETERO-EPITAXIAL MATERIALS	16	\$7,759,505
3C002	RESIST MATERIALS	9	\$302,585,346
3C003	ORGANO-INORGANIC COMPOUNDS DESCRIBED IN THIS ENTRY	25	\$721,566,298
3C004	HYDRIDES OF PHOSPHORUS, ARSENIC, OR ANTIMONY	34	\$68,504,924
3C005	SILICON CARBIDE WAFERS	2	\$5
3C006	SUBSTRATES SPECIFIED IN 3C005	1	\$1
3D001	SOFTWARE FOR DEV OR PROD OF EQUIP IN 3A001.b to 3A002.g or 3B	28	\$28
3D002	SOFTWARE FOR USE OF CERTAIN EQUIPMENT IN 3B	95	\$5,640,092

3D003	PHYSICS-BASED SIMULATION SOFTWARE SPEC DESIGNED FOR THE DEV OF CERTAIN PROCESSES RELATED TO CONDUCTORS, DIELECTRICS OR SEMICONDUCTOR MATERIALS	92	\$91
3D201	SOFTWARE FOR USE OF FREQUENCY CHANGERS (A.K.A. CONVERTERS OR INVERTERS) AND GENERATORS IN 3A225	2	\$2
3D202	SOFTWARE FOR ENHANCE OR RELEASE THE PERFORMANCE CHARACTERISTICS OF FREQUENCY CHANGERS OR GENERATORS TO MEET OR EXCEED THE LEVEL OF THE PERFORMANCE CHARACTERISTICS DESCRIBED IN 3A225	3	\$3
3D980	SOFTWARE FOR DEV/PROD/USE OF ITEMS IN 3A980/3A981	1	\$22,100
3D991	GENERAL PURPOSE ELECTRONIC EQUIPMENT FOR 3A992	6	\$6
3E001	TECH FOR DEV OR PROD OF CERTAIN ITEMS IN 3A/3B/3C	567	\$1,371,961
3E002	OTHER TECHNOLOGY FOR ITEMS IN CATEGORY 3	448	\$120,428
3E003	OTHER "TECHNOLOGY"	100	\$99
3E201	TECHNOLOGY FOR THE USE OF CERTAIN ITEMS IN 3A	3	\$502
3E202	TECHNOLOGY FOR FREQUENCY CHANGER OR GENERATOR SOFTWARE IN 3D201 OR 3D202	3	\$3
3E991	MANUFACTURING & TEST EQUIPMENT FOR 3B991/3B992	8	\$7
4A003	DIGITAL COMPUTERS/ASSEMBLIES AND RELATED EQUIPMENT	1	\$1
4A994	ITEMS NOT CONTROLLED BY 4A001/4A002/4A003	7	\$125,011
4D001	SOFTWARE FOR CERTAIN EQUIPMENT/SOFTWARE IN 4A/4D	291	\$289
4E001	TECHNOLOGY FOR DEV/PROD/USE OF CERTAIN EQUIP/SOFTW	323	\$322
5A002	SYSTEMS/EQUIPMENT/INTEGRATED CIRCUITS FOR INFO SEC	17	\$155,736
5A992	INFORMATION SECURITY EQUIPMENT	5	\$7,536
5B002	TEST/INSPECTION/PRODUCTION EQUIP FOR INFO SEC	5	\$5
5D001	SOFTWARE FOR DEV/PROD/USE OF ITEMS IN 5A/5B/5D/5E	295	\$295
5D002	SOFTWARE FOR INFORMATION SECURITY	30	\$342,044
5D991	SOFTWARE FOR DEV/PROD/USE WITH 5B994 TEST EQUIPMEN	4	\$4
5D992	SOFTWARE NOT CONTROLLED BY 5D002	8	\$259,159
5E001	SPECIFIC TECHNOLOGY AS LISTED	464	\$775
5E002	TECHNOLOGY FOR DEV/PROD/USE OF INFO SECURITY	89	\$37,995,062
5E991	TECHNOLOGY FOR DEV/PROD/USE OF 5B994 OR 5D991	4	\$4
5E992	TECHNOLOGY FOR INFORMATION SECURITY/CRYPTOLOGY	4	\$4
6A001	ACOUSTICS	12	\$445,289,085
6A002	OPTICAL SENSORS	11	\$553,911
6A003	CAMERAS	63	\$24,705,003
6A005	OPTICAL EQUIPMENT (LASERS)	63	\$94,830,595
6A006	MAGNETOMETERS, MAGNETIC GRADIOMETERS, INTRINSIC MAGNETIC GRADIOMETERS, UNDERWATER ELECTRIC FIELD SENSORS, COMPENSATION SYSTEMS	1	\$35,840
6A203	CAMERAS NOT CONTROLLED BY 6A003 OR 6A203	10	\$1,172,285
6A205	LASERS, OTHER THAN THOSE SPECIFIED IN 6A005	2	\$146,400
6C004	OPTICS	3	\$11,090
6C005	SYNTHETIC CRYSTALLINE LASER HOST MATERIAL IN UNFIN FORM	11	\$308,527
6E001	TECH FOR DEV OF CERTAIN EQUIP/MATERIALS/SOFTWARE IN CATEGORY 6	12	\$210
6E002	TECH FOR PROD OF CERTAIN EQUIP/MATERIALS IN CAT 6	12	\$210

6E003	OTHER TECHNOLOGY	5	\$4
7A003	INERTIAL NAVIGATION SYSTEMS (GIMBALLED/STRAPDOWN)	2	\$263,315
7A103	INSTRUMENTATION, NAV EQUIP/SYSTEMS NOT IN 7A003	32	\$13,351,547
7A994	OTHER NAVIGATION/AIRBORNE COMMUNICATION EQUIPMENT	1	\$2,715
7B994	OTHER EQUIP FOR TEST/INSPECTION OR PRODUCTION OF NAVIGATION/AVIONICS	1	\$350,000
7D101	SOFTWARE FOR COMMODITIES CONTROLLED BY 7A/7B	1	\$500
7D994	SOFTWARE FOR NAVIGATION AND AVIONICS	1	\$15,000,000
7E001	TECH FOR DEV OF EQUIP/SOFTW CONTROL BY 7A/7B/7D	1	\$1
7E101	TECH FOR EQUIPMENT/SOFTWARE CONTROLLED BY 7A	1	\$500
7E994	OTHER TECHNOLOGY RELATED TO NAVIGATION OR AVIONICS	1	\$15,000,000
8A001	SUBMERSIBLE VEHICLES OR SURFACE VESSELS	1	\$90,000
9A001	AERO GAS TURBINE ENGINES	2	\$102,000,000
9A991	AIRCRAFT AND CERTAIN GAS TURBINE ENGINES N.E.S.	2	\$1,917,000
9B106	ENVIRONMENTAL CHAMBERS AND ANECHOIC CHAMBERS	3	\$394,770
9B990	VIBRATION TEST EQUIPMENT	1	\$140,000
9D004	OTHER SOFTWARE AS FOLLOWS	2	\$200
9E001	TECH FOR DEV OF CERTAIN EQUIP/SOFTWARE IN 9A/9B/9D	2	\$200
9E003	OTHER TECHNOLOGY	4	\$5,003
9E101	TECHNOLOGY FOR DEV/PROD OF CERTAIN ITEMS IN 9A	2	\$200
9E102	TECHNOLOGY FOR USE WITH CERTAIN ITEMS IN 9A	2	\$200
EAR99	ITEMS SUBJECT TO THE EAR N.E.S.	129	\$100,683,379

