

# Export Administration Annual Report Fiscal Year 2001



## U.S. Department of Commerce Bureau of Export Administration



January 2002

RETURN TO [TABLE OF CONTENTS](#)

## STATEMENT OF THE SECRETARY AND THE UNDER SECRETARY

It is our great privilege to present this report on the activities of the Bureau of Export Administration (BXA) in Fiscal Year 2001.

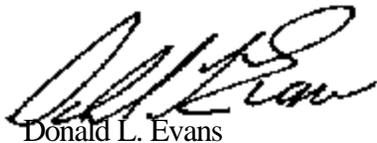
FY 2001 witnessed BXA fulfilling the wide range of responsibilities delegated to it as the Department of Commerce agency charged with addressing issues where industry and national security intersect. From leading the Federal Government's outreach to the private sector to protect "critical infrastructures," to working with international partners to strengthen export controls on sensitive nuclear, chemical, and biological items and technologies, BXA performed an array of functions that has grown substantially over the past decade as Congress and the Department have recognized the close interrelationship between economic and national security. Indeed, the name "Bureau of Export Administration" is an anachronism; although administering export controls on dual-use items remains a core BXA responsibility, it is only one of many important functions that the agency performs today.

The paramount importance of BXA's broad responsibilities was underscored by current events of FY 2001, including the terrorist attacks of September 11, 2001, the transmission of anthrax-laden letters by bio-terrorists, and recurrent cyber attacks on the Nation's information systems. These events also made clear that, in today's world, protecting our national security must encompass the protection of our economy and critical infrastructures – assets, technologies, and networks that are primarily developed, owned, and operated by the private sector. Government and industry must cooperate to accomplish this task effectively.

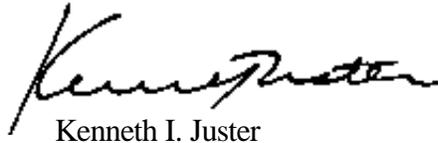
Cooperation between the public and private sectors was the hallmark of many BXA activities over the past year, including administering the Defense Priorities and Allocations System, assisting U.S. entities to prepare for and host facilities inspection visits by the Organization for the Prohibition of Chemical Weapons, initiating national outreach to build a business case for protecting privately owned information systems that support our critical infrastructures, and pursuing defense trade advocacy efforts.

BXA also renewed its commitment to public-private cooperation in its traditional mission of controlling dual-use exports in support of our national security, foreign policy, and other goals. During FY 2001, BXA worked closely with industry to develop export control laws and compliance systems that are more effective and less burdensome on exporters and improve and expedite the export licensing process. BXA also continued to vigorously enforce the export control laws, as evidenced by several significant cases concluded in 2001.

Unfortunately, we are not able to report, as we had hoped, that a new statute authorizing dual-use export controls has been enacted. The Export Administration Act of 1979 expired in August 2001, forcing the President, like his three predecessors, to invoke emergency powers to preserve the existing dual-use export control regime. The absence of a statutory framework that reflects current global political and economic realities seriously undermines our efforts to administer a modern export control system capable of countering modern threats such as terrorism and the proliferation of weapons of mass destruction. We again urge the Congress to enact legislation substantially in the form of S. 149, the *Export Administration Act of 2001*.



Donald L. Evans  
Secretary of Commerce



Kenneth I. Juster  
Under Secretary of Commerce  
for Export Administration

## EXECUTIVE SUMMARY

This report summarizes the activities of the Bureau of Export Administration (BXA) of the Department of Commerce (Department) during Fiscal Year 2001.<sup>1</sup>

### Overview of BXA

Created in 1987 principally to administer the dual-use export control regime that had then resided in the Department's International Trade Administration, BXA today has a broad and expanding array of responsibilities for issues arising at the intersection of industry and national security. In addition to administering and enforcing controls on the export of sensitive dual-use items (i.e., goods and technology), BXA's responsibilities extended to:

- coordinating the Commerce Department's post-September 11 efforts to ensure homeland security;
- leading U.S. Government outreach efforts to promote federal initiatives and public-private partnerships across industry sectors to protect the nation's critical infrastructures;
- monitoring the viability of the U.S. defense industrial base and ensuring that neither imports nor foreign acquisitions threaten U.S. national security;
- advocating sales of defense items to foreign countries on behalf of U.S. companies;
- implementing economic sanctions in furtherance of U.S. foreign policy objectives;
- facilitating the compliance of U.S. industry with international arms control agreements;
- cooperating with and assisting other countries on strategic trade and export control initiatives;
- enforcing antiboycott laws; and
- administering the Defense Priorities and Allocations System.

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<sup>1</sup> In accordance with the Department's past practice, this report has been prepared and is being submitted to Congress pursuant to the annual reporting requirement set forth in Section 14 of the Export Administration Act of 1979 (EAA). It should be noted, however, that this annual reporting requirement has, together with the rest of the EAA, expired, and the President has continued the U.S. dual-use export control regime under the authority of the International Emergency Economic Powers Act. It should be further noted that some of the activities described in the report are based on statutes other than the EAA.

Indeed, even BXA's core export control functions have changed substantially as the rationales and mechanisms for imposing export controls have shifted.

The evolution of BXA's mission is the product of substantial geopolitical changes that have occurred over the past two decades, including the end of the Cold War, the rise of non-state actors, globalization, rapid technological change, and a rejection of centrally planned economies in favor of free markets.

These changes and the evolution of BXA's mission also have dictated a change in BXA's philosophical orientation. Historically, BXA's function has been the regulation of U.S. industry. While regulation to protect national security remains necessary, BXA is today bringing to both its new and old missions two new approaches – (i) working with industry to promote national security, and (ii) working with U.S. trading partners to protect global security while seeking to minimize governmental interference with trade.

The changes in BXA's mission and goals are demonstrated in the FY 2001 activities highlighted below and in the subsequent chapters that focus on BXA's principal offices.

## **Fiscal Year 2001 Highlights**

Highlights of BXA's activities during FY 2001 include:

### **Homeland Security and Response to Events of September 11**

BXA has played, and will continue to play, an important role in the broader Federal Government response to the terrorist attacks on September 11.

In the immediate aftermath of September 11, BXA applied its specialized capabilities to assist in the Federal Government's investigation and response. In the week after the attacks, BXA assigned several enforcement agents to assist the FBI with its investigation of the attacks. BXA agents specializing in computer recovery analysis worked closely with FBI joint terrorism task forces in New York, Dallas, and Boston to analyze seized computers for evidence of the terrorists' criminal conspiracy. While BXA had been emphasizing enforcement activities related to terrorist groups and those who, through illegal exports, might be supporting them prior to September 11, those efforts were redoubled after the terrorist attacks.

### **Critical Infrastructure Protection**

BXA's Critical Infrastructure Assurance Office (the CIAO) continued to expand its Project Matrix program, an effort that took on new urgency in light of the September 11 attacks. Project

Matrix helps federal agencies to identify physical and information system assets that are essential for the government to protect U.S. national and economic security. Following September 11, the CIAO used information from Project Matrix to help the National Security Council identify and protect potential targets of future attacks.

The CIAO also continued to work with other government agencies and the private sector to develop the national strategy for critical infrastructure protection and to raise awareness in the private sector of the need to protect information systems.

In November 2001, the Under Secretary of Commerce for Export Administration was appointed to represent the Commerce Department on the President's Critical Infrastructure Protection Board. The Under Secretary also will chair the Board's Standing Committee on Private Sector and State and Local Government Outreach, which is the Committee responsible for coordinating critical infrastructure protection issues with the private sector and state and local governments.

### **Industry Outreach and Cooperation**

BXA worked closely with industry in FY 2001 to enhance national and global security:

- BXA conducted 47 export compliance seminars that provided information and training to more than 6,000 participants. In addition, BXA's 14<sup>th</sup> annual Update Conference on Export Controls and Policy attracted more than 600 representatives from the global exporting community;
- BXA hosted 16 on-site inspections of U.S. chemical facilities, carried out 17 site assistance visits to prepare facilities for inspections, and conducted outreach seminars to assist industry in compliance with the Chemical Weapons Convention; and
- BXA conducted a vigorous Export Enforcement-led outreach program geared toward increasing private sector awareness of and compliance with the export control laws, with a particular emphasis after September 11 on strategic industries, such as chemical manufacturers and biotechnology companies, that produce goods and products that terrorist groups might seek to obtain.

### **Export Licensing and Policy**

In FY 2001, BXA approved export license applications for products with a total value of \$10.9 billion, an increase of \$2.9 billion from FY 2000. The speed with which BXA processed most export licenses continued to improve in FY 2001, notwithstanding a slight increase in the total number of applications submitted (10,884 in FY 2001 vs. 10,701 in FY 2000). The processing time for license applications that did not require interagency review averaged 12

days, a decrease from a 15-day average in FY 2000. The processing time for licenses requiring interagency review in FY 2001 averaged 44 days.

BXA's overall approval rate for license applications in FY 2001 increased. BXA approved 8,806 applications, returned 1,740 applications without action, and denied 225 applications, a decrease from 398 denials in FY 2000. This decrease in denials resulted largely from the removal of many Indian and Pakistani entities from the Entities List during FY 2001.

BXA implemented a number of significant export control policies in FY 2001, including:

- BXA twice revised control thresholds for high performance computers (HPCs). The revisions raised the control level on HPCs to 85,000 millions of theoretical operations per second (MTOPS) for Computer Tier 3 countries, thereby relaxing most controls on standard computers available on a commercial, mass market basis. In addition, several countries previously included in Computer Tier 2 were moved to Computer Tier 1, thereby further streamlining controls on computers destined for those countries.
- On July 12, 2001, BXA amended the Export Administration Regulations implementing certain provisions of the Trade Sanctions Reform and Export Enhancement Act of 2000 (TSRA) relating to exports of agricultural commodities to Cuba. These regulations provide a streamlined procedure for authorizing exports of agricultural commodities to Cuba. Under this procedure, an exporter submits prior notification of a proposed transaction to BXA and, if no reviewing agency objects to the transaction within 12 business days, the exporter may ship under a new license exception.
- In response to the removal of Slobodan Milosevic as President of the Federal Republic of Yugoslavia and the subsequent democratic elections, on March 1, 2001, BXA published a rule lifting many of the trade sanction controls on Serbia. The rule also included a prohibition on exports and reexports by U.S. persons to individuals named in Executive Orders 13088 and 13192, including Milosevic, his family, and their associates, as well as persons indicted by the International Criminal Tribunal for the Former Yugoslavia.
- An interagency group, chaired by the National Security Council, resolved a long-standing export licensing jurisdictional dispute with respect to certain "space qualified" items. The resolution moved five categories of items to the U.S. Munitions List (USML), retained six categories of items on the Commerce Control List (CCL), and subdivided

five additional categories between the USML and CCL. Exporters of these items now have a greater measure of certainty regarding which agency has licensing jurisdiction over space qualified items.

### **Export Enforcement**

BXA continued to enforce its export controls aggressively. BXA investigations of export control violations resulted in the imposition of \$2,392,000 in civil penalties and \$1,125,400 in criminal fines during FY 2001.

BXA concluded a number of significant enforcement cases in FY 2001, including a landmark enforcement action against TAL Industries (TAL), a wholly owned subsidiary of the China National Aero-Technology Import and Export Corporation (CATIC), a People's Republic of China (PRC) government-owned corporation, for the export of machine tools from the United States to the PRC. TAL's criminal plea marked the first time in U.S. history that a corporation, wholly owned by the government of the PRC, waived its sovereign immunity and was convicted of a criminal offense in a U.S. court. BXA also imposed an administrative penalty and denial of export privileges on TAL.

In addition, BXA continued to enforce the antiboycott laws aggressively. BXA imposed \$117,250 in civil penalties for antiboycott violations during FY 2001. BXA also continued to process reports by U.S. businesses of requests to participate in the Arab League boycott of Israel. BXA received notifications from 319 persons who reported the receipt of 1,270 documents containing 1,482 boycott requests.

### **Defense Industrial Base Programs**

BXA conducted several major activities in FY 2001 related to preserving the strength of the U.S. defense industrial base, including:

- completing a nine-month investigation into whether imports of iron ore and semi-finished steel threaten to impair U.S. national security;
- advocating the sale of approximately \$700 million of conventional arms and weapons systems to foreign governments through its defense trade advocacy programs;
- partnering with the U.S. Coast Guard to promote the Deepwater acquisition program to international coast guards and navies; and
- working closely with Congress to obtain a two-year reauthorization of the Defense Production Act.

## **International Cooperation**

BXA engaged in a variety of international activities in FY 2001, on both a bilateral and multilateral basis, to strengthen national export controls and the multilateral export control regimes.

BXA played an important role in bilateral and multilateral initiatives designed to strengthen the national export control systems of key countries. BXA continued to work actively to assist the states of the former Soviet Union, the Baltic region, and Central and Eastern Europe to establish and increase the effectiveness of their national export control systems. During FY 2001, BXA conducted 44 bilateral technical assistance exchanges and hosted several multilateral conferences and workshops, including the Fifth Regional Forum on Export Controls and Nonproliferation for the Nations of Central Asia and the Southern Caucasus.

BXA also worked closely with the Departments of State and Defense to develop proposals to strengthen the effectiveness of the four multilateral export control regimes: the Wassenaar Arrangement, the Nuclear Suppliers Group, the Australia Group, and the Missile Technology Control Regime. Significant accomplishments in FY 2001 include agreement at the Wassenaar Arrangement to liberalize controls on mass market high performance computers and general purpose microprocessors and to streamline controls on mass market encryption products.

In addition, BXA strengthened its international enforcement in FY 2001 by posting an export control attaché to the U.S. Embassy in Moscow. This official assists the Russian Federation in implementing enforcement procedures to halt the proliferation of U.S. and Russian strategic goods to countries of concern. An attaché is also posted in Beijing, China.

BXA also worked with a number of key “transshipment” countries to develop a set of “best enforcement practices” to address the problem of controlling goods that are transshipped. These practices were adopted at a November 2000 International Transshipment Enforcement Conference – the first time transshipment countries as a group have agreed to a uniform set of best practices.

## **Information Technology Initiatives**

BXA continued to improve its Simplified Network Application Process (SNAP), a Web-based system that allows exporters to submit license applications and other related actions directly to BXA through a secure Internet connection. BXA is finalizing new capabilities for SNAP, including electronic submission of supporting documentation, tracking of interagency

information requests, and elimination of additional paper-based forms. Currently, 60 percent of the license applications received by BXA are transmitted through SNAP.

BXA also continued to make progress on the redesign of its Export Control Automated Support System, the automated system that tracks the processing of export license applications. Accomplishments included the development of software requirement documents, the selection of an integration contractor to build the system, selection of case management software, and the approval of a multi-year software development plan.

[Return to Table of Contents](#)

Return to [Table of Contents](#)

## Chapter 1. Exporter Services

BXA's Office of Exporter Services (OEXS) carries out a wide range of activities to help exporters understand and comply with export control requirements. OEXS develops, maintains, and disseminates the Export Administration Regulations (EAR) and administers BXA's outreach seminar program to educate the exporting community about export control, regulations, and licensing policy. OEXS also provides advice on a broad range of export issues, including licensing and documentation requirements for export transactions and special country policies. OEXS helps implement the Enhanced Proliferation Control Initiative (EPCI) End-User Verification process through which U.S. exporters are informed of foreign entities engaged in activities that raise proliferation concerns. Furthermore, OEXS develops Internal Control Program guidelines and Export Management System guidelines that companies can use to ensure exports are consistent with the EAR. Finally, OEXS conducts systems reviews of Special Comprehensive License (SCL) and International Cooperative License (ICL) internal control programs to verify compliance with the EAR and the terms of the licenses.

OEXS conducts its work through four divisions: Regulatory Policy, Outreach and Educational Services, Export Management and Compliance, and Operations. OEXS has field offices in Newport Beach and San Jose, California.

### Regulatory Policy Division

OEXS implements changes in the EAR (15 CFR parts 730 to 774) drafts new regulations, and coordinates the clearance of all changes to the EAR. Below is a summary of significant regulatory changes made to the EAR during FY 2001.

- On September 28, 2001, BXA published a rule liberalizing exports to State Parties to the Chemical Weapons Convention (CWC) of medical, analytical, diagnostic, and food testing kits containing small quantities of Australia Group (AG)-controlled chemicals that also are identified on CWC Schedule 2 or Schedule 3 and exports of certain mixtures containing less than 30 percent by weight (previously 25 percent or less) of any single AG-controlled chemical. This rule also added Cyprus and Turkey to the list of countries that participate in the Australia Group, thereby eliminating license requirements for exports and reexports of certain AG-controlled items to these two countries.
- On August 10, 2001, BXA published a rule revising Country Group E:1<sup>1</sup> and expanding

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<sup>1</sup> Country Group E:1 was revised by identifying those countries designated by the Department of State as countries whose governments have repeatedly provided support for acts of international terrorism; i.e., Cuba, Iran, Iraq, Libya, North Korea, Sudan, and Syria.

the scope of countries that are eligible for License Exception Temporary Imports, Exports, and Reexports (TMP).

- On July 12, 2001, BXA published a rule implementing certain provisions of the Trade Sanctions Reform and Export Enhancement Act of 2000 (TSRA). TSRA requires the President to terminate existing U.S. unilateral agricultural and medical products sanctions on and also established a licensing regime for the export of agricultural commodities, medicines, and medical devices to designated terrorist countries. BXA implements TSRA as it relates to exports of agricultural commodities to Cuba. The July 12 rule establishes License Exception Agricultural Commodities (AGR) to permit exports and reexports to Cuba of agricultural commodities that are not specifically identified on the Commerce Control List (CCL). The Treasury Department's Office of Foreign Assets Control (OFAC) implements TSRA as it relates to exports to Iran, Libya, and Sudan of agricultural commodities, medicines, and medical devices that are not specifically identified on the CCL.
- On April 9, 2001, BXA published a rule revising controls on microprocessors, graphic accelerators, and external interconnects, reflecting changes agreed to by the multilateral Wassenaar Arrangement on Export Controls for Conventional Arms and Dual-Use Goods as a result of rapid technological advances and widespread commercial availability of such items.
- On April 9, 2001, BXA published a rule easing controls on certain nuclear items to Brazil, Latvia, and Ukraine following the admission of these countries to the Nuclear Suppliers Group. The Nuclear Suppliers Group member countries have agreed to establish export licensing procedures for the transfer of items identified on the Annex to the Nuclear-Related Dual-Use Equipment, Materials, and Related Technology List, which is published by the International Atomic Energy Agency. In addition, the April 9 rule added Austria, Finland, Ireland, and Sweden to a list of countries not subject to certain nuclear end-use restrictions, because of their commitment to nuclear nonproliferation.
- On March 1, 2001, BXA published a rule removing many license requirements imposed on exports to Serbia in May 1999. However, the license requirements were maintained for exports and reexports by U.S. persons of any item subject to the EAR to persons listed in Executive Order 13088, as amended by Executive Order 13192, including Slobodan Milosevic, his family, his close associates, and individuals indicted for war crimes by the International Criminal Tribunal for the former Yugoslavia.
- On January 19, 2001, BXA published a rule revising License Exception Composite

Theoretical Performance (CTP) to reflect rapid technological advances in computing capability. This rule implemented the sixth revision to U.S. export controls on high performance computers (HPCs), allowing HPCs with a CTP up to 85,000 million theoretical operations per second (MTOPS) to be exported to Computer Tier 3 countries under License Exception CTP. The rule also deleted Computer Tier 2 and moved all the countries included in Computer Tier 2 to Computer Tier 1. Beginning March 20, 2001, exporters were no longer required to submit National Defense Authorization Act advance notifications for exports of HPCs with a CTP exceeding 85,000 MTOPS.

## **Outreach and Educational Services Division**

### *Export Compliance Seminar Program*

BXA provides the business community with information regarding changes in export policy and licensing procedures through a program of educational seminars and workshops. OECS' alliance with a number of industry trade associations, universities and colleges, state and local governments, and nonprofit international business-related organizations is a critical aspect of this program. This alliance furthers BXA's goal of maintaining a cooperative relationship with industry.

The OECS outreach program to the domestic and international business communities encourages compliance with the EAR and increased government-industry interaction on export licensing policy. During FY 2001, through a variety of programs offered at locations throughout the United States, BXA continued to instruct and assist new and established exporters. In addition to providing basic and advanced level courses, BXA also provided specialized workshops on topics of specific interest (e.g., commercial encryption licensing, chemical weapons regulations, export management systems, and freight forwarder programs).

OECS conducted 47 export compliance seminars in FY 2001, which provided information and training to over 6,000 participants. BXA also provided speakers for numerous trade-related events. Through the overseas program, BXA continues to instruct foreign exporters and governments on U.S. export controls. In FY 2001, BXA conducted seminars in China, Sweden, the Netherlands, and the Republic of South Korea.

### *Update 2001*

BXA's 14<sup>th</sup> annual Update Conference on Export Controls and Policy attracted over 600 representatives from the global exporting community. The annual conference, which is BXA's premier event and the Commerce Department's largest event in the Washington, D.C., area, brings high-level government officials and industry representatives together to discuss changes in export control policies and procedures.

### *Exporter Counseling*

OEXS is BXA's front line unit in providing exporter counseling and plays a major role in guiding exporters through complex licensing transactions. Our regulatory specialists provide one-on-one counseling 11 hours a day through meetings, telephone counseling sessions, and responses to e-mail and fax inquiries. In addition, the BXA Web site provides exporters constant access to timely information and services.

OEXS accomplishes its outreach and counseling activities through its headquarters in Washington, D.C., and through its Western Regional Offices in Los Angeles and San Jose, California. The regional offices are located in the fastest growing, high-technology regions in the United States and are within commuting distance of more than 10 percent of the total U.S. population.

In FY 2001, the resources of the former Exporter Counseling Division and the Export Seminar Staff were combined into a new office, the Outreach and Educational Services Division. This merger enhanced training and educational services by integrating a large portion of BXA's outreach functions into one office. Beginning in FY 2001, the Special Licensing and Compliance Division became the Export Management and Compliance Division, a title more accurately reflecting the office's current and planned responsibilities.

OEXS enhances its customer service initiatives through brochures and export control-related publications. To support our diverse customer base, some of these publications have been translated and published in other languages. BXA published the "Bureau of Export Administration's Introduction to Export Controls" in FY 2001. Previous publications include the "Helpful Hints for Completing the Multipurpose Application Form BXA-748P," which has been updated to include information regarding electronic license submission through the Simplified Network Application Process (SNAP) system.

## Operations Division

### *Export License Processing*

In FY 2001, BXA received 10,843 license applications, a slight increase over the 10,701 applications that were received in FY 2000. BXA completed review of 10,773 applications in FY 2001.<sup>2</sup> The highest number of approvals under one commodity classification was for EAR99 items, with 1,108 approvals. Overall, BXA approved 8,806 applications, returned 1,740 applications without action, and denied 225 applications. This decrease in denied applications (down from 398 denials in FY 2000) resulted largely from the removal of many Indian and Pakistani entities from the Entities List.

The average processing time for applications reviewed only by BXA (i.e., applications not referred to other agencies for review) continues to decline. In FY 2000, non-referred applications were completed with an average processing time of 15 days; BXA reduced the average processing time to 12 days in FY 2001. A significant challenge remains to reduce the average processing time for cases that are referred for interagency review. In FY 2001, 86 percent of all completed licensing decisions were referred to other agencies, with an average processing time of 44 days. BXA continues to work with other agencies to negotiate delegations of authority acceptable to all agencies involved in the interagency process. Obtaining delegations of authority from other agencies increases the number of applications BXA can review without referral. At the same time, BXA continues to work on developing standard conditions on applicable specific categories of cases, such as deemed exports and night vision equipment, that are acceptable to all agencies. With more than 99 percent of all approved applications being approved with conditions, having pre-approved conditions for specified exports will significantly reduce the time to issue a license.

BXA continues to see an increase in the use by exporters of SNAP, a Web-based system that allows exporters to submit export and reexport license applications, high performance computer notices, and commodity classification requests directly to BXA through a secure Internet connection. As more exporters have started using SNAP, the number of applications submitted electronically using the older Export License Application and Information Network has gradually decreased. BXA also has experienced a marked decline in the number of paper export license applications received. SNAP submissions represented 88 percent of total electronic submissions received and 54 percent of all applications received (both paper and electronic).

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<sup>2</sup> This includes cases received before FY 2001, but completed during the fiscal year.

BXA continues to test a new prototype automated application system that would allow the electronic submission of technical specifications and supporting documentation, which currently only can be submitted by fax or express mail. BXA hopes to have the new system fully operational in FY 2002.

### *Export License Referral Process*

The Department, pursuant to Executive Order 12981 and agency practice, refers certain export license applications to other agencies for review and recommendation, based on the level of technology, the appropriateness of the items for the stated end-use, and the country of destination. The principal agencies to which BXA refers license applications are the Departments of Defense, State, and Energy. Since the transfer of jurisdiction over the export of commercial encryption products to the Department, the Department of Justice and the National Security Agency have also had a role in the license review process for encryption license applications. Recommendations from the reviewing agencies either to approve or deny the license application must be submitted to BXA within 30 days of receipt of the referral.