**TOTAL APPLICATIONS: 3303**

**TOTAL CCL'S: 136**

**TOTAL DOLLAR VALUE: \$9,467,651,482**

CUBA

1C992	OIL WELL PERFORATORS	1	\$0
2A994	PORTABLE ELECTRIC GENERATORS AND SPECIALLY DESIGNE	4	\$15,000,000
2B999	SPECIFIC PROCESSING EQUIPMENT, N.E.S.	1	\$0
4A994	ITEMS NOT CONTROLLED BY 4A001/4A002/4A003	2	\$2,543
5A002	SYSTEMS/EQUIPMENT/INTEGRATED CIRCUITS FOR INFO SEC	8	\$81,894
5A991	TRANSMISSION ITEMS NOT W/I PARAMETERS IN 5A001	8	\$664,620
5A992	INFORMATION SECURITY EQUIPMENT	18	\$2,046,610
5B991	TELECOMMUNICATIONS TEST EQUIPMENT	1	\$0
5D002	SOFTWARE FOR INFORMATION SECURITY	9	\$211,293
5D991	SOFTWARE FOR DEV/PROD/USE WITH 5B994 TEST EQUIPMEN	1	\$1
5D992	SOFTWARE NOT CONTROLLED BY 5D002	10	\$7,656
5E001	SPECIFIC TECHNOLOGY AS LISTED	1	\$1
5E002	TECHNOLOGY FOR DEV/PROD/USE OF INFO SECURITY	3	\$3
5E991	TECHNOLOGY FOR DEV/PROD/USE OF 5B994 OR 5D991	1	\$1
5E992	TECHNOLOGY FOR INFORMATION SECURITY/CRYPTOLOGY	4	\$29
6A991	MARINE OR TERRESTRIAL ACOUSTIC EQUIPMENT	1	\$0
7A994	OTHER NAVIGATION/AIRBORNE COMMUNICATION EQUIPMENT	9	\$35,778,908
7D994	SOFTWARE FOR NAVIGATION AND AVIONICS	2	\$17,179
7E994	OTHER TECHNOLOGY RELATED TO NAVIGATION OR AVIONICS	5	\$3
8A001	SUBMERSIBLE VEHICLES OR SURFACE VESSELS	1	\$0

8A002	SYSTEMS OR EQUIPMENT FOR SUBMERSIBLE VEHICLES	1	\$0
8A992	UNDERWATER SYSTEMS OR EQUIPMENT	37	\$5,769
9A991	AIRCRAFT AND CERTAIN GAS TURBINE ENGINES N.E.S.	15	\$378,048,218
9E991	TECHNOLOGY FOR THE DEV/PROD/USE WITH ITEMS IN 9A99	5	\$3
EAR99	ITEMS SUBJECT TO THE EAR N.E.S.	191	\$1,782,424,077

**TOTAL APPLICATIONS: 254**  
**TOTAL CCL'S: 25**  
**TOTAL DOLLAR VALUE: \$2,214,288,808**

GEORGIA

0A984	SHOTGUNS, BUCKSHOT SHOTGUN SHELLS	2	\$32,300
0A987	OPTICAL SIGHTING DEVICES FOR FIREARMS	1	\$109,722
1A004	PROTECTIVE AND DETECTION EQUIPMENT	1	\$160,000
1A984	CHEMICAL AGENTS, INCLUDING TEAR GAS	1	\$349,710
3A611	MILITARY ELECTRONICS	2	\$18,155
3A981	POLYGRAPHS/FINGERPRINT ANALYZERS/CAMERAS/EQUIP	1	\$70,222
5A002	SYSTEMS/EQUIPMENT/INTEGRATED CIRCUITS FOR INFO SEC	4	\$791,676
5D002	SOFTWARE FOR INFORMATION SECURITY	5	\$88,118
5E001	SPECIFIC TECHNOLOGY AS LISTED	1	\$1

**TOTAL APPLICATIONS: 15**  
**TOTAL CCL'S: 9**  
**TOTAL DOLLAR VALUE: \$1,619,904**

IRAQ

0A606	GROUND VEHICLES AND RELATED COMMODITIES	8	\$18,028,876
0A617	MISCELLANEOUS EQUIP, MATERIALS, AND RELATED COMM	1	\$3,359
0A982	HANDCUFFS, LEG IRONS AND SHACKLES	1	\$50,000
0A987	OPTICAL SIGHTING DEVICES FOR FIREARMS	1	\$180
1A004	PROTECTIVE AND DETECTION EQUIPMENT	5	\$9,818,489
1A005	BODY ARMOR	1	\$20
1A007	DEVICES DESIGNED TO INITIATE ENERGETIC CHARGES	1	\$7,389
1A613	ARMORED AND PROTECTIVE EQUIPMENT, CONSTRUCTIONS, AND COMPONENTS	4	\$8,612,448
1A985	FINGERPRINTING POWDERS, DYES, AND INKS	2	\$102,597
1A995	PROTECTIVE AND DETECTION EQUIPMENT	1	\$686,380
1A999	SPECIFIC PROCESSING EQUIPMENT, N.E.S	1	\$24,760
1B999	SPECIFIC PROCESSING EQUIPMENT, N.E.S.	4	\$6,272,000
1C355	(CWC) SCHEDULE 2 AND 3 CHEMICALS	1	\$450,410
1C991	VACCINES, IMMUNOTOXINS AND MEDICAL PRODUCTS	1	\$300,000
1C992	OIL WELL PERFORATORS	3	\$95,644
1C995	MIXTURES CONTAINING PRECUSOR & INTERMEDIATE CHEM	1	\$5,700
1C999	SPECIFIC MATERIALS, N.E.S.	1	\$773
1E613	TECHNOLOGY REQUIRED FOR ITEMS CONTROLLED IN 1A613 OR 1B613 OR SOFTWARE CONTROLLED IN 1D613	1	\$1
2A983	EXPLOSIVES OR DETONATOR DETECTION EQUIPMENT	2	\$299,384
2B350	CHEMICAL MANUFACTURING FACILITIES AND EQUIPMENT	2	\$39,520
2B352	EQUIPMENT FOR HANDLING BIOLOGICAL MATERIALS	1	\$5,095