Executive Order 12981 also established an interagency dispute resolution process. The Operating Committee (OC) reviews all license applications for which reviewing departments and agencies are not in agreement. The Chair of the OC (a BXA official) considers the recommendations of the reviewing agencies and informs them of the Chair's decision within 14 days after receipt of the agency recommendations. Prior to elevation to the OC, certain license applications can be discussed on a consultative basis at State Department-chaired, working-level, interagency groups that review cases related to specific proliferation-related concerns. Specifically, nuclear nonproliferation cases are reviewed by the Subgroup on Nuclear Export Coordination, missile technology cases are reviewed at the Missile Technology Export Controls interagency group, and chemical/biological weapons control cases are reviewed at the Shield, an interagency group.

Any reviewing agency may appeal the decision of the Chair of the OC to the Chair of the Advisory Committee on Export Policy (ACEP), an Assistant Secretary-level body chaired by the Department's Assistant Secretary for Export Administration. The principal members of the ACEP are from the Departments of Defense, State, and Energy. In the absence of a timely appeal, the OC Chair's decision will be final.

A reviewing agency must appeal an OC decision to the ACEP within five days of the OC's final decision. Appeals must be in writing, from an official appointed by the President and confirmed by the Senate or an officer properly acting in such capacity and must cite the statutory and regulatory basis for the appeal. Decisions of the ACEP are based on a majority vote.

Any dissenting agency may appeal the ACEP's decision to the Export Administration Review Board (EARB), a Cabinet-level group composed of the Secretaries of Defense, State, and Energy and chaired by the Secretary of Commerce, by submitting a letter from the head of the agency. In the absence of a timely appeal, the decision of the ACEP is final. The Chair of the Joint Chiefs of Staff and the Director of Central Intelligence are non-voting rights members of the EARB. Export applications considered by the EARB are resolved by a majority vote, and any agency may appeal the decision to the President. In the absence of a timely appeal, the EARB's decision is final.

Executive Order 12981 also reduced the time permitted to process a license application to 90 calendar days from the day it is submitted. After that time, final action shall be taken on the application or it will be escalated to the President for a decision.

#### *"Is Informed" Process*

The development of a list of entities of proliferation concern through the "Is Informed" process arose from the Enhanced Proliferation Control Initiative (EPCI) announced in 1990 to stem the proliferation of missile technology and nuclear, chemical, and biological weapons. Under EPCI, licensing requirements can apply to exports and reexports of items (i.e., goods and technology) that normally do not require an export license when there is an unacceptable risk of use in or diversion to activities related to nuclear, chemical, or biological weapons or missile proliferation, even if the end-user is not primarily involved in weapons-related activities.

Before an entity is added to the "Entity List," its alleged proliferation activities are extensively evaluated by a BXA-chaired interagency group.<sup>3</sup> This group determines if exports to a particular entity present an unacceptable risk of use in or diversion to missile, chemical, and biological weapons or nuclear proliferation activities. If a positive determination is made, the group then decides if a license is necessary for otherwise "uncontrolled" items being exported to that entity. Decisions are made by a majority vote. Agencies that dissent may escalate the decision to the ACEP. Appeals may be further escalated to the EARB and President as described in the previous section.

A major revision to the Entity List occurred in FY 2001 when 12 entities located in the Peoples Republic of China were added to the list. In FY 2000, a similarly significant revision occurred when approximately 50 Indian and Pakistani entities were removed from the list.

### **Export Management and Compliance Division**

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<sup>3</sup> The interagency group includes representatives from the Departments of Commerce, State, Energy and Defense.

### *Special Comprehensive License*

OEXS offers an alternative licensing mechanism for exporters who routinely make high volume shipments of pre-approved items to pre-approved destinations, end-uses, and end-users. A special license was established for these exporters to use in lieu of submitting individual applications. The increased flexibility and reduced paperwork burden on exporters and re-exporters allow U.S. firms to improve delivery timing, which gives them an edge in the new global economy.

This licensing option, called a Special Comprehensive License, is available to reliable, experienced exporters who have a strong corporate commitment to developing and maintaining an Internal Control Program (ICP). Parties using the SCL must have mechanisms in place to ensure that each export and reexport made under an SCL meets the terms and conditions of the license and complies with the EAR. BXA does not review each individual transaction authorized by an SCL.

The SCL may authorize a number of activities, such as servicing, export and reexport of capital equipment, and/or exporting items for the purpose of resale and reexport. BXA currently has authorized 12 companies to export and reexport pursuant to a SCL.

### *International Cooperative Licenses*

International Cooperative Licenses are approved by BXA to fulfill the work of the U.S. Government in international cooperative projects. These licenses are crafted after the SCL structure and paperwork requirements and require an ICP.

### *Internal Control Programs*

The SCL and ICL both mandate an ICP. Each license holder crafts its ICP to ensure that its export and reexport procedures comply with the requirements of the license and the EAR. Elements of the ICP include customer screening, auditing, training, and recordkeeping. OEXS revises and distributes ICP Guidelines and other tools that can be used by SCL and ICL holders in implementing and auditing of their programs, including the SCL Holder Review Module. This Module was used as the basis for developing the Export Management System (EMS) Review Module to be used by companies that do not hold SCLs.

Exporters may download the EMS Review Module for download from the Export Management System area of the BXA Web site ([www.bxa.doc.gov](http://www.bxa.doc.gov)).

OEXS counsels exporters and consignees who participate in this procedure to develop and refine

their ICP. The ICP has been the standard model for use by multinational companies worldwide since its implementation in 1985 and is now being implemented by other countries as part of their export control programs.

### *Systems Reviews*

Consistent with the provisions of Section 4 of the EAA, BXA periodically reviews all active SCLs and ICLs. The reviews allow BXA to evaluate the adequacy of the ICPs and to ensure compliance with the EAR and the terms of the license. Systems Reviews are viewed as a compliance activity and as an educational opportunity because guidance is provided to the SCL holder and consignees at the time of the reviews. BXA conducted eight Systems Reviews in FY 2001.

### *Export Management System Guidelines*

EMS is a BXA-developed compliance program that companies may implement to ensure compliance with the EAR. Establishing an EMS is optional, but can greatly reduce the risk of inadvertently engaging in a transaction that violates the EAR. BXA published the first EMS Guidelines in September 1992, in response to requests from the business community for assistance on how to screen more vigilantly their customers in compliance with the EPCI.

The Guidelines include Administrative and Screening Elements and an Order Processing Element that helps develop a foundation for a compliance program within an individual company. Through the various screening elements and checklists within the Guidelines, companies can develop procedures for gaining knowledge about potential customers and transactions. The Guidelines also provide suggestions for exporter compliance with the General Prohibitions described in Part 736 of the EAR.

OEXS counsels firms on developing EMS programs customized to their specific business activities. OEXS also conducts EMS workshops and seminars to educate the export community on the various tools available to assist them with EAR compliance.

Return to [Table of Contents](#)

## **Chapter 2. Strategic Trade and Foreign Policy Controls**

The Office of Strategic Trade and Foreign Policy Controls (STFPC) is composed of three divisions: Strategic Trade, Information Technology Controls, and Foreign Policy Controls. Each division plays an important role in implementing export controls and developing export control policy in light of foreign policy and national security concerns.

STFPC implements multilateral export controls for national security reasons pursuant to the Wassenaar Arrangement on Export Controls for Conventional Arms and Dual-Use Goods and Technologies (Wassenaar Arrangement), which is a multilateral export control regime intended to control the export of conventional arms and certain dual-use items. In addition, STFPC is the primary office responsible for review of encryption export policy and implementation of related export controls.

STFPC also implements U.S. foreign policy controls for human rights, antiterrorism, and regional stability reasons. STFPC is responsible for all policy actions, export licenses, commodity classifications, and advisory opinions for items subject to the Wassenaar Arrangement or foreign policy controls. STFPC also represents the Department in international negotiations on export controls and control list development.

### **Strategic Trade Division**

#### *National Security Controls*

The United States maintains national security controls on the export and reexport of strategic items (i.e., goods and technology). Because many countries produce and export items of strategic value, unilateral controls by the United States alone would not be effective in preventing diversion of such strategic items to end-uses and end-users of concern. To achieve this objective, the United States works closely with its allies and participates in the 33-country Wassenaar Arrangement.

#### *Policy Toward Individual Countries*

Section 5(b) of the Export Administration Act of 1979, as amended (EAA), requires the President to establish a list of controlled countries for national security purposes. Executive Order 12214 (May 2, 1980) delegated this authority to the Secretary of Commerce. Initially, this list comprised those countries named in Section 620(f) of the Foreign Assistance Act of 1961 (FAA) at the time of the enactment of the EAA. The Secretary of Commerce, however, may add or remove countries from the list of controlled countries under criteria provided in the EAA. Since 1980, the Secretary has removed from the list of controlled countries the former Federal Republic of Yugoslavia (in 1985), Hungary (in

1992), and the Czech Republic, Poland, and the Slovak Republic (in 1994). Public Law 102-511 amended the FAA to delete the former Soviet Bloc countries and certain other nations from the list of Communist countries. Under the EAA, the United States, however, continues to control exports for national security reasons to some of the countries deleted from the list the FAA.

The countries to which exports are currently controlled for national security reasons under the EAA are: Albania, Bulgaria, Cuba, Estonia, Latvia, Lithuania, Mongolia, the independent states of the former Soviet Union, North Korea, the People's Republic of China, Romania, Tibet, and Vietnam. BXA, along with other agencies, provides technical export control development assistance to many of these countries with the ultimate objective of sufficiently improving their export control system so they can be removed from the list of controlled countries under Section 5(b) of the EAA.

### *Wassenaar Arrangement*

The Wassenaar Arrangement is a multilateral export control regime currently consisting of 33 member countries. It contributes to national and international security and stability by promoting transparency and advocating increased responsibility in transfers of conventional arms and dual-use items, thereby preventing destabilizing accumulations of these items. The Wassenaar Arrangement obligates member countries to exchange information on certain dual-use transfer approvals and denials to enhance international security and regional stability.

The Wassenaar Arrangement has a series of meetings each year, culminating in the Plenary meeting customarily held in December. Member states also submit export data to the Wassenaar Arrangement twice a year in April and October. BXA is responsible for compiling and submitting data on export of dual-use items on behalf of the United States.

BXA representatives participated in the sixth Plenary session in Bratislava, Slovakia, on November 30-December 1, 2000. For the United States, the most notable accomplishments at the Plenary included significantly liberalized controls on general purpose microprocessors and high performance computers, institution of export controls on Man Portable Air-Defense Systems, and a decontrol of mass market encryption products regardless of encryption-key length. The Plenary also agreed on non-binding best practices regarding effective enforcement of national export controls.

At the Plenary, member countries agreed to study a denial consultations proposal. If adopted, a member country would be required to consult on a proposed export that had previously been denied by another Wassenaar Arrangement member before approving a license for the transaction. Members also agreed to focus consideration on reforming on machine tools, microprocessors, and computers.

In FY 2001, approximately 60 proposals were submitted by member states and discussed in the Wassenaar Arrangement expert group meetings in February and early April 2001. The traditional September meeting was postponed until early November as a result of the terrorist attacks of September 11, 2001. In addition to these export group meetings, BXA also attended various working group meetings throughout the year, addressing such issues as strengthening information exchanges,

implementing “catch-all” controls, and sharing national licensing and enforcement procedures.

In June and August 2001, BXA participated in bilateral consultations between the U.S. and United Kingdom governments on a wide range of Wassenaar issues, such as the dual-use denial consultation procedure and the establishment of a “catch-all” provision. The U.S. and Swiss governments also held bilateral consultations regarding machine tool controls in August and September 2001.

### *Jurisdictional Review of “Space Qualified” Items Completed*

During the past year, a National Security Council (NSC)-chaired interagency group consisting of representatives of the Departments of Commerce, Defense, and State completed its review of 16 categories of items on the Commerce Control List (CCL) that contain “space qualified” items (i.e., items built or designed to satisfy requirements for use in space). The review was to determine whether the export licensing jurisdiction of any of these items should be transferred from the Department of Commerce to the Department of State. In August 2001, the group decided to move five categories of items to State Department jurisdiction (i.e., to the U.S. Munitions List (USML)), to subdivide five categories between the CCL and the USML, and to keep six categories on the CCL. The United States will propose that the Wassenaar Arrangement control lists similarly be changed.

## **Information Technology Controls Division**

### *Encryption*

On October 3, 2000, BXA participated in the U.S. delegation to the Organization for Economic Cooperation and Development (OECD), which met in Paris, France. The BXA representative provided an update on U.S. encryption policy. BXA also participated in an OECD workshop on “Information Security in a Networked World” in Tokyo, Japan, in September 2001.