3A002	GENERAL PURPOSE ELECTRONIC EQUIPMENT	2	\$312,960
3A101	ELECTRONIC EQUIP/DEVICES NOT CONTROLLED BY 3A001	2	\$4,523,500
3A231	NEUTRON GENERATOR SYSTEMS INCLUDING TUBES	3	\$7,208,330
3A611	MILITARY ELECTRONICS	8	\$5,871,723
3D101	SOFTWARE FOR THE USE OF CERTAIN ITEMS IN 3A101.B	1	\$60,000
3E001	TECH FOR DEV OR PROD OF CERTAIN ITEMS IN 3A/3B/3C	2	\$3
3E002	OTHER TECHNOLOGY FOR ITEMS IN CATEGORY 3	2	\$2
4D001	SOFTWARE FOR CERTAIN EQUIPMENT/SOFTWARE IN 4A/4D	1	\$1
4E001	TECHNOLOGY FOR DEV/PROD/USE OF CERTAIN EQUIP/SOFTW	1	\$1
5A002	SYSTEMS/EQUIPMENT/INTEGRATED CIRCUITS FOR INFO SEC	8	\$3,613,329
5A992	INFORMATION SECURITY EQUIPMENT	1	\$0
5D001	SOFTWARE FOR DEV/PROD/USE OF ITEMS IN 5A/5B/5D/5E	1	\$1
5D002	SOFTWARE FOR INFORMATION SECURITY	3	\$142,750
5E001	SPECIFIC TECHNOLOGY AS LISTED	1	\$1
6A003	CAMERAS	3	\$49,704
9A610	MILITARY AIRCRAFT AND RELATED COMMODITIES	10	\$13,666,901
9A619	MILITARY GAS TURBINE ENGINES AND RELATED COMM	2	\$1,000,000
9B610	TEST, INSPECTION, AND PRODUCTION "EQUIPMENT" AND RELATED COMMODITIES "SPECIALLY DESIGNED" FOR THE "DEVELOPMENT" OR "PRODUCTION" OF COMMODITIES ENUMERATED IN ECCN 9A610 OR USML CATEGORY VIII	2	\$1,000,000
9B619	TEST, INSPECTION, AND PRODUCTION "EQUIPMENT" AND RELATED COMMODITIES "SPECIALLY DESIGNED" FOR THE "DEVELOPMENT" OR "PRODUCTION" OF COMMODITIES ENUMERATED IN ECCN 9A619 OR USML CATEGORY XIX	1	\$105,424
9E610	TECH REQUIRED FOR THE DEV/PROD/OPERATION/REPAIR OF MILITARY AIRCRAFT IN 9A610 & RELATED ITEMS IN 9A610, 9B610, 9C610 & 9D610	2	\$880,140
EAR99	ITEMS SUBJECT TO THE EAR N.E.S.	2	\$3,671,578

**TOTAL APPLICATIONS: 75**  
**TOTAL CCL'S: 43**  
**TOTAL DOLLAR VALUE: \$87,070,558**

#### KAZAKHSTAN

0A984	SHOTGUNS, BUCKSHOT SHOTGUN SHELLS	1	\$4,790
0A987	OPTICAL SIGHTING DEVICES FOR FIREARMS	15	\$2,308,198
1A004	PROTECTIVE AND DETECTION EQUIPMENT	2	\$47,668
1A005	BODY ARMOR	1	\$16,275
1A007	DEVICES DESIGNED TO INITIATE ENERGETIC CHARGES	2	\$227,899,785
1C006	FLUIDS AND LUBRICATING MATERIALS	2	\$90,000
1C008	NON-FLUORINATED POLYMERIC SUBSTANCES	1	\$100,000
1C111	PROPELLANTS AND CONSTITUENT CHEMICALS	2	\$1,404,000
2B005	PROCESSING EQUIPMENT OF INORGANIC OVERLAYS/ COATINGS	1	\$749,000
2B350	CHEMICAL MANUFACTURING FACILITIES AND EQUIPMENT	14	\$1,292,843
2B352	EQUIPMENT FOR HANDLING BIOLOGICAL MATERIALS	1	\$124,460,463
2E301	TECHNOLOGY FOR USE OF COMMODITIES CONTROLLED BY 2B	1	\$80,000
3A611	MILITARY ELECTRONICS	1	\$465,582

3E001	TECH FOR DEV OR PROD OF CERTAIN ITEMS IN 3A/3B/3C	1	\$1
3E002	OTHER TECHNOLOGY FOR ITEMS IN CATEGORY 3	1	\$1
4D001	SOFTWARE FOR CERTAIN EQUIPMENT/SOFTWARE IN 4A/4D	1	\$1
4E001	TECHNOLOGY FOR DEV/PROD/USE OF CERTAIN EQUIP/SOFTW	1	\$1
5A002	SYSTEMS/EQUIPMENT/INTEGRATED CIRCUITS FOR INFO SEC	7	\$3,810,261
5A991	TRANSMISSION ITEMS NOT W/I PARAMETERS IN 5A001	1	\$26,635
5D001	SOFTWARE FOR DEV/PROD/USE OF ITEMS IN 5A/5B/5D/5E	1	\$1
5D002	SOFTWARE FOR INFORMATION SECURITY	4	\$200,012
5E001	SPECIFIC TECHNOLOGY AS LISTED	1	\$1
6A001	ACOUSTICS	1	\$55,000,000
9A515	SPACECRAFT AND RELATED COMMODITIES	2	\$540,609,000
9A610	MILITARY AIRCRAFT AND RELATED COMMODITIES	3	\$45,285,360
9B515	TEST, INSPECTION, AND PRODUCTION "EQUIPMENT" "SPECIALLY DESIGNED" FOR "SPACECRAFT" AND RELATED COMMODITIES	2	\$13,000,000
9D515	SOFTWARE SPECIALLY DESIGNED FOR THE DEVELOPMENT, PRODUCTION OPERATION, INSTALLATION, MAINTENANCE, REPAIR, OVERHAUL, OR REFURBISHING OF SPACECRAFT	2	\$4,100,000
9E003	OTHER TECHNOLOGY	1	\$500,000
9E610	TECH REQUIRED FOR THE DEV/PROD/OPERATION/REPAIR OF MILITARY AIRCRAFT IN 9A610 & RELATED ITEMS IN 9A610, 9B610, 9C610 & 9D610	2	\$3,601,875
EAR99	ITEMS SUBJECT TO THE EAR N.E.S.	1	\$2,250

**TOTAL APPLICATIONS: 54**  
**TOTAL CCL'S: 30**  
**TOTAL DOLLAR VALUE: \$1,025,054,003**

#### KYRGYZSTAN

0A987	OPTICAL SIGHTING DEVICES FOR FIREARMS	4	\$630,631
1A004	PROTECTIVE AND DETECTION EQUIPMENT	2	\$300,000
1D003	SOFTWARE DESIGNED FOR EQPT CONTROLLED UNDER 1A004	1	\$5,600
3E002	OTHER TECHNOLOGY FOR ITEMS IN CATEGORY 3	1	\$1
4E001	TECHNOLOGY FOR DEV/PROD/USE OF CERTAIN EQUIP/SOFTW	1	\$1
5A002	SYSTEMS/EQUIPMENT/INTEGRATED CIRCUITS FOR INFO SEC	1	\$31
5D002	SOFTWARE FOR INFORMATION SECURITY	1	\$8

**TOTAL APPLICATIONS: 8**  
**TOTAL CCL'S: 7**  
**TOTAL DOLLAR VALUE: \$936,272**

#### LAOS

2B350	CHEMICAL MANUFACTURING FACILITIES AND EQUIPMENT	1	\$170,001
5A002	SYSTEMS/EQUIPMENT/INTEGRATED CIRCUITS FOR INFO SEC	1	\$31
5D002	SOFTWARE FOR INFORMATION SECURITY	1	\$8

**TOTAL APPLICATIONS: 2**  
**TOTAL CCL'S: 3**  
**TOTAL DOLLAR VALUE: \$170,040**

## LIBYA

0A986	SHOTGUN SHELLS (EXCEPT BUCKSHOT SHELLS) AND PARTS	1	\$3,750
1A984	CHEMICAL AGENTS, INCLUDING TEAR GAS	1	\$5,864
2B350	CHEMICAL MANUFACTURING FACILITIES AND EQUIPMENT	4	\$97,755
3A231	NEUTRON GENERATOR SYSTEMS INCLUDING TUBES	1	\$10,811,040
5A002	SYSTEMS/EQUIPMENT/INTEGRATED CIRCUITS FOR INFO SEC	3	\$48,060