In October 2000, BXA amended its encryption regulations. The most significant change allows U.S. companies to export encryption items under License Exception Encryption, immediately upon notifying BXA of the intent to export to any end-user in the 15 nations of the European Union, Australia, Czech Republic, Hungary, Japan, New Zealand, Norway, Poland, and Switzerland. Under the October 2000 rule:

- U.S. companies can export certain encryption items such as source code, general purpose toolkits, and high-end routers and switches under new procedures.
- Companies may immediately export products that enable U.S. and non-U.S. origin products to operate together to facilitate the development of next-generation products and to allow greater market flexibility.
- Licenses are required only for “cryptanalytic items,” a specialized class of tools not normally used in commercial environments.

- Export controls were streamlined for beta test software compiled from “open” sources and products that implement short-range wireless encryption technologies, such as HomeRF and Bluetooth.
- Post-export reporting for encryption exports was streamlined.

The U.S. Government has crafted a new encryption policy in part in response to its consultations with other countries, most notably the member states of the Wassenaar Arrangement. Past Wassenaar Arrangement agreements on encryption include:

- In December 1998, members countries agreed to downgrade the export control sensitivity for encryption items from the Sensitive List to the Basic List and replaced the General Software Note with a new cryptography note, implemented in U.S. regulations in January 2000, evaluating encryption items covered by the Wassenaar Arrangement control list. This action led to the easing of export control requirements for encryption products.
- In December 2000, member countries agreed to delete the 64-bit key length restriction in the cryptography note. Based on this agreement, member nations are decontrolling all mass market encryption products, regardless of key length.

The President’s Export Council Subcommittee on Encryption (PECSENC) met throughout FY 2001 to advise the President and the Secretary of Commerce on matters pertaining to the implementation of encryption policy. Since its inception in 1997, PECSENC has worked to support the growth of electronic commerce while protecting public safety and promoting foreign policy and national security interests. PECSENC met twice in FY 2001 to review the national security and business implications of U.S. semi-annual post-export reporting requirements, and to provide BXA with recommendations for changes and updates to the U.S. encryption export regulations. PECSENC disbanded upon the expiration of its charter on September 30, 2001.

U.S. encryption policy and regulations also reflect consultations with the Regulations and Procedures Technical Advisory Committee, Alliance for Network Security, Americans for Computer Privacy, and the Computer Systems Policy Project.

### *High Performance Computers*

Determining appropriate levels of export controls for high performance computers (HPCs) continues to be a priority as improvements in technology significantly enhance system performance levels. Currently, export control levels are based on Composite Theoretical Performance (CTP), which is expressed in millions of theoretical operations per second (MTOPS). The Administration currently is studying alternatives to CTP as a control metric to avoid continuous review cycles, while still maintaining export controls on computers to protect national security.

In October 2000, BXA published a rule expanding the License Exception CTP eligibility level to 45,000 MTOPS for the export of HPCs to Computer Tier 2 countries. The License Exception CTP level for exports to Computer Tier 3 countries also was raised to 28,000 MTOPS. The rule also removed the distinction between civil and military end-users and end-uses in determining eligibility for export to Computer Tier 3 countries under license exception CTP. The October 2000 rule also provided that, effective February 2001, HPCs with a CTP less than or equal to 28,000 MTOPS did not require advance notification before export or reexport. Additionally, the rule reflected the move of Argentina and Lithuania from Computer Tier 2 to Computer Tier 1. Estonia was moved from Computer Tier 3 to Computer Tier 2.

In January 2001, the Administration made additional adjustments to U.S. policy on HPC export controls, and BXA issued a rule to reflect these adjustments. All countries in Computer Tier 2 were moved to Computer Tier 1, and Computer Tier 2 was eliminated. The Administration made this change because it was determined that those countries formerly in Computer Tier 2 did not pose proliferation or security threats to the United States. Additionally, all HPCs are eligible for export to Computer Tier 1 countries under License Exception CTP.

Pursuant to the adjustments in January 2001, BXA also expanded License Exception CTP eligibility for HPC exports and reexports to Computer Tier 3 countries from 28,000 to 85,000 MTOPS. Finally, the January 2001 rule raised the advance notification requirement level for HPC exports to Computer Tier 3 countries to 85,000 MTOPS, effective March 2001. Therefore, advance notifications were no longer required for HPCs eligible for export or reexport to Computer Tier 3 countries under License Exception CTP. Although post-shipment reports are no longer required for exports of HPCs eligible for License Exception CTP, as of the end of FY 2001 reports still had to be submitted for exports of HPCs above the 85,000 MTOPS level.

## **Foreign Policy Controls Division**

### *Foreign Policy Controls*

#### Trade Sanctions Reform and Export Enhancement Act of 2000

On October 28, 2000, the Trade Sanctions Reform and Export Enhancement Act of 2000 (TSRA) (Title IX of Public Law 106-387) was signed into law. With certain exceptions, TSRA prohibits the imposition of new unilateral sanctions on exports of agricultural and medical exports to foreign countries or foreign entities without the approval of the Congress and also requires the lifting of any unilateral sanctions on agricultural and medical exports to such countries and entities that existed on the date of enactment. TSRA also restricts the export of agricultural and medical exports to designated terrorist-supporting countries. On July 12, 2001, BXA and the Department of the Treasury's Office of Foreign Assets Control (OFAC) published rules implementing provisions of TSRA that affect exports of agricultural and medical items to Cuba, Iran, Sudan, and Libya. These rules became effective on July 26, 2001.

On September 6, 2001, BXA and OFAC, in coordination with the State Department and the National Security Council, submitted to the Congress a set of proposed technical amendments to the TSRA; these amendments were subsequently enacted into law early in FY 2002.

### BXA Participation in Interagency Sanctions Reform Discussions

BXA has participated in interagency working groups led by the National Security Council that were established to consider sanction reform, review proposed legislation, and develop proposals to rationalize the sanctions process. The ultimate goal is a sanctions policy that is carefully targeted, truly advances U.S. foreign policy goals, and avoids unduly harming U.S. economic interests.

### **Country-Specific Activities**

#### *China*

BXA and China's Ministry of Foreign Trade and Economic Cooperation co-hosted a government/industry seminar in Shanghai on October 26-27, 2000. This was the first export control cooperation between the U.S. and Chinese governments since May 1999.

#### *Cuba*

BXA implemented the requirements of TSRA for exports of agricultural commodities to Cuba and created a License Exception Agricultural Commodities (AGR) to permit exports to Cuba of agricultural commodities that are classified EAR99 (i.e., not specifically identified on the Commerce Control List). To utilize License Exception AGR, the exporter must first submit to BXA a notification of the proposed export. If the reviewing agencies do not object to the proposed export, BXA will notify the exporter that he/she may ship using License Exception AGR. Except for shipments of commercial samples or donations, all other exports under License Exception AGR must be made pursuant to a written contract and must take place within one year of signing the contract. This new provision for Cuba was not utilized very frequently in FY 2001.

Exports and reexports of medicines and medical devices to Cuba are not eligible for License Exception AGR because TSRA did not supersede the specific licensing requirements for medicines and medical devices set forth in the Cuban Democracy Act of 1992. However, these medical commodities remain eligible for export under existing license application procedures, and licenses granted are valid for two years.

#### *Federal Republic of Yugoslavia (Serbia and Montenegro)*

On May 4, 1999, BXA imposed comprehensive sanctions on Serbia because of the conflict in Kosovo. The ousting of Slobodan Milosevic and the democratic elections in October 2000 paved the way for the easing of U.S. sanctions on Serbia. BXA published a rule on March 1, 2001, generally restoring Serbia to the export control status it held prior to May 4, 1999. Under this March 2001 rule, U.S.

persons now may export and reexport many items to Serbia without a license. However, BXA maintains certain special restrictions on designated persons. U.S. persons may not export or reexport any item subject to the EAR to any person designated pursuant to Executive Order 13088, as amended by Executive Order 13192 of January 17, 2001. These persons include Slobodan Milosevic, designated family members and close associates, and persons indicted by the International Criminal Tribunal for the Former Yugoslavia.

In 1998, BXA implemented an embargo on the export to the Federal Republic of Yugoslavia (FRY) of arms and related materiel subject to the EAR, consistent with United Nations Security Council Resolution 1160. In September 2000, the U.N. Security Council terminated the arms embargo imposed under Resolution 1160. BXA is working to amend the EAR to remove the denial policy that applies to the export of arms and related materiel to the FRY.

### *Hong Kong*

Under the Hong Kong Policy Act of 1992, Hong Kong receives the same export licensing treatment that was in effect before China regained control of Hong Kong, provided Hong Kong maintains an effective and autonomous export control system. BXA continuously monitors the status of Hong Kong's post-reversion export control system to ensure it continues to be effective and autonomous from that of the People's Republic of China.

Under an Agreed Minute on Strategic Commodities Trade Controls (Agreed Minute) signed in October 1997, BXA and its Hong Kong counterpart agency hold semi-annual meetings to exchange information and enhance cooperation. BXA officials hosted interagency consultations with Hong Kong representatives in Washington in May 2001, the sixth round of talks held since the signing of the Agreed Minute. U.S. officials briefed their Hong Kong counterparts on developments in the multilateral control regimes, and the movement of Hong Kong – along with other formerly Computer Tier 2 countries – into Computer Tier 1 for purposes of exports of HPCs. Both sides provided updates on licensing and enforcement issues in their respective systems. The Hong Kong representatives agreed to share data on the disposition of HPCs with a CTP greater than 85,000 MTOPS exported to and reexported from Hong Kong. Officials from the Departments of State and Defense also participated in the consultations.

### *India/Pakistan*

In 1998, in response to the detonation of nuclear devices by India and Pakistan, the United States imposed a policy of denial for the export or reexport of United States-origin items controlled for nuclear proliferation and missile technology reasons to all end-users in India and Pakistan. These sanctions were imposed pursuant to Section 102 of the Arms Export Control Act (AECA). Section 102 was added to the AECA by Section 826 of the 1996 Foreign Relations Authorization Act (the "Glenn Amendment"). Prior to the sanctions, the United States reviewed applications for these items

on a case-by-case basis with a presumption of approval to appropriate end-users.

During FY 2001, the State Department led interagency discussions on possible changes to U.S. foreign policy in Southeast Asia, including export controls. On September 22, 2001, the President announced his decision to waive the application of sanctions placed on India and Pakistan in May 1998.

In November 2000, the U.S. Government imposed sanctions on Pakistan as a result of Pakistan's purchase of Chinese missile technology. This new action created a policy of denial for items that require a license to the Pakistan Ministry of Defense and the Space and Upper Atmosphere Research Commission, including all sub-units, for a period of two years.

### *Israel*

During FY 2001, the U.S. and Israeli governments continued consultations on a number of export control issues. In November 2000, an Israeli government official reviewed BXA's electronic license submission system to assist the Israeli government's plans to adopt a similar electronic system. Officials from these two countries met again in December 2000, for discussions on pending license applications for exports to the Israeli government and future relations between the two governments.

In April 2001, BXA hosted a delegation from Israel to discuss encryption controls. BXA briefed the delegation on its ongoing work in encryption and the proposed changes in U.S. regulations based on the December 2000 Wassenaar Arrangement agreement to decontrol mass market encryption products regardless of key length. The Israeli delegation explained their encryption controls, which regulate the export, import, and domestic use of encryption products. The delegation participated in the open session of a meeting of the President's Export Council Subcommittee on Encryption. The next bilateral discussions between the United States and Israel are scheduled for early FY 2002.

### *North Korea*

In late October 2000, BXA and the American Chamber of Commerce of Korea co-sponsored an export control seminar in Seoul, Republic of Korea. BXA representatives reviewed U.S. export control policy for North and South Korea, and explained that the June 2000 liberalization of U.S. export controls on exports to North Korea involved removing a license requirement for the export and reexport of items subject to the EAR that are classified as EAR99 (e.g., not specifically identified on the Commerce Control List). Items on the Commerce Control List continue to require a license to export to North Korea. BXA received very few license applications for North Korea during FY 2001.

### **Transshipment Initiatives**

During FY 2001, BXA participated in a number of consultations and programs with the governments of major transshipment nations to emphasize the importance of export controls. The following meetings took place:

- In November 2000, officials from Singapore participated in Export Enforcement’s multinational Transshipment Conference in San Diego, California. Throughout 2001, BXA officials met with officials from Singapore to clarify U.S. export control requirements for HPCs and encryption products.
- In January 2001, BXA representatives visited Malaysia and the United Arab Emirates (UAE) for bilateral export control consultations. These countries expressed interest in a continued dialogue.
- In January 2001, a BXA representative participated in a U.S. Government delegation that visited Malta and Cyprus to discuss export control issues with a focus on export enforcement.

### **Multilateral Cooperation**

In November 2000, BXA and other U.S. government officials led an export control discussion in Tokyo, Japan, as part of a month-long seminar sponsored by the government of Japan for licensing officials from Asian countries. BXA also participated in an international export control conference in Taipei, Taiwan.

In February 2001, BXA officials attended the Eighth Annual Asian Export Control Seminar in Tokyo, sponsored by the governments of Japan, the United States, the United Kingdom, and Australia. Fourteen Asian governments and two autonomous regions (Hong Kong and Macau) attended the seminar that was designed to provide information on export controls to Asian governments. Some of the governments in attendance have just begun to develop comprehensive export control systems. BXA officials made presentations on industry-government relations and post-licensing enforcement, and chaired a small-group discussion on transshipment issues. In addition to attending the seminar, the U.S. delegation, which included representatives from the Department of State as well as officials from the U.S. Embassy in Tokyo, held bilateral discussions on export control cooperation issues with delegations from Japan, China, and Malaysia.

In May 2001, BXA representatives participated in meetings with U.K. and Danish government officials in Copenhagen, Denmark, to plan the agenda for the third Conference on Export Controls held in September 2001 in the United Kingdom. The United States and the United Kingdom cohosted the conference. Thirty countries participated in the conference and considered the status of the global export control system, assessed efforts to assist the nations of the former Soviet Union and Central Europe to establish and strengthen national export control programs, and developed recommendations for strengthening the global export control system. Attendees were interested in a number of issues, particularly provisions relating to the transfer of intangible technology and “catch-all” provisions designed to prevent the export of commodities not identified on control lists to proliferation end-users and end-uses that raise proliferation concerns.

## **Chapter 3. Nonproliferation Controls and Treaty Compliance**

The Office of Nonproliferation Controls and Treaty Compliance (NPTC) administers U.S. multilateral and unilateral export controls on nuclear, missile, and chemical and biological items (i.e., goods and technologies) controlled for nonproliferation reasons; ensures compliance with U.S. obligations under the Chemical Weapons Convention (CWC) and Biological Weapons Convention (BWC); administers controls on the export of materials in short supply; and administers requirements related to technology transfers to foreign nationals in the United States.

The United States is a member of the Nuclear Suppliers Group (NSG), the Missile Technology Control Regime (MTCR), and the Australia Group (AG). These multilateral export control regimes focus on preventing the spread of weapons of mass destruction and their delivery systems. NPTC represents the Department in international negotiations on the export controls of the NSG, MTCR, and AG, and represents the Department on U.S. delegations to the administrative and policy meetings of the CWC, and the negotiating sessions on issues related to establishing an administrative and policy framework for the BWC. NPTC also is responsible for all policy actions, export licenses, commodity classifications, and advisory opinions pertaining to items subject to nuclear, missile technology, chemical, biological, and short supply controls, and the control of technology transfers to foreign nationals, known as “deemed exports.”

NPTC conducts its work through five divisions: Nuclear Technology Controls, Missile Technology Controls, Chemical and Biological Controls, Deemed Exports and Short Supply, and Treaty Compliance.

### **Nuclear Technology Controls Division**

#### *Overview of the Nuclear Suppliers Group*

Following the 1974 testing of a nuclear device by India, the United States proposed the formation of the NSG, and initially approached six other major supplier states including Canada, Germany, France, Japan, the United Kingdom, and the Soviet Union, to create an informal group of nations concerned with the proliferation of nuclear weapons. The NSG was formally established in 1992 and its membership now totals 39 members.

The two documents that guide NSG members in establishing national controls are the NSG Guidelines and the Annex. The NSG Guidelines establish the underlying precepts of the regime and provide a degree of order and predictability among suppliers, ensuring harmonized standards and interpretations of NSG controls. The NSG Guidelines also call for consultations among members on sensitive cases to ensure that transfers do not contribute to risks of conflict and instability.

The Annex contains the list of 70 categories of dual-use items subject to NSG controls. The Annex also contains a General Technology Note, which ensures that exports of technology directly associated with listed items will be subject to the same degree of scrutiny and control as the items themselves. NSG members must establish national licensing procedures for the transfer of Annex items. Overall responsibility for NSG activities lies with the member states; the NSG proceeds on the basis of consensus.

Since the early 1990s, formal annual plenary meetings have been held to provide the opportunity for multilateral consultations. The plenary meetings also provide the opportunity for members to review the Annex and the Guidelines to ensure that NSG controls properly focus on sensitive nuclear technology and that they are meeting evolving nuclear proliferation challenges.

### *Recent Actions*

The United States hosted the annual NSG plenary session (plenary) in Aspen, Colorado, during the week of May 6, 2001, at which the United States assumed the chairmanship of the NSG for the coming year. The NSG approved the restructuring of the administrative operations of the NSG, reaffirmed the requirement for full-scope International Atomic Energy Agency safeguards for NSG membership, adopted a proposal to develop an NSG Web site, and welcomed Slovenia to its first plenary. Reflecting the new NSG administrative structure, the plenary agreed to establish a new Consultative Group (CG) that will meet twice a year to review the NSG Guidelines, control lists, and procedures; share information; promote transparency; and conduct outreach activities. The CG will replace the NSG Dual-Use Regime, the Information Sharing Working Group, and the Transparency Working Group. Members took advantage of the opportunity that the plenary provided to share information on nuclear-related export license denials and engage in a multilateral exchange of intelligence information on the nuclear programs of various countries of concern. The plenary also accepted the Czech Republic's offer to chair the 2002 plenary and authorized the U.S. chairman to continue coordinating outreach efforts with non-NSG members.

As in prior years, BXA continues to issue license denials for NSG-controlled dual-use items as part of the "no undercut" provision. Under this provision, a denial notification received from an NSG member country is intended to preclude other member countries from approving similar transactions, thereby assuring that the earlier denial is not undercut by other NSG members. Procedures exist for member countries to consult on specific denials if they disagree with the original denial decision. BXA has also been active in reporting "catch-all" denials for uncontrolled items destined to end-users of nuclear proliferation concern.

## **Missile Technology Controls Division**

### *Overview of the Missile Technology Control Regime*

On April 16, 1987, the United States and its G-7 trading partners created the Missile Technology Control Regime (MTCR), the focus of which is to limit the proliferation of missiles capable of delivering

weapons of mass destruction. The MTCR is not a treaty-based regime, but rather an informal group of 33 countries that have agreed to coordinate their national export controls to help prevent missile proliferation.

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

BXA administers controls on exports of dual-use manufacturing equipment for Category I items and on all dual-use items in Category II. A considerable portion of the license applications reviewed for missile-related concerns are for commercial aviation exports, including avionics, navigation, telemetry, composite materials, and test equipment.

### *Recent Actions*

An MTCR plenary and associated technical experts meeting was held the week of October 9, 2000, in Helsinki, Finland. The missile nonproliferation global action plan, a series of procedures, processes, and actions that all countries will be encouraged to subscribe to in support of missile nonproliferation, was first proposed and outlined at the plenary. Discussions at the technical experts meeting resulted in a tightening of export control parameters on turbine engines, global positioning system receivers, integrated navigation systems, and definitions of missile range and payload. Unfortunately, little progress was made on these issues at a second technical experts meeting held in Moscow, Russia, during May 2001, but meeting attendees agreed to revise export controls to permit bulk graphite exports in sizes or shapes that are not amenable for use in fabricating rocket nozzles and re-entry vehicle nose cones.

At the Reinforced Point of Contact (RPOC) meeting in Paris that began on March 26, 2001, South Korea participated as a member of the MTCR for the first time. Further discussion at the RPOC resulted in an agreement to establish a group to review comments from member-nations on the draft missile nonproliferation global action plan, which subsequently evolved into the International Code of Conduct Against Ballistic Missile Proliferation (ICOC). Using the comments received, the group was charged with suggesting revisions or complementary language for the ICOC proposal subsequently reviewed at the September 2001 Plenary.

Held in Ottawa, Canada, during the week of September 23, 2001, the MTCR plenary and technical experts meeting focused on implementation plans for the ICOC. The draft of the ICOC will be circulated among MTCR member and non-member nations as soon as possible, and a series of negotiating sessions in which all countries are invited to discuss the parameters of ICOC participation

will begin. Any changes to the ICOC resulting from these negotiating sessions will be made by MTCR participant consensus only. The first negotiating session is tentatively scheduled for Paris in February 2002, with the Netherlands hosting an international conference for the final adoption of the ICOC at the end of 2002. At the September 2001 technical experts meeting, agreement was reached on changes to export controls on gas turbine engines. In addition, for the first time, an enforcement experts meeting was held to exchange views on export enforcement efforts. This meeting was well received and may become a regular part of each future Plenary.

## **Chemical and Biological Controls Division**

### *Overview of the Australia Group*

The Australia Group (AG), an informal multilateral forum, seeks to impede the proliferation of chemical and biological weapons through the harmonization of members' export controls, the exchange of information, and other diplomatic means. The group was formed in 1985 when, in response to the use of chemical weapons during the Iran-Iraq war, Australia called for a meeting of like-minded countries to consider harmonizing export controls on chemical weapons precursor chemicals. The AG later expanded its focus to include chemical production equipment and technologies. In 1990, the scope of the AG was expanded further to include measures to prevent the proliferation of biological weapons. Today, the AG remains a viable, effective mechanism through which participating governments demonstrate their commitment to international nonproliferation objectives.

Thirty-three countries currently participate in the AG. The group primarily focuses on coordinating export controls on an agreed list of dual-use items that can be used in producing chemical and biological weapons. In accordance with the AG control list, BXA maintains export licensing requirements on relevant precursor chemicals, microorganisms and toxins, equipment, and technology.

## *Recent Actions*

Turkey and Cyprus became the newest members of the AG at the plenary held in Paris, France, on October 2-6, 2000. After years of discussion, the AG agreed on a revised formula for the licensing of chemical mixtures containing AG-controlled chemicals, bringing AG policy in line with recent decisions made regarding the CWC. The AG also agreed with U.S. technical proposals, drafted by BXA, to revise certain export control parameters on several items, including centrifugal separators and diagnostic and food testing kits containing AG-controlled precursor chemicals. The final rule amending the Export Administration Regulations (EAR) to implement the understandings reached at the plenary was published in the *Federal Register* on September 28, 2001.

The AG maintains a denial notification procedure by which members agree to notify the group when a license for a controlled item is denied. This procedure is coupled with a “no undercut policy” whereby members agree not to approve an identical sale without first consulting any member issuing a denial notification for essentially the same transaction.

The AG continues to engage in a wide range of contacts to promote greater awareness and understanding of the important role that national export licensing measures play in preventing the proliferation of chemical and biological weapons. These activities include bilateral contacts and a program of regional seminars and briefings for non-participating countries on export licensing practices.

## **Deemed Export and Short Supply Division**

### *Transfer of Technology to Foreign Nationals in the United States*

U.S. companies and other organizations are required to obtain prior approval from BXA before foreign nationals from certain countries are allowed to have access to certain controlled technologies in the United States. The EAR treats any release of controlled technology or source code to a foreign national as a “deemed export” to the home country of that foreign national. BXA reviews license applications under the licensing policies that apply to the actual export of the technology or source code in question to the home country or countries of the foreign national. The “deemed export” rule is most often encountered in the employment context where a company intends to release controlled technology or source code to a foreign national.

During FY 2001, BXA processed 1,026 deemed export cases, slightly more than during FY 2000. During this period, the processing time for deemed export license applications increased from 70 to 75 days. In FY 2001, BXA initiated the use of a pilot program to improve the deemed export license process. Under this program, companies that hire a significant amount of foreign technical personnel can obtain a one-time approval for the technology proposed for transfer. After the interagency community authorizes the technology for export, additional foreign nationals can be added to the Deemed Export License by amendment, subject to referral to the intelligence community. Three companies currently are participating in the program.

## *Short Supply Controls*

The EAA authorizes the President to prohibit or curtail the export of goods “where necessary to protect the domestic economy from the excessive drain of scarce materials and to reduce the serious inflationary impact of foreign demand.” The President is authorized to monitor exports of certain goods to determine the impact of such exports on the domestic supply and whether this impact has an adverse effect on the U.S. economy.

BXA also administers export controls on certain goods under the Energy Policy and Conservation Act (EPCA), the Mineral Leasing Act (MLA), the Naval Petroleum Reserves Production Act (NPRPA), the Outer Continental Shelf Lands Act (OCSLA), and the Forest Resources Conservation and Shortage Relief Act of 1990 (FRCSRA), as amended.

During FY 2001, BXA controlled the export of certain domestically produced crude oil and unprocessed Western Red Cedar timber harvested from federal and state lands. Section 7(k) of the EAA specifies that for purposes of export controls imposed under the EAA, the shipment of crude oil, refined petroleum products, or partially refined petroleum products from the United States for use by the Department of Defense or United States-supported installations or facilities should not be considered as exports. Section 14(a)(13) of the EAA requires a report on any monitoring program conducted pursuant to the EAA or Section 812 of the Agricultural Act of 1970. (See Appendix E, which contains a report by the Department of Agriculture on its monitoring activities during FY 2001.)