**TOTAL APPLICATIONS: 9**

**TOTAL CCL'S: 5**

**TOTAL DOLLAR VALUE: \$10,966,469**

## MACAO

1A004	PROTECTIVE AND DETECTION EQUIPMENT	1	\$5,996
1C351	HUMAN AND ANIMAL PATHOGENS AND TOXINS	1	\$270
3A002	GENERAL PURPOSE ELECTRONIC EQUIPMENT	1	\$410,332
3A233	MASS SPECTROMETERS	1	\$192,803
5A002	SYSTEMS/EQUIPMENT/INTEGRATED CIRCUITS FOR INFO SEC	4	\$92,996
5D002	SOFTWARE FOR INFORMATION SECURITY	3	\$96,689
6A003	CAMERAS	1	\$22,000

**TOTAL APPLICATIONS: 10**

**TOTAL CCL'S: 7**

**TOTAL DOLLAR VALUE: \$821,086**

## MOLDOVA

0A987	OPTICAL SIGHTING DEVICES FOR FIREARMS	2	\$52,039
1A613	ARMORED AND PROTECTIVE EQUIPMENT, CONSTRUCTIONS, AND COMPONENTS	1	\$62,640
1A984	CHEMICAL AGENTS, INCLUDING TEAR GAS	1	\$59,400
3E001	TECH FOR DEV OR PROD OF CERTAIN ITEMS IN 3A/3B/3C	1	\$1
5A002	SYSTEMS/EQUIPMENT/INTEGRATED CIRCUITS FOR INFO SEC	5	\$1,482,929
5D002	SOFTWARE FOR INFORMATION SECURITY	1	\$8

**TOTAL APPLICATIONS: 10**

**TOTAL CCL'S: 6**

**TOTAL DOLLAR VALUE: \$1,657,017**

## MONGOLIA

0A984	SHOTGUNS, BUCKSHOT SHOTGUN SHELLS	2	\$3,239
0A987	OPTICAL SIGHTING DEVICES FOR FIREARMS	2	\$45,851
1A004	PROTECTIVE AND DETECTION EQUIPMENT	1	\$36,000
3E001	TECH FOR DEV OR PROD OF CERTAIN ITEMS IN 3A/3B/3C	1	\$1
5A002	SYSTEMS/EQUIPMENT/INTEGRATED CIRCUITS FOR INFO SEC	3	\$115,031
5D002	SOFTWARE FOR INFORMATION SECURITY	1	\$8

**TOTAL APPLICATIONS: 9**

**TOTAL CCL'S: 6**

**TOTAL DOLLAR VALUE: \$200,130**

RUSSIA FEDERATION

0A606	GROUND VEHICLES AND RELATED COMMODITIES	1	\$3,300
0A987	OPTICAL SIGHTING DEVICES FOR FIREARMS	1	\$1
1A004	PROTECTIVE AND DETECTION EQUIPMENT	2	\$904,553
1A005	BODY ARMOR	1	\$130
1C006	FLUIDS AND LUBRICATING MATERIALS	2	\$14,970
1C350	CHEMICALS, PRECURSORS FOR TOXIC CHEMICAL AGENTS	3	\$1,330,600
1C351	HUMAN AND ANIMAL PATHOGENS AND TOXINS	1	\$45,000
1E001	TECH FOR DEV OF CERTAIN EQUIP IN 1A/1B/1C	1	\$100
2A983	EXPLOSIVES OR DETONATOR DETECTION EQUIPMENT	5	\$1,908,331
2B001	NUMERICAL CONTROL UNITS/MOTION CONTROL BOARDS	1	\$31,301,100
2B350	CHEMICAL MANUFACTURING FACILITIES AND EQUIPMENT	19	\$666,311
2B352	EQUIPMENT FOR HANDLING BIOLOGICAL MATERIALS	2	\$690,000
2D002	ADAPTIVE CONTROL/ELECTRONIC DEVICE SOFTWARE	2	\$5,690
3A001	ELECTRONIC DEVICES/COMPONENTS	45	\$16,230,378
3A002	GENERAL PURPOSE ELECTRONIC EQUIPMENT	3	\$98,457
3A981	POLYGRAPHS/FINGERPRINT ANALYZERS/CAMERAS/EQUIP	2	\$42,050
3A992	GENERAL PURPOSE ELECTRONIC EQUIPMENT	1	\$150,000
3C002	RESIST MATERIALS	1	\$1,920,000
3D980	SOFTWARE FOR DEV/PROD/USE OF ITEMS IN 3A980/3A981	2	\$6
3E001	TECH FOR DEV OR PROD OF CERTAIN ITEMS IN 3A/3B/3C	58	\$59
3E002	OTHER TECHNOLOGY FOR ITEMS IN CATEGORY 3	64	\$64
4A994	ITEMS NOT CONTROLLED BY 4A001/4A002/4A003	4	\$136,500
4D001	SOFTWARE FOR CERTAIN EQUIPMENT/SOFTWARE IN 4A/4D	63	\$63
4E001	TECHNOLOGY FOR DEV/PROD/USE OF CERTAIN EQUIP/SOFTW	63	\$63
4E992	TECHNOLOGY FOR DEV/PROD/USE OF 4A994/4B994/4C994	2	\$70,000
5A002	SYSTEMS/EQUIPMENT/INTEGRATED CIRCUITS FOR INFO SEC	14	\$2,889,279
5A991	TRANSMISSION ITEMS NOT W/I PARAMETERS IN 5A001	1	\$20,350
5A992	INFORMATION SECURITY EQUIPMENT	11	\$2,510,925
5B002	TEST/INSPECTION/PRODUCTION EQUIP FOR INFO SEC	1	\$1
5D001	SOFTWARE FOR DEV/PROD/USE OF ITEMS IN 5A/5B/5D/5E	47	\$47
5D002	SOFTWARE FOR INFORMATION SECURITY	13	\$432,363
5D992	SOFTWARE NOT CONTROLLED BY 5D002	8	\$4,293,300
5E001	SPECIFIC TECHNOLOGY AS LISTED	47	\$47
5E002	TECHNOLOGY FOR DEV/PROD/USE OF INFO SECURITY	4	\$300,004
5E991	TECHNOLOGY FOR DEV/PROD/USE OF 5B994 OR 5D991	1	\$1,000
6A003	CAMERAS	1	\$56,565
6A005	OPTICAL EQUIPMENT (LASERS)	2	\$149,890
7A103	INSTRUMENTATION, NAV EQUIP/SYSTEMS NOT IN 7A003	12	\$265,001,794
7B101	EQUIPMENT DESIGNED FOR PRODUCTION OF INERTIAL MEAS	1	\$80,000
7D101	SOFTWARE FOR COMMODITIES CONTROLLED BY 7A/7B	2	\$200
7E101	TECH FOR EQUIPMENT/SOFTWARE CONTROLLED BY 7A	2	\$200
9A001	AERO GAS TURBINE ENGINES	1	\$3,500,000
9A003	GAS TURBINE ENGINE PROPULSION SYSTEMS	2	\$8,983,660
9A515	SPACECRAFT AND RELATED COMMODITIES	24	\$96,838,231
9A604	COMMODITIES RELATED TO LAUNCH VEHICLES, MISSILES,		

	ROCKETS, TORPEDOES, BOMBS AND MINES	1	\$800
9A610	MILITARY AIRCRAFT AND RELATED COMMODITIES	1	\$165,000
9B515	TEST, INSPECTION, AND PRODUCTION "EQUIPMENT" "SPECIALLY DESIGNED" FOR "SPACECRAFT" AND RELATED COMMODITIES	1	\$4,000,000
9D003	SOFTWARE FOR USE OF FADEC FOR CERTAIN PROPULSION S	2	\$2
9D515	SOFTWARE SPECIALLY DESIGNED FOR THE DEVELOPMENT, PRODUCTION OPERATION, INSTALLATION, MAINTENANCE, REPAIR, OVERHAUL, OR REFURBISHING OF SPACECRAFT	1	\$500
9E001	TECH FOR DEV OF CERTAIN EQUIP/SOFTWARE IN 9A/9B/9D	2	\$2
9E002	TECHNOLOGY FOR PROD OF EQUIPMENT IN 9A001.C OR 9B	2	\$2
9E003	OTHER TECHNOLOGY	1	\$100
9E102	TECHNOLOGY FOR USE WITH CERTAIN ITEMS IN 9A	1	\$1
9E515	TECHNOLOGY REQUIRED FOR THE DEVELOPMENT, PRODUCTION, OPERATION, INSTALLATION, REPAIR, OVERHAUL, OR REFURBISHING OF SPACECRAFT AND RELATED COMMODITIES	4	\$5,010
EAR99	ITEMS SUBJECT TO THE EAR N.E.S.	38	\$1,413,019,571

**TOTAL APPLICATIONS: 261**  
**TOTAL CCL'S: 55**  
**TOTAL DOLLAR VALUE: \$1,857,766,570**

TAJKISTAN

1A004	PROTECTIVE AND DETECTION EQUIPMENT	2	\$329,600
1A005	BODY ARMOR	2	\$115,264
1A613	ARMORED AND PROTECTIVE EQUIPMENT, CONSTRUCTIONS, AND COMPONENTS	2	\$202,370
1D003	SOFTWARE DESIGNED FOR EQPT CONTROLLED UNDER 1A004	1	\$5,600
3A101	ELECTRONIC EQUIP/DEVICES NOT CONTROLLED BY 3A001	2	\$1,590,000
3D101	SOFTWARE FOR THE USE OF CERTAIN ITEMS IN 3A101.B	1	\$20,000
5A002	SYSTEMS/EQUIPMENT/INTEGRATED CIRCUITS FOR INFO SEC	1	\$31
5D002	SOFTWARE FOR INFORMATION SECURITY	1	\$8
7A103	INSTRUMENTATION, NAV EQUIP/SYSTEMS NOT IN 7A003	1	\$5,650

**TOTAL APPLICATIONS: 8**  
**TOTAL CCL'S: 9**  
**TOTAL DOLLAR VALUE: \$2,268,523**

TURKMENISTAN

0A987	OPTICAL SIGHTING DEVICES FOR FIREARMS	1	\$4,991
1A004	PROTECTIVE AND DETECTION EQUIPMENT	1	\$45,000
1A007	DEVICES DESIGNED TO INITIATE ENERGETIC CHARGES	1	\$106,440,900
1D003	SOFTWARE DESIGNED FOR EQPT CONTROLLED UNDER 1A004	1	\$1,400
2B350	CHEMICAL MANUFACTURING FACILITIES AND EQUIPMENT	1	\$28,885
3A101	ELECTRONIC EQUIP/DEVICES NOT CONTROLLED BY 3A001	1	\$540,000
3A231	NEUTRON GENERATOR SYSTEMS INCLUDING TUBES	1	\$5,405,520
5A002	SYSTEMS/EQUIPMENT/INTEGRATED CIRCUITS FOR INFO SEC	1	\$31
5D002	SOFTWARE FOR INFORMATION SECURITY	1	\$8

6A003	CAMERAS	3	\$194,954
	<b>TOTAL APPLICATIONS: 10</b>		
	<b>TOTAL CCL'S: 10</b>		
	<b>TOTAL DOLLAR VALUE: \$112,661,689</b>		

UKRAINE

0A606	GROUND VEHICLES AND RELATED COMMODITIES	1	\$39,952
0A979	POLICE HELMETS, SHIELDS AND PARTS	2	\$62,384
0A984	SHOTGUNS, BUCKSHOT SHOTGUN SHELLS	10	\$973,638
0A987	OPTICAL SIGHTING DEVICES FOR FIREARMS	14	\$1,110,332
1A004	PROTECTIVE AND DETECTION EQUIPMENT	5	\$174,561
1A007	DEVICES DESIGNED TO INITIATE ENERGETIC CHARGES	3	\$302,494,993
1A227	HIGH DENSITY RADIATION SHEILDING WINDOWS	1	\$140
1A613	ARMORED AND PROTECTIVE EQUIPMENT, CONSTRUCTIONS, AND COMPONENTS	3	\$38,821
1C002	METAL ALLOYS, POWDER OR ALLOYED MATERIALS	1	\$320
1C007	CERAMIC BASE AND PRECURSOR MATERIALS	1	\$252
1C010	FIBROUS/FILAMENTARY MATERIALS USED IN MATRIX STRUC	1	\$334
1C011	METALS AND COMPOUNDS	1	\$5
1C116	MARAGING STEELS NOT CONTROLLED BY 1C216	1	\$55
1C117	TUNGSTEN/MOLYBDENUM/ALLOYS OF THESE METALS IN SPHE	1	\$370
1C210	FIBROUS/FILAMENTARY MATERIALS NOT CONTROLLED BY 1C010	1	\$168
1C229	HIGH PURITY BISMUTH WITH LOW SILVER CONTENT	1	\$215
1C230	BERYLLIUM	1	\$2,352
1C231	HAFNIUM	1	\$5,860
1C234	ZIRCONIUM, WITH A HAFNIUM CONTENT	1	\$1,400
1C240	NICKEL POWDER OR POROUS NICKEL METAL	1	\$10
1C608	ENERGETIC MATERIALS AND RELATED COMMODITIES NOT LISTED ELSEWHERE IN USML CATEGORY V AND ECCN 1C018	1	\$375,000
1D003	SOFTWARE DESIGNED FOR EQPT CONTROLLED UNDER 1A004	1	\$2,800
2A225	CRUCIBLES MADE OF MATERIALS RESISTANT TO LIQUID AC	1	\$875
2A983	EXPLOSIVES OR DETONATOR DETECTION EQUIPMENT	1	\$370,000
2B018	EQUIPMENT ON THE INTERNATIONAL MUNITIONS LIST	2	\$3,445
2B230	PRESSURE TRANSDUCERS	1	\$295
3A001	ELECTRONIC DEVICES/COMPONENTS	12	\$2,012,820
3A101	ELECTRONIC EQUIP/DEVICES NOT CONTROLLED BY 3A001	3	\$2,700,030
3A201	ELECTRONIC COMPONENTS NOT CONTROLLED BY 3A001	1	\$80
3A226	D-C HIGH-POWER SUPPLIES	1	\$60
3A228	SWITCHING DEVICES	1	\$360
3A611	MILITARY ELECTRONICS	4	\$6,742
3A981	POLYGRAPHS/FINGERPRINT ANALYZERS/CAMERAS/EQUIP	13	\$162,800
3A999	SPECIFIC PROCESSING EQUIPMENT, N.E.S.	1	\$30
3D980	SOFTWARE FOR DEV/PROD/USE OF ITEMS IN 3A980/3A981	9	\$2
3E001	TECH FOR DEV OR PROD OF CERTAIN ITEMS IN 3A/3B/3C	12	\$12
3E002	OTHER TECHNOLOGY FOR ITEMS IN CATEGORY 3	23	\$8
3E611	TECHNOLOGY REQUIRED FOR MILITARY ELECTRONICS	1	\$3