### Crude Oil and Refined Petroleum Products

Exports of most domestically produced crude oil continued to be subject to statutory restrictions in FY 2001. Four separate statutes require the Department to administer various restrictions on the export of domestically produced crude oil.

- Section 103 of the EPCA requires the President to restrict the export of domestically produced crude oil.
- The MLA restricts exports of domestic crude oil transported by pipeline over federal rights-of-way granted under Section 28(u).
- The NPRPA restricts exports of petroleum (crude or refined products) produced from the Naval Petroleum Reserves.
- The OCSLA restricts exports of crude oil or natural gas produced from federally owned submerged lands of the Outer Continental Shelf.

All of these statutes establish stringent tests (e.g., consumer savings through lower prices for replacement oils) that a license applicant must meet before BXA can authorize crude oil exports. BXA can authorize exports only by a national interest finding issued by the President or his delegated representative. The President has retained the authority to make national interest findings under three of

the statutes, but has delegated to the Secretary of Commerce the authority to make findings under EPCA.

Since the EPCA's enactment, there have been only five national interest findings providing exemptions from the statutory prohibitions: (1) in 1985, the export to Canada of crude oil produced in the lower 48 states; (2) in 1989, the export of 50,000 barrels per day (B/D) of Alaskan North Slope (ANS) crude oil pursuant to the U.S.-Canadian Free Trade Agreement; (3) in 1985, the export of Alaskan Cook Inlet crude oil to Pacific Rim energy markets; (4) in 1992, the export of 25,000 B/D of California heavy crude oil having a gravity (i.e., weight) of 20 degrees API or lower (a standard of the American Petroleum Institute); and (5) in 1996, exports of ANS crude oil, when transported on U.S.-flag tankers, were determined to be in the national interest.

#### Exports of Crude Oil from the Lower 48 States

During FY 2001, BXA approved 19 licenses for exports of crude oil originating from the lower 48 states. These licenses involved a total of 40.7 million barrels of crude oil or approximately 111,507 B/D. Specifically, BXA issued eight licenses totaling 34 million barrels for shipment to Canada of crude oil produced in the lower 48 states. BXA also issued 11 licenses to export 25,000 B/D of California heavy crude oil. The 11 licenses were for 6.99 million barrels of crude oil. The bulk of the heavy crude oil exported was for use as bunker fuel for vessels engaged in foreign trade.

#### Exports of Crude Oil from Alaska

On May 31, 1996, BXA amended the short supply provisions of the EAR by establishing License Exception Trans-Alaska Pipeline Authorization Act (TAPS) authorizing exports of Alaskan North Slope crude oil with certain conditions. License Exception TAPS was based on: (1) Public Law 104-58, which permits the export of crude oil transported by pipeline over right-of-way granted pursuant to Section 203 of TAPS; (2) the President's April 28, 1996 determination that such exports are in the national interest; and (3) the President's direction to the Secretary of Commerce to issue a license exception with conditions for the export of TAPS crude oil. During FY 2001, there was no activity under this program.

The Department also authorizes the export of crude oil derived from state-owned submerged lands in Alaska's Cook Inlet under an individual validated license unless the oil has been or will be transported by a pipeline over a federal right-of-way granted pursuant to the Mineral Leasing Act or the Trans-Alaska Pipeline Authorization Act. In FY 2001, there was no activity under this program.

#### Wood Products

BXA administers short supply export controls on Western Red Cedar (WRC), as mandated by Section 7(i) of the EAA. BXA also administers the ban on exports of unprocessed timber originating from public lands in all or parts of 17 western states pursuant to the FRCSRA.

## Western Red Cedar

The EAA prohibits the export of unprocessed WRC harvested from state or federal lands. This prohibition applies to those contracts entered into after September 30, 1979. However, exports of unprocessed WRC harvested from state or federal lands under contracts entered into before October 1, 1979, are permitted under an export license. During FY 2001, BXA did not issue any export licenses for WRC.

## FRCSRA

Under FRCSRA, the Department administers the ban on the export of unprocessed timber originating from public lands in 17 western continental states. (In the alternative, the affected states can request the Secretary of Commerce to authorize them to administer their own programs.) The last log export order remaining in effect was issued under Title VI of the Department of the Interior and Related Agencies Appropriations Act of 1998 (Public Law 105-83), which required the Secretary of Commerce to make permanent the total prohibition on the export of unprocessed timber from public (state) lands contained in the FRCSRA. Specifically, Public Law 105-83 prohibits the export of unprocessed timber originating from state lands in states west of the 100th meridian in the contiguous 48 states with more than 400 million board feet of annual sales volume of such timber. As the Secretary of Commerce has delegated the authority for carrying out the policies and programs necessary to administer laws regarding the control of U.S. exports to the Under Secretary of Commerce for Export Administration, the Under Secretary issued the order required under P.L. 105-83 on January 9, 1998. The practical effect of the order is to make permanent the ban on the export of unprocessed timber originating from Washington state public lands. This order remained in effect during FY 2001.

## **The Enhanced Proliferation Control Initiative (EPCI)**

When the U.S. Government became aware that Iraq, on the eve of the Persian Gulf War, had enhanced its weapons of mass destruction capability by obtaining imported goods that were exempt from a license requirement, President George H. W. Bush launched the Enhanced Proliferation Control Initiative (EPCI) in December 1990. EPCI led to the imposition of chemical, biological, and missile end-use and end-user based controls that were similar to the nuclear end-use and end-user based controls already in effect. The EAR requires exporters to obtain a license for the export of an item, even if one is not normally required, if they know or are informed by BXA that the export is for use in nuclear, chemical or biological weapons or missiles, or facilities engaged in such activities. U.S. persons are also restricted from activities in support of nuclear, chemical or biological weapons, or missile-related projects. These regulations are designed to prevent exports of non-listed items that would make a material contribution to proliferation projects of concern, but are not intended to affect legitimate commercial trade.

EPCI began as a unilateral control, but with U.S. leadership, virtually all of the NSG and MTCR member countries have adopted some form of catch-all controls, and the United States continues to encourage other countries to adopt similar measures. Information exchanges on EPCI export denials have also enhanced multilateral awareness of proliferation projects of concern.

## **Treaty Compliance Division**

### *Overview of the Chemical Weapons Convention*

The Chemical Weapons Convention (CWC), signed by more than 150 countries, bans the development, production, acquisition, stockpiling, retention, use, and direct or indirect transfer of chemical weapons, and provides for an extensive verification regime. The CWC, ratified by 145 states, entered into force on April 29, 1997.

Implemented through the establishment of a CWC Annex, specified chemicals are grouped into three schedules based on their toxicity and other properties enabling their use in chemical weapons. The toxic chemicals and precursors identified on Schedule 1 pose the highest risk and have few commercial applications; the chemicals and precursors identified on Schedule 2 pose a significant risk, but have certain commercial applications. The chemicals and precursors identified on Schedule 3, while they pose a risk for purposes of the CWC, have wide commercial applications. Chemical agents deemed to have direct military applications are controlled by the State Department under the International Traffic in Arms Regulations.

The CWC, which is administered by the Organization for the Prohibition of Chemical Weapons (OPCW), is the first major arms control treaty to have a significant impact on the private sector. The CWC requires certain commercial chemical production, consumption, and processing facilities to submit data declarations and to permit international inspections. U.S. implementing legislation to compel domestic industry compliance with the CWC was enacted on October 21, 1998. Modifications to the EAR implementing the provisions of the CWC were promulgated on May 18, 1999. Companies exceeding certain production, processing, consumption, and export or import thresholds for scheduled chemicals are required to submit the appropriate declarations or reports to BXA.

### *Recent Actions*

BXA is the agency responsible for collecting data declarations from U.S. companies engaged in chemical activities covered by the CWC and escorting OPCW inspection teams at U.S. companies. In FY 2001, 915 declarations and reports from 290 chemical companies representing 812 plant sites were received and verified by NPTC staff and forwarded to the OPCW. NPTC hosted 16 on-site inspections of U.S. facilities engaged in chemical-related activities during FY 2001.

In response to requests from U.S. companies for specific assistance in preparing their facilities for inspection, NPTC conducted 17 site assistance visits (SAVs) at various U.S. plant sites. SAVs assist

industry personnel in preparing pre-inspection briefings and draft facility agreements, and provide industry with methods for identifying and handling confidential business information and other key elements of CWC industry inspection activities.

With the cooperation and assistance of the American Chemistry Council and the Synthetic Organic Chemical Manufacturers Association, NPTC hosted a CWC outreach seminar in Atlanta, Georgia, on November 2, 2000. Over 100 industry participants attended the seminar to hear representatives from BXA, the Defense Department, and the FBI present general guidance to the chemical industry on plant site preparation for CWC inspections.

### *Biological Weapons Convention*

The Biological Weapons Convention (BWC) entered into force in 1975 to prohibit the development, production, and stockpiling of biological agents or toxins of types or in quantities that do not have “justification for prophylactic, protective, or other peaceful purposes.” The Third Review Conference of State Parties to the BWC agreed in 1991 to consider ways to strengthen the implementation and effectiveness of the BWC.

The United States agreed in 1994 to participate in an ad hoc group to negotiate a protocol to the BWC that would “enhance confidence in compliance.” On July 25, 2001, after in-depth interagency review, the United States announced that the draft protocol text was unacceptable and could not be satisfactorily revised. Instead, the United States proposed a set of alternative actions to strengthen the BWC, which were to be presented at the BWC Review Conference scheduled for November 2001.

### *Industry Interaction and International Consultations*

Beyond the routine contacts that are a necessary part of the export licensing process, NPTC’s staff participated in many industry briefings, trade association seminars, and one-on-one consultations with exporters to clarify the scope of U.S. nuclear and missile technology controls, explain the responsibilities of U.S. industry under the CWC, and clarify regulatory actions taken to control the export of chemical and biological commodities. These efforts support U.S. industry by reassuring parties of the legitimacy of proposed export sales and advising them of their export control obligations, and by explaining the rights and obligations of the U.S. chemical industry in their compliance with the CWC.

NPTC’s staff also actively engages in bilateral and multilateral consultations with U.S. trading partners who share our nonproliferation goals, and with countries who do not yet have export control systems in place. In the last year, NPTC participated in numerous consultations under the auspices of the multilateral control regimes and international treaty organizations and in support of BXA’s overall international outreach effort to educate non-participatory countries about the benefits and obligations of export control cooperation.

Return to [Table of Contents](#)

## **Chapter 4. Strategic Industries and Economic Security**

BXA's Office of Strategic Industries and Economic Security (SIES) is the focal point within the Department of Commerce (Department) for issues related to the competitiveness of the U.S. defense industrial base. Its responsibilities include helping U.S. companies diversify their product lines by adding commercial production and markets to their defense-related business, promoting the sale of U.S. weapons systems to U.S. allies, and conducting primary research and analysis on critical technologies and defense-related sectors. The office has two divisions: the Defense Programs Division and the Strategic Analysis Division. SIES also provides staff support for BXA's Technical Advisory Committees.

### **Defense Programs Division**

#### *Defense Priorities and Allocations System*

Title I of the Defense Production Act of 1950, as amended (DPA), (50 U.S.C. app. § 2701 et seq.) authorizes the President to require preferential acceptance and performance of defense contracts or orders over other contracts or orders to meet approved defense and energy program requirements, and to allocate materials, facilities, and services as needed to meet those requirements. Authority for establishing priorities and allocations of industrial resources is delegated to the Department of Commerce, and within Commerce, to BXA/SIES to implement this authority through the Defense Priorities and Allocations System (DPAS).

In FY 2001, SIES staff worked on a number of significant DPAS cases. SIES worked with American Panel Corporation (APC), the only qualified source of Advanced Matrix Liquid Crystal Displays for use in the cockpits of U.S. Air Force and Navy military aircraft, including Air Force One. SIES worked to ensure an adequate supply of this critical item, while making certain that requirements for civilian aircraft cockpit use were impacted as little as possible. With Department of Defense (Defense) support, SIES worked with Westland Helicopter in the United Kingdom to secure the timely delivery of transponders from Raytheon for various Canadian and United Kingdom items. SIES also resolved issues pertaining to the timely delivery of electronic components for production of a U.S. Special Forces field radio and for the U.S. Air Force C-17 transport aircraft, ensuring timely delivery of ammunition belts for the U.S. Army. SIES worked with Boeing in support of its request to the California Public Utility Commission to obtain an exemption from rolling blackouts at Boeing's C-17 production facility in southern California during the energy crisis in the state.

Responding to the increasing threat of terrorism against U.S. embassies worldwide, SIES worked with the Department of State to develop a request for priority rating authority under the DPAS to support the Department of State Embassy Security Protection Program. The purpose of this five-year, \$6.5 billion program is to upgrade U.S. embassy security around the world.