4D001	SOFTWARE FOR CERTAIN EQUIPMENT/SOFTWARE IN 4A/4D	8	\$8
4E001	TECHNOLOGY FOR DEV/PROD/USE OF CERTAIN EQUIP/SOFTW	8	\$8
5A002	SYSTEMS/EQUIPMENT/INTEGRATED CIRCUITS FOR INFO SEC	4	\$24,619
5D001	SOFTWARE FOR DEV/PROD/USE OF ITEMS IN 5A/5B/5D/5E	8	\$8
5D002	SOFTWARE FOR INFORMATION SECURITY	6	\$216,824
5D992	SOFTWARE NOT CONTROLLED BY 5D002	1	\$108
5E001	SPECIFIC TECHNOLOGY AS LISTED	9	\$11
5E002	TECHNOLOGY FOR DEV/PROD/USE OF INFO SECURITY	2	\$2
6A002	OPTICAL SENSORS	1	\$26,170
6A003	CAMERAS	6	\$2,596,727
6A005	OPTICAL EQUIPMENT (LASERS)	2	\$132,045
6A008	RADAR SYSTEMS/EQUIPMENT/ASSEMBLIES	1	\$2,326
6A202	PHOTOMULTIPLIER TUBES WITH A PHOTOCATHODE AREA GRE	1	\$100
7A103	INSTRUMENTATION, NAV EQUIP/SYSTEMS NOT IN 7A003	1	\$2,400,000
7D101	SOFTWARE FOR COMMODITIES CONTROLLED BY 7A/7B	1	\$100
7E101	TECH FOR EQUIPMENT/SOFTWARE CONTROLLED BY 7A	1	\$100
9A515	SPACECRAFT AND RELATED COMMODITIES	2	\$34,767
9A610	MILITARY AIRCRAFT AND RELATED COMMODITIES	3	\$463,378
9B604	TEST, INSPECTION, PRODUCTION EQUIPMENT AND RELATED COMMODITIES DESIGNED FOR THE DEVELOPMENT OR PRODUCTION OF ITEMS CONTROLLED IN 9A604	1	\$66,000
9B610	TEST, INSPECTION, AND PRODUCTION "EQUIPMENT" AND RELATED COMMODITIES "SPECIALLY DESIGNED" FOR THE "DEVELOPMENT" OR "PRODUCTION" OF COMMODITIES ENUMERATED IN ECCN 9A610 OR USML CATEGORY VIII	1	\$200,000
9D610	SOFTWARE "SPECIALLY DESIGNED" FOR THE "DEVELOPMENT," "PRODUCTION" OPERATION, INSTALLATION, MAINTENANCE, REPAIR, OVERHAUL, OR REFURBISHING OF MILITARY AIRCRAFT AND RELATED COMMODITIES CONTROLLED BY 9A610, EQUIPMENT CONTROLLED BY 9B610	1	\$100
9E604	TECHNOLOGY REQUIRED FOR ITEMS CONTROLLED IN 9A604 OR 9B604 OR SOFTWARE CONTROLLED IN 9D604	1	\$2
9E610	TECHNOLOGY "REQUIRED" FOR THE "DEVELOPMENT," "PRODUCTION" OPERATION, INSTALLATION, MAINTENANCE, REPAIR, OVERHAUL, OR REFURBISHING OF MILITARY AIRCRAFT AND RELATED COMMODITIES CONTROLLED BY 9A610, EQUIPMENT CONTROLLED BY 9B610	2	\$200
9E619	TECH REQUIRED FOR THE DEV/PROD/OPERATION/REPAIR OF MILITARY GAS TURBINE ENGINES & RELATED ITEMS IN 9A619, 9B619, 9C619 & 9D619	1	\$1
1EAR99	ITEMS SUBJECT TO THE EAR N.E.S.	2	\$2,188

**TOTAL APPLICATIONS: 126**  
**TOTAL CCL'S: 63**  
**TOTAL DOLLAR VALUE: \$316,707,316**

UZBEKISTAN

0A979	POLICE HELMETS, SHIELDS AND PARTS	1	\$54,592
0A987	OPTICAL SIGHTING DEVICES FOR FIREARMS	1	\$800

1A005	BODY ARMOR	1	\$36,000
1A613	ARMORED AND PROTECTIVE EQUIPMENT, CONSTRUCTIONS, AND COMPONENTS	1	\$4,230
3A002	GENERAL PURPOSE ELECTRONIC EQUIPMENT	1	\$53,544
3A101	ELECTRONIC EQUIP/DEVICES NOT CONTROLLED BY 3A001	3	\$3,120,000
3D101	SOFTWARE FOR THE USE OF CERTAIN ITEMS IN 3A101.B	1	\$20,000
3E001	TECH FOR DEV OR PROD OF CERTAIN ITEMS IN 3A/3B/3C	1	\$1
5A002	SYSTEMS/EQUIPMENT/INTEGRATED CIRCUITS FOR INFO SEC	1	\$31
5A980	COMMUNICATIONS INTERCEPTING DEVICES AND PARTS/ ACCE	1	\$1,815
5D002	SOFTWARE FOR INFORMATION SECURITY	2	\$6,573
6A003	CAMERAS	1	\$44,000
6D003	OTHER SOFTWARE	1	\$1,600,000

**TOTAL APPLICATIONS: 12**  
**TOTAL CCL'S: 13**  
**TOTAL DOLLAR VALUE: \$4,941,586**

#### VIETNAM

0A606	GROUND VEHICLES AND RELATED COMMODITIES	1	\$2,508,515
0A978	LAW ENFORCEMENT STRIKING WEAPONS	1	\$192,000
0A982	HANDCUFFS, LEG IRONS AND SHACKLES	1	\$72,000
1A004	PROTECTIVE AND DETECTION EQUIPMENT	6	\$468,611
1A007	DEVICES DESIGNED TO INITIATE ENERGETIC CHARGES	3	\$95,015,840
1A985	FINGERPRINTING POWDERS, DYES, AND INKS	7	\$1,759,500
1C006	FLUIDS AND LUBRICATING MATERIALS	1	\$7,500
1C234	ZIRCONIUM, WITH A HAFNIUM CONTENT	1	\$1,352
1C350	CHEMICALS, PRECURSORS FOR TOXIC CHEMICAL AGENTS	4	\$2,920,500
1C351	HUMAN AND ANIMAL PATHOGENS AND TOXINS	1	\$1,163
1C608	ENERGETIC MATERIALS AND RELATED COMMODITIES NOT LISTED ELSEWHERE IN USML CATEGORY V AND ECCN 1C018	1	\$29,800
1E613	TECHNOLOGY REQUIRED FOR ITEMS CONTROLLED IN 1A613 OR 1B613 OR SOFTWARE CONTROLLED IN 1D613	1	\$1
2B001	NUMERICAL CONTROL UNITS/MOTION CONTROL BOARDS	1	\$193,750
2B201	MACHINE TOOLS FOR REMOVING OR CUTTING METALS	3	\$510,200
2B230	PRESSURE TRANSDUCERS	1	\$6,000
2B350	CHEMICAL MANUFACTURING FACILITIES AND EQUIPMENT	16	\$800,349
2B352	EQUIPMENT FOR HANDLING BIOLOGICAL MATERIALS	2	\$14,746
3A001	ELECTRONIC DEVICES/COMPONENTS	8	\$3,267,372
3A002	GENERAL PURPOSE ELECTRONIC EQUIPMENT	4	\$265,452
3A101	ELECTRONIC EQUIP/DEVICES NOT CONTROLLED BY 3A001	2	\$1,080,000
3A225	INVERTERS/CONVERTERS/FREQUENCY CHANGERS/ GENERATORS	2	\$57,550
3A231	NEUTRON GENERATOR SYSTEMS INCLUDING TUBES	1	\$28,829,440
3A233	MASS SPECTROMETERS	13	\$1,490,856
3A611	MILITARY ELECTRONICS	2	\$12,594
3A981	POLYGRAPHS/FINGERPRINT ANALYZERS/CAMERAS/EQUIP	5	\$699,827
3D002	SOFTWARE FOR USE OF CERTAIN EQUIPMENT IN 3B	1	\$1
3D003	CAD SOFTWARE FOR SEMICONDUCTOR DEVICES/ INTEGRATED	1	\$1

3D980	SOFTWARE FOR DEV/PROD/USE OF ITEMS IN 3A980/3A981	1	\$65,000
3E001	TECH FOR DEV OR PROD OF CERTAIN ITEMS IN 3A/3B/3C	15	\$16
3E002	OTHER TECHNOLOGY FOR ITEMS IN CATEGORY 3	10	\$10
3E003	OTHER "TECHNOLOGY"	1	\$1
3E201	TECHNOLOGY FOR THE USE OF CERTAIN ITEMS IN 3A	1	\$1
4D001	SOFTWARE FOR CERTAIN EQUIPMENT/SOFTWARE IN 4A/4D	8	\$8
4E001	TECHNOLOGY FOR DEV/PROD/USE OF CERTAIN EQUIP/SOFTW	8	\$8
5A001	TELECOMMUNICATIONS/TRANSMISSION EQUIPMENT	1	\$8,548
5A002	SYSTEMS/EQUIPMENT/INTEGRATED CIRCUITS FOR INFO SEC	10	\$32,557
5D001	SOFTWARE FOR DEV/PROD/USE OF ITEMS IN 5A/5B/5D/5E	8	\$8
5D002	SOFTWARE FOR INFORMATION SECURITY	12	\$100,025
5E001	SPECIFIC TECHNOLOGY AS LISTED	10	\$14
5E002	TECHNOLOGY FOR DEV/PROD/USE OF INFO SECURITY	7	\$8
6A001	ACOUSTICS	2	\$9,665,615
6A003	CAMERAS	8	\$987,905
6A006	MAGNETOMETERS, MAGNETIC GRADIOMETERS, INTRINSIC MAGNETIC GRADIOMETERS, UNDERWATER ELECTRIC FIELD SENSORS, COMPENSATION SYSTEMS	1	\$1,963,500
6A993	CAMERAS NOT CONTROLLED BY 6A003 OR 6A203	1	\$17,940
6E001	TECH FOR DEV OF CERTAIN EQUIP/MATERIALS/SOFTWARE IN CATEGORY 6	1	\$1
6E002	TECH FOR PROD OF CERTAIN EQUIP/MATERIALS IN CAT 6	1	\$1
7A103	INSTRUMENTATION, NAV EQUIP/SYSTEMS NOT IN 7A003	1	\$6,000
9A515	SPACECRAFT AND RELATED COMMODITIES	1	\$270,000
9D515	SOFTWARE SPECIALLY DESIGNED FOR THE DEVELOPMENT, PRODUCTION OPERATION, INSTALLATION, MAINTENANCE, REPAIR, OVERHAUL, OR REFURBISHING OF SPACECRAFT	1	\$300,000
9E515	TECHNOLOGY REQUIRED FOR THE DEVELOPMENT, PRODUCTION, OPERATION, INSTALLATION, REPAIR, OVERHAUL, OR REFURBISHING OF SPACECRAFT AND RELATED COMMODITIES	1	\$300,000
EAR99	ITEMS SUBJECT TO THE EAR N.E.S.	1	\$1,339

**TOTAL APPLICATIONS: 135**

**TOTAL CCL'S: 51**

**TOTAL DOLLAR VALUE: \$153,923,425**

**GRAND TOTAL OF APPLICATIONS: 4369**

**GRAND TOTAL OF CCL'S: 210**

**GRAND TOTAL OF DOLLAR VALUE: \$17,479,079,610**

## **Appendix F: Report on Domestic Economic Impact of U.S. Exports to Controlled Countries**

In accordance with Section 14(e) of the Export Administration Act of 1979 (EAA), the Bureau of Industry and Security (BIS) continues to assess the impact on U.S. industry and employment of output from “controlled countries”<sup>1</sup> resulting, in particular, from the use of U.S. exports of turnkey plants and manufacturing facilities.

Section 14(e), which was added to the Act in 1985, requires the following:

- “a detailed description of the extent of injury to United States industry and the extent of job displacement caused by United States exports of goods and technology to controlled countries;” and
- “a full analysis of the consequences of exports of turnkey plants and manufacturing facilities to controlled countries... to produce goods for export to the United States or to compete with United States products in export markets.”

### **Goods and Technology Exports**

In calendar year 2015, U.S. exports to controlled countries totaled \$136.5 billion, which represents a 7.3 percent decrease from the 2014 level of \$149.0 billion. Historically, the dollar value of trade with controlled destinations, other than the People’s Republic of China (PRC or China), has been low. China is the largest single export market among the controlled country group, with around 85.0 percent of the total controlled export value. Vietnam and Russia are in a close second, with each having about a 5.2 percent share of the total controlled U.S. export value last year. An analysis of exports by commodity category indicates that electronics, information and communication products, transportation equipment, machinery, chemicals, and waste and scrap represented more than half of the total U.S. exports to controlled countries, especially China. The small share of U.S. exports to controlled countries relative to total U.S. exports (9.1 percent) suggests that the overall adverse impact through injury to U.S. industry and job displacement is not large, although controls do have greater impact on certain industry sectors and companies.

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<sup>1</sup> For the purpose of this section, the term “controlled countries” is the same as that used in Section 772.1 of the Export Administration Regulations. Currently, that section includes the following countries: Albania; Armenia; Azerbaijan; Belarus; Cambodia; Cuba; the People’s Republic of China; Georgia; Iraq; Kazakhstan; Kyrgyzstan; Laos; Macau; Moldova; Mongolia; North Korea; Russia; Tajikistan; Turkmenistan; Ukraine; Uzbekistan; and Vietnam. In addition, this section provides statistics related to licensing involving Burma and Libya, which are in Country Group D:1 but are not identified in the current definition of “controlled countries.”