SIES also continued working with representatives to the NATO Industrial Planning and Procurement Policy Committees to implement a North Atlantic Council recommendation concerning implementation of multilateral NATO-wide “security of supply” (priorities and allocations) plans and procedures. This effort will help ensure international defense industrial base cooperation in the event of future emergencies. Other international efforts included working with Defense officials to implement a bilateral agreement on security of supply with the United Kingdom Ministry of Defense and U.K. defense industry, and giving DPAS presentations emphasizing security of supply to the NATO Industrial Planning Committee meeting, and Swedish Ministry of Defense and Civil Emergency Preparedness.

In addition, SIES worked closely with the White House, other agencies, and the Congress to obtain a two year reauthorization of the DPA. SIES staff also participated in Congressional briefings regarding the use of the DPA authority in response to the California energy crisis.

### *Defense Trade Advocacy*

SIES is the Department office charged with international defense trade advocacy responsibilities. SIES will consider formally supporting a conventional arms transfer if the transfer is in the economic interests of the United States, and the U.S. Government determines that the transfer will further U.S. national security and foreign policy objectives.

In FY 2001, SIES defense advocacy efforts supported sales of approximately \$700 million, including the sale of a military tanker aircraft to the Italian Air Force. SIES worked with the Defense Security Cooperation Agency (DSCA) within the Foreign Military Sales (FMS) Reinvention program to develop Team International, a new initiative bringing U.S. industry, the foreign customer, and the U.S. Government together in the early stages of the weapons acquisition process. Increased transparency of the technology transfer and the FMS processes will enhance overall U.S. competitiveness in defense trade. During FY 2002, SIES will continue outreach activities at major defense-related trade shows to increase awareness among small- and medium-size U.S. defense firms of the important advocacy role that SIES and BXA play in this highly competitive industry sector.

### *Defense Memoranda of Understanding*

SIES reviews Defense’s proposed Memoranda of Understanding (MOU) and other types of international agreements for commercial implications and potential effects on the international competitive position of U.S. industry. These international agreements provide the framework for research and development cooperation and cooperative production between Defense and other countries.

In FY 2001, SIES reviewed 101 proposed international agreements with 25 countries. Since 1990, SIES has reviewed more than 1,080 proposed agreements.

SIES also continued to serve on the interagency team overseeing Japan’s development and production of the FS-X/F-2 weapon system. Each phase of the program is governed by the terms of a separate

MOU. SIES represents U.S. industry interests in the ongoing U.S. and Japanese discussions regarding the implementation of the MOUs and adherence to their provisions.

### *Emergency Preparedness*

SIES's National Security Emergency Preparedness (NSEP) program ensures that the U.S. industrial/technology base can respond effectively to the requirements of national emergencies. During FY 2001, SIES staff participated in interagency planning and execution of the joint civilian/military Positive Force 01 emergency mobilization exercise which took place in April 2001 to ensure appropriate civil agency and industrial base activities. Also, SIES staff reviewed three Presidential Emergency Action Documents (PEADs). The Commerce Department continues to lead federal agency response to industrial emergency preparedness planning and implementation of a variety of NSEP programs, and SIES remains a major contributor to ongoing interagency reviews and assessments of the industrial/technology base.

### *Excess Defense Articles*

SIES reviews the proposed transfer of defense equipment to foreign governments as Excess Defense Articles (EDA) to ensure that any proposed transfer does not interfere with ongoing sales or marketing by the U.S. defense industry. SIES reviewed 118 proposed EDA transfers in FY 2001, valued at \$197.2 million. SIES determines whether the transfer will have an adverse impact on the defense industrial base and, if so, can recommend to Defense that the transfer be denied.

### *International Diversification and Defense Market Assessments*

SIES developed its Diversification and Defense Market Guide Assessment program to assist small-and medium-sized U.S. companies to diversify and/or expand into overseas commercial and defense markets. This program provides market information for dual-use and defense products and is implemented through publication of a series of international diversification and defense market assessment guides. These guides provide information to U.S. manufacturers regarding dual-use and defense markets in specific regions: Europe, the Middle East, the Pacific Rim, and the Western Hemisphere. Each guide chapter provides comprehensive information on doing business in a specific country, including details on specific upcoming commercial and defense trade opportunities open to U.S. firms in these markets, and a listing of key points of contact in the United States and in the host country who can provide additional information and assistance to U.S. firms.

Updates of all editions will be completed in FY 2002. Current editions of these guides are available on the BXA Web site and in printed format.

### *National Defense Stockpile*

SIES, on behalf of the Department serves as statutory co-chair (with the Department of State) of the Interagency National Defense Stockpile Market Impact Committee (MIC). The MIC provides expert

interagency advice to Defense on stockpile acquisitions and disposals. The MIC helps Defense avoid undue market impact and helps protect the government from avoidable loss. In FY 2001, the MIC continued to monitor closely the market conditions in several major commodity markets and has encouraged Defense to limit proposed stockpile sales of these commodities where undue market impact appeared probable. The MIC also supported several proposed Defense increases in commodity sale quantities to take advantage of high prices and favorable market conditions.

### *NATO Industrial Planning Committee*

During FY 2001, SIES continued to represent the United States on the NATO Industrial Planning Committee (IPC), which is responsible for coordinating industrial preparedness planning among the NATO allies for both NATO military defense and civil emergency preparedness response. Adoption of new terms of reference for the senior committee led to adoption of new initiatives regarding defense industry globalization and countering the effects of weapons of mass destruction (WMD). The IPC established a new WMD working group at its September 19, 2001, meeting. The working group will examine the NATO alliance's industrial capability to support WMD detection and countermeasures requirements, protective civilian populations, and responsiveness of the medical and pharmaceutical industries.

SIES continued its leadership role in promoting the security of supply effort in the NATO system. On September 1, 2001, the 19 NATO members approved arrangements for a NATO alliance-wide security of supply initiative. This agreement, based on the U.S. Defense Priorities and Allocations System (DPAS), is designed to improve the ability of the NATO members to supply critical components, materials, and services to NATO forces during a coalition action. IPC's action has spurred parallel initiatives bilaterally and in other international fora.

## **Strategic Analysis Division**

### *Federal Resource Access Partnership Needs Assessment Survey*

In keeping with its mission, SIES works with small- and medium-sized businesses nationwide to help them gain access to government resources that could improve their competitiveness. SIES has formed a partnership with the Federal Laboratory Consortium (FLC) to assist businesses in the United States. The office collects information about each company through a Needs Assessment Survey. The survey asks a wide variety of questions designed to determine what kind of assistance would be most useful to the respondents. Topics covered in the survey include manufacturing technology deployment, product/service development, research and development programs, and exporting activities.

During FY 2001, SIES received more than 30 completed surveys from companies located in the western United States. After analyzing the surveys, SIES forwards report summaries to 12 government response team members who provide those businesses with assistance designed to help them maintain competitiveness in the marketplace. The response team includes the Commerce Department, the 700 FLC laboratories, the Department of Labor, and the Small Business Administration. SIES has formed

a partnership with the California Small Business Development Centers to serve more firms in the western region.

### *Best Manufacturing Practices Program Partnership*

SIES continues to be a contributing partner to the U.S. Navy's Best Manufacturing Practices (BMP) Program, which identifies, documents, and disseminates best practices through paper reports and the Internet. BMP also provides software tools to companies that mitigate risk in engineering and production programs. SIES is encouraging the BMP Program to include more small- and medium-sized companies in its upcoming activities. SIES promotes the BMP Program to members of the U.S. industrial base and the Federal Government through meetings and industry shows.

In addition to its promotion of the BMP Program in the United States, SIES has continued to consult with Australian industry and government officials to promote establishing a similar program in Australia. This initiative was undertaken in response to the United States Department of Defense and Australian Department of Defense Statement of Principles for Enhanced Cooperation in Matters of Defense Equipment and Industry, signed in the Summer of 2000. An Australian team, including an academic center and industry association, established a working group to investigate the resources, both financial and intellectual, needed to begin a BMP program in Australia.

### *Foreign Investment*

Section 5021 of the Omnibus Trade and Competitiveness Act of 1988 (which amended Section 721 of the Defense Production Act of 1950) provides authority for the President to review the effect on national security of certain mergers, acquisitions, and takeovers of U.S. companies by foreign interests. The interagency Committee on Foreign Investment in the United States (CFIUS) chaired by the Department of the Treasury, implements the law. SIES provides BXA input to the International Trade Administration, which represents the Department on the CFIUS.

In FY 2001, the Department reviewed 61 investment notifications. One case went to the 45-day investigation period. SIES, as a participant in CFIUS, works to ensure that the U.S. defense industrial base will not be compromised by foreign acquisitions, consistent with the law.

### *Impact of Imports*

At the request of industry, the Congress, and other agencies or interested parties, SIES conducts investigations of the effects of imports on national security. These studies are conducted under the authority of Section 232 of the Trade Expansion Act of 1962. BXA provides findings and recommendations, which are included in a report from the Secretary of Commerce to the President, who may use Section 232 authorities to adjust imports if such imports are found to threaten to impair U.S. national security. During FY 2001, the Department conducted, at the request of Representative James Oberstar (D-MN) and Representative Bart Stupak (D-MI), an investigation of the impact of

imports of iron ore and semi-finished steel on U.S. national security. Representatives Oberstar and Stupak contended that imports of iron ore and semi-finished steel threaten the U.S. iron ore mines and the integrated U.S. steel sector, industries they view as critical to national security. The Secretary of Commerce submitted the final report on this investigation to the President in October 2001.

### *Industry Assessments*

SIES conducts primary market research and analysis on critical technology developments and industrial base capabilities of key economic sectors. SIES uses industry-specific surveys to collect essential data. The final reports provide recommendations to government policy makers and industry leaders. The studies are conducted in cooperation with experts from the private sector and other government agencies. The collaboration results in detailed data that is unavailable from other sources. The goal is to maintain and enhance economic security and to enable the private sector to monitor trends in their respective sectors. Customers for these reports include the armed services, the Congress, and industry associations.

### National Security Assessment of the U.S. Maritime Industry

SIES continues to conduct a national security assessment of the U.S. maritime industry in partnership with the U.S. Navy's Naval Surface Warfare Center in Carderock, Maryland, and other public and private entities. The study will identify opportunities for increased sharing of maritime technologies between public and private entities and expand the use of public maritime capabilities to increase private industry competitiveness. This will require SIES to conduct several maritime sub-sector surveys as part of the assessment. The first of the surveys was sent to approximately 330 companies in the shipbuilding and repair industry during FY 2000. The *National Security Assessment of the U.S. Shipbuilding and Repair Industry* based on the company data provided was released in May 2001. A summary of the report can be found at [http://www.doc-bxa.bmpcoe.org/Shipbuilding\\_and\\_Repair.pdf](http://www.doc-bxa.bmpcoe.org/Shipbuilding_and_Repair.pdf). [URL to change 2/02]

Two additional sectors are being studied. More than 200 surveys have been mailed to gather information in support of a report on the maritime research and education infrastructure that will be published in early 2002. SIES is also studying the shipbuilding supplier base; 4000 surveys were mailed and are being compiled for analysis.

### High Performance Explosives and Explosive Components

In June 2001, SIES completed a study of the U.S. high performance explosives (HPE) and explosive component industries for the U.S. Navy's Naval Surface Warfare Center, Indian Head Division. This study followed the 1995 publication of a cartridge- and propellant-actuated device industry assessment, which was also conducted for the Navy. The Naval Surface Warfare Center requested the study

because of significant declines in the budget for military grade explosives and explosive components.

SIES found that several issues impact the HPE and HPE component industries, including reduced government research and development expenditures, weapon system program managers allowing price to become the dominant factor in source selection, and apparently conflicting Defense industrial base policies.

SIES recommended that Defense restore research and development funding to historical levels, enforce rules over weapon system program managers to purchase their HPEs using a total best value system (instead of lowest purchase price), and amend or eliminate the competing industrial base policies.

### Assistive Technologies

A study on assistive technologies emerged from previous cooperative efforts between SIES and other agencies and associations with respect to U.S. defense diversification efforts. SIES initiated this study at the request of the Education Department's National Institute on Disability and Rehabilitation Research and the Federal Laboratory Consortium. Assistive technology devices enable persons with disabilities to function more fully in the workplace and in society as a whole. The study will identify the industry's technology needs and match these needs with the defense-related technologies available in federal laboratories. SIES mailed an industry-specific survey to more than 1,700 firms in the industry. The results from the survey will be used to make such matches. This effort will be completed in fiscal year 2002.

### Air Delivery Industry

In early FY 2001, the U.S. Army's Soldier Biological and Chemical Command (SBCCOM) requested that SIES study the U.S. Air Delivery Industry. The products encompassing the air delivery industry include items used by the military to air drop personnel, equipment, and supplies.

SBCCOM requested the study because of several cycles of large and small acquisitions, which have created longer lead times for necessary items and some quality concerns for parachutes. A long and complex supply chain for parachute fabric that currently cannot respond quickly to spikes in demand affects lead times. Well-trained sewers leaving the parachute manufacturing industry when orders have fallen and not returning when orders recover result in parachute quality concerns. SIES cooperates with SBCCOM and the Parachute Industry Association to complete a report in FY 2002 that will investigate these and other issues and report findings and recommendations.

### Welding

During FY 2001, SIES began a national security assessment of the welding sector. SIES is working with the American Welding Society and the Edison Welding Institute, which is funded by the U.S. Navy. SIES mailed over 6,000 surveys to various manufacturing firms in the sector. The information gathered will be used to quantify the economic contribution of welding to key industries and to the

overall total gross domestic product of the U.S. economy. This data will provide the foundation for rational decision-making for the investments and developments in the welding field necessary to support defense programs and company competitiveness in the future. This project will conclude in FY 2002.

### *Maritime Initiatives*

#### The Deepwater Program

In FY 2001, SIES entered into an innovative new collaboration with the U.S. Coast Guard, setting the stage for increased U.S. exports of maritime vessels, aircraft, helicopters, and related system components. BXA and the Coast Guard signed a five-year Memorandum of Agreement for BXA to promote the Coast Guard's Deepwater acquisition program to foreign navies and coast guards.

The Deepwater program will modernize cutters, offshore patrol boats, and fixed-wing and rotary-wing aircraft that operate in the "deepwater" maritime region that is more than 50 miles from shore. The program also will modernize the associated sensors, electronics, communications, and logistical systems. Both BXA and the Coast Guard view the collaboration as an opportunity to enhance the U.S. maritime industrial base and related sectors and improve U.S. national security.

#### The Marine Transportation System

In FY 2001, SIES became involved in the Marine Transportation System (MTS) initiative led by the Department of Transportation. BXA became a member of the Interagency Committee of the MTS (ICMTS) in the summer of 2001, and BXA staff participated in the ICMTS Working Group on the Shipping Effectiveness Act for the 21st Century (SEA-21). SEA-21 seeks to modernize the MTS. BXA's future role in this program will focus primarily on prioritizing MTS planning and sector assessments dealing with the maritime industrial base as it relates to national defense.

### *Offsets in Defense Trade*

SIES prepares an annual report to the Congress on offsets in defense trade under the authority of Section 309 of the Defense Production Act of 1950, as amended (50 U.S.C. app. § 2071 et seq.). Offsets are mandatory compensation required by foreign governments when they purchase U.S. defense systems, including technology transfer, licensing co-production agreements, and counter trade. In this

report, SIES assesses the impact of offsets on the defense preparedness, industrial competitiveness, employment, and trade of the United States, in particular the impact on small- and medium-sized subcontractors. SIES submitted its fifth report to Congress in FY 2001.

In addition, SIES participates in a Defense-led Interagency Offsets Working Group, which includes representatives from the Departments of State and Labor, and the Office of the U.S. Trade Representative. In prior years, the Group pursued negotiations on both a multilateral and bilateral basis. Important steps have been taken to address the offsets issue with our European allies, since they are our largest defense trade partners and demand the highest offsets. The Group met with representatives of the British, Canadian, Dutch, French, and Spanish governments to gain their perspective on offsets and to discuss the cost to governments of requiring and administering offset programs. During FY 2001, the Group met with representatives from prime contractors and an industry group representing small- and medium-sized firms to get a better perspective on the impact of offsets on U.S. firms. Finally, the Group assisted the Presidential Commission on Offsets as it completed its work.

### *Technical Advisory Committees*

The Department charters Technical Advisory Committees (TACs) to provide advice and assistance from U.S. industry in formulating and implementing export control policy. SIES performs the administrative functions for the TACs reporting to BXA. The TACs advise BXA on proposed revisions to the U.S. and international export control lists, on worldwide availability and use of production technology, and on export control regulations and procedures. The TACs serve as a valuable resource on regulatory and policy matters.

The Information Systems Technical Advisory Committee (ISTAC) addresses issues relating to Control List (CCL) Categories 3 (semiconductors), 4 (computers), and 5 (telecommunications and information security). The ISTAC also continued to support BXA in evaluating alternatives to Composite Theoretical Performance (CTP) as a control metric for high performance computers and microprocessors. In a related area, the ISTAC produced a study of low-power microprocessors and submitted it to BXA for evaluation.

The Materials Technical Advisory Committee (MTAC) addresses export control

issues

regarding CCL Category 1 (materials, chemicals, microorganisms, and toxins). The MTAC expressed concern that research and development activities and certain manufactures be exempted from declaration under the Biological Weapons Convention protocol. BXA solicited comments from the MTAC regarding changes to the export controls for prepregs, high-modulus fibers, and fine-grained graphites. The MTAC recommended that changes to controls regarding the glass transition temperature of prepreg matrices not be made for reasons of missile technology control since the effect of such changes would be to extend MTCR regulations to countries having no missile activity.

The Materials Processing Equipment Technical Advisory Committee (MPETAC) recommended changes regarding current parameters for CCL Category 2 (materials processing). The "Reference Guide for Category 2 Machine Tools," a spreadsheet providing CCL paragraph references for each type of machine tool on the List, was posted on the BXA Web site. The MPETAC continued to support a defined process of follow-up when a post-shipment visit is a necessary condition to approval for an export license.

The Regulations and Procedures Technical Advisory Committee (RPTAC) continued to advise the Department on policies and procedures pertaining to the Export Administration Regulations. The RPTAC made recommendations on a wide range of issues, including deemed exports, license processing, compliance and enforcement, high performance computers and microprocessors, implementation of Wassenaar Arrangement changes, and implementation of the Enhanced Proliferation Control Initiative.

The Sensors and Instrumentation Technical Advisory Committee (SITAC) advised the Department regarding commodities and data within CCL Category 3 (electronics) and Category 6 (sensors and lasers). The SITAC commented on draft Wassenaar Arrangement proposals covering sensor, laser, infrared, and night vision topics. The SITAC examined the origins of Regional Stability controls as applied to Category 6 commodities and the possibility for their reconsideration. The SITAC presented formal comment to BXA regarding the implementation of various working definitions and figures of merit by Defense in considering license applications for uncooled infrared imaging exports.

The Transportation and Related Equipment Technical Advisory Committee (TransTAC) advised the Department on commodities and technical data within

Control List Categories 7 (navigation and avionics), 8 (marine), and 9 (propulsion systems, space vehicles, and related equipment). The TransTAC focused on CCL Category 7 items, raising concerns that the current and proposed controls do not adequately differentiate between systems that would have national security (military) potential and those that do not. Concerns also exist that terms used in this Category are not well-defined and that maintenance restrictions do not reflect commercial industry practice. The TransTAC continues to discuss and propose refinements of these controls.

Return to [Table of Contents](#)

## **Chapter 5. Export Enforcement**

BXA's Export Enforcement arm (EE) consists of the Office of Export Enforcement (OEE), the Office of Export Analysis (OEA), and the Office of Antiboycott Compliance (OAC) (See Chapter 6). In FY 2001, OEE and OEA continued programs to investigate and prevent dual-use export control violations, thereby protecting important national security and foreign policy interests safeguarded by the Export Administration Act (EAA) and Export Administration Regulations (EAR). Additionally, OAC continued to administer and implement the antiboycott policy and program articulated in Section 8 of the EAA and Part 760 of the EAR.

EE is composed of 152 trained professionals, including 95 special agents, who enforce the EAA and the EAR, the Fastener Quality Act, and the Chemical Weapons Convention Implementation Act. OEE educates exporters, interdicts illegal exports, and prosecutes violators. Working closely with BXA licensing officers and policy staff, BXA's law enforcement officers apply their special skills and understanding of the export control system to prevent exports of potentially damaging dual-use items to unauthorized distributors or unreliable users.

When there is reason to believe that violations of the EAA or EAR have occurred, OEE's special agents and compliance officers investigate and recommend appropriate charges. During FY 2001, \$2,392,000 in civil penalties (See Appendix A, Table 5-2 for a list of administrative cases closed in FY 2001) and \$1,125,400 in criminal fines were imposed for export control violations of the EAA and EAR. In addition, \$117,250 in civil penalties for antiboycott violations of the EAA and EAR also were imposed (See Chapter 6).

### **Office of Export Enforcement**

The Office of Export Enforcement (OEE) is headquartered in Washington, D.C., with field offices located in eight U.S. cities – Los Angeles, California; San Jose, California; Chicago, Illinois; Dallas, Texas; Fort Lauderdale, Florida; Boston, Massachusetts; New York, New York; and Herndon, Virginia. Special agents of OEE are empowered to make arrests, carry firearms, execute search warrants, issue subpoenas, and detain items about to be illegally exported.

OEE's Intelligence and Field Support Division, located at BXA headquarters, is staffed by special agents and analysts. This staff serves as a conduit between the intelligence community and OEE field offices.

During FY 2001, OEE conducted numerous investigations, some of which led to criminal and administrative sanctions. It also issued 179 warning letters in cases of minor violations. Warning letters typically inform the recipient that OEE has reason to believe they had violated the EAR, and that increased compliance efforts on the part of the exporter were strongly recommended.

During FY 2001, BXA special agents worked with the Department of Justice to secure indictments and informations against 16 individuals and 12 companies (See Appendix A, Table 5-1 for a list of FY 2001 criminal cases for EAA and International Emergency Powers Act violations). OEA assists OEE field offices and BXA licensing officers by analyzing and disseminating export control-related information. OEA also makes recommendations based on intelligence and investigative information to BXA licensing officers concerning pending license applications.

During FY 2001, BXA enforcement personnel examined 6,662 export license applications to assess diversion risks, identify potential violations, and determine the reliability of proposed end users of controlled U.S.-origin commodities and technology. Based on these reviews, EE recommended that 114 license applications either be rejected or returned without action because of diversion risks or other enforcement concerns.

In addition, as part of its ongoing responsibility for preventing illegal exports before they occur, BXA's enforcement staff assessed the results of 373 pre-license checks (PLCs) in FY 2001, and recommended that 40 of the corresponding license applications be rejected or returned without action.

EE also performs post-shipment verifications (PSVs) to ensure that items exported under export licenses were received at the authorized location designated on the export license and that their end-use is authorized and complies with the license conditions. In FY 2001, EE conducted and assessed the results of 689 PSVs. OEE special agents conducted 516 of these verifications as part of the Safeguards Verification Program (see below), while the Foreign Commercial Service or other U.S. embassy officials conducted the other 173 PSVs. Information from 156 PSVs led to further enforcement action, such as the initiation of investigations.

## **Export Enforcement Initiatives**

### *High Performance Computer Provisions of the National Defense Authorization Act of 1998*

A provision of the National Defense Authorization Act for FY 1998 (NDAA) requires special scrutiny of exports of high performance computers (HPCs) to certain specified countries. Those who wish to export HPCs that operate above a certain performance level to these countries must obtain a license. These NDAA provisions also require exporters to submit post-shipment reports to the Department, and require that the Department conduct PSVs at the end-user's location to verify the end-use of each HPC exported to the specified countries.

EE maintains a high performance computer division in OEA to oversee all enforcement responsibilities under the NDAA's HPC provisions. EE conducted PSVs as required by the NDAA and submitted the third NDAA Annual Report to the designated congressional committees on December 20, 2000. The report examined exports of HPCs to countries of the greatest proliferation concern and provided the results of PSVs for the reporting period of November 18, 1999, through November 17, 2000.

OEE also included sessions on the NDAA and high performance computers in the continuing training for all special agents.

### *Project Outreach*

As part of its public education efforts, OEE special agents participated in numerous seminars and trade shows across the country during FY 2001. The special agents developed contacts with private sector firms through Project Outreach, a program that provides firms with export control guidance, gives OEE a better understanding of the private sector's needs, and provides valuable investigative leads. OEE agents conducted 1,046 Project Outreach visits during FY 2001.

### *Safeguards Verification Program*

The OEE Safeguards Verification Program conducts onsite pre-license and post-shipment checks using EE special agents. This program combats the misuse of U.S. exports that are subject to the EAR. The safeguards verification teams travel overseas to determine the disposition of selected U.S. exports, particularly those that raise proliferation concerns. These safeguards verification teams also assess the suitability of foreign firms to receive U.S.-origin items that are subject to U.S. export controls and conduct educational visits to foreign firms, often in cooperation with host government officials.

### *International Law Enforcement Cooperation*

In FY 2001, EE expanded its international cooperative efforts.

Senior EE officials spent much of the year working with other countries on precedent-setting "best practices" for effective export enforcement, which were adopted by the Wassenaar Arrangement at its December 2000 plenary session.

EE also worked with a group of countries having extensive transshipment trade on a similar set of enforcement "best practices" for transshipment issues. Those best practices were subsequently adopted at the November 2000 International Transshipment Enforcement Conference. This marked