<b>Controlled Countries</b>	<b>U.S. Exports Calendar Year 2015 (\$millions)</b>
Albania	\$30.95
Armenia	\$50.25
Azerbaijan	\$477.32
Belarus	\$59.24
Burma	\$227.14
Cambodia	\$391.05
China (PRC)	\$116,071.77
Cuba	\$180.22
Georgia	\$340.50
Iraq	\$1,971.48
Kazakhstan	\$510.48
Kyrgyzstan	\$32.00
Laos	\$24.58
Libya	\$242.95
Macau	\$542.35
Moldova	\$16.16
Mongolia	\$69.16
North Korea	\$4.75
Russia	\$7,087.11
Tajikistan	\$18.99
Turkmenistan	\$80.84
Ukraine	\$862.09
Uzbekistan	\$137.96
Vietnam	\$7,087.52
<b>Total Exports to Controlled Countries</b>	<b>\$136,516.86</b>
<b>Total Exports to All Countries</b>	<b>\$1,502,572.23</b>
U.S. Exports to Controlled Countries as a percentage of the Total of all U.S. Exports	<b>9.1%</b>
BIS Licensed exports as a percentage of the total U.S. exports to Controlled Countries	0.4%
BIS Licensed exports & exports subject to a BIS license exception as a percentage of the total U.S. exports to Controlled Countries	3.6%
Sources: U.S. Census Bureau, U.S. Bureau of Industry and Security	

As part of its defense industrial base monitoring responsibilities, BIS reviews on an ongoing basis the potential domestic impact of U.S. technology transfers. U.S. and other western firms choose to establish production facilities in China for a variety of reasons, including technology transfer requirements imposed by China; a desire to take advantage of China's large pool of labor; the desire for proximity to the market for their products; and a desire to take advantage of business incentives created by Chinese local and national governments. The United States runs a trade deficit with China (\$365.7 billion in 2015, a 6.6% increase from 2014). Thus, these practices and trends raise concerns with regard to their impact on the competitiveness of U.S. industry and employment over the long term.

A review of license applications for exports to China in the past year shows that a significant number involve manufacturing equipment and facilities, electronics, and components for use in foreign-invested production facilities. In 2015, only 0.4% of exports to China required a BIS license, and only 0.7% required a BIS license for high technology items. Among the top-valued manufacturing equipment exported in 2015 were telecommunication instruments, equipment for semiconductors, machine tools, and robotics. Examples of the top-valued licensed components are semiconductor manufacturing equipment, mass spectrometers, chemical manufacturing facilities and pressure transducers. Many other types of products, such as civil aircraft, computers, other electronic components, and semiconductor manufacturing equipment may be exported without the need for an export license (i.e., because they are going to a Validated End-User, the items are not controlled for national security reasons, or the items are eligible for shipment under a license exception). In 2015, the U.S. maintained its third position behind South Korea and Taiwan in the share of China's high technology import market. In the last ten years, U.S. high technology exports to China maintained an annual average increase of 8.5 percent. In 2015, high technology U.S. exports increased 11 percent and the percentage of U.S. high technology exports to total U.S. exports to China increased 4.6 percent to 29.5% overall. U.S. government policy to encourage exports to China of commercial items for civil end uses and end users but not to export military items or commercial items for military end uses is just one reason for these positive totals.

BIS also monitors certain forms of technology transfer as part of its overall responsibilities for the defense industrial base. These responsibilities include reviewing the impact of offsets on defense trade, participating in the Treasury Department-chaired Committee on Foreign Investment in the United States, and assessing the health and competitiveness of strategic industry sectors. Further information on these activities, including copies of the industrial sector assessments, is available from BIS's website at [www.bis.doc.gov](http://www.bis.doc.gov).

### **Turnkey Plants and Facilities Exports**

The Export Administration Regulations (EAR) require a license to export certain items for turnkey plants and facilities to controlled destinations. As a result of several revisions to the EAR in recent years, more items for turnkey plants and facilities have become eligible for export to controlled destinations without a license or under a license exception. For example, a license is generally not required for exports to controlled countries (except Cuba and North Korea) of items for turnkey plants and facilities that are designated as EAR99 (the designation for items that are subject to the EAR but not listed on the Commerce Control List). In addition, certain items for turnkey plants and facilities may be listed in a Commerce Control List entry where the applicable reason for control does not require a license to one or more controlled destinations, as indicated in the appropriate Reason for Control column of the Commerce Country Chart.

Other items for turnkey plants and facilities may be eligible for export to controlled destinations under a license exception, such as License Exception CIV (Civil End-Users), which authorizes exports of certain national security-controlled items to civil end users, for civil end uses, in most controlled countries, except Cuba and

North Korea; or License Exception TSU (Technology and Software-Unrestricted), which authorizes exports of operation technology and software, sales technology, and software updates, subject to certain conditions.

U.S. export data that are available from the U.S. Census Bureau do not provide the level of specificity needed to identify exports of turnkey plants or items for turnkey plants and facilities. This precludes a thorough assessment of the impact of U.S. exports of items for turnkey plants and facilities to controlled countries.

## **Appendix G: Agricultural Supply Tables and Information**

The U.S. Department of Agriculture (USDA) regularly updates the World Agricultural Supply and Demand Estimates (WASDE) report. The most recent report, prior reports, and a schedule of upcoming release dates for new reports may be accessed at:

<http://www.usda.gov/oce/commodity/wasde>

## Appendix H: Export Control Reform Speeches

- Remarks of Under Secretary Eric L. Hirschhorn at the Legal Aspects of Trade Conference  
June 13, 2016  
  
<http://www.bis.doc.gov/index.php/about-bis/newsroom/speeches/173-about-bis/newsroom/speeches/speeches-2015/1086-remarks-of-under-secretary-eric-l-hirschhorn-at-the-legal-aspects-of-trade-conference>
- Remarks of Under Secretary Eric L. Hirschhorn at the 11th Annual Export Control Forum  
April 20, 2016  
  
<http://www.bis.doc.gov/index.php/about-bis/newsroom/speeches/173-about-bis/newsroom/speeches/speeches-2015/1030-remarks-of-eric-l-hirschorn-at-the-2016-west-coast-forum>
- Prepared Remarks of Assistant Secretary of Commerce for Export Administration Kevin Wolf Regarding the Definition of “Specially Designed”  
October 7, 2015  
  
[http://www.bis.doc.gov/index.php/forms-documents/doc\\_view/1397-prepared-remarks-of-assistant-secretary-of-commerce](http://www.bis.doc.gov/index.php/forms-documents/doc_view/1397-prepared-remarks-of-assistant-secretary-of-commerce)
- Assistant Secretary David W. Mills Remarks at the 2015 Update Conference  
November 3, 2015  
  
<http://www.bis.doc.gov/index.php/about-bis/newsroom/speeches/173-about-bis/newsroom/speeches/speeches-2015/947-david-w-mills-remarks-at-the-2015-update-conference-2>
- Secretary Penny Pritzker Remarks at the 2015 Update Conference  
November 2, 2015  
  
<http://www.bis.doc.gov/index.php/about-bis/newsroom/speeches/173-about-bis/newsroom/speeches/speeches-2015/946-penny-pritzker-remarks-at-the-2015-update-conference>
- Under Secretary Eric L. Hirschhorn Remarks at the 2015 Update Conference  
November 2, 2015  
  
<http://www.bis.doc.gov/index.php/about-bis/newsroom/speeches/173-about-bis/newsroom/speeches/speeches-2015/942-eric-l-hirschhorn-remarks-at-the-2015-update-conference>
- Assistant Secretary Kevin J. Wolf Remarks at the 2015 Update Conference  
November 2, 2015  
  
<http://www.bis.doc.gov/index.php/about-bis/newsroom/speeches/173-about-bis/newsroom/speeches/speeches-2015/943-kevin-j-wolf-remarks-at-the-2015-update-conference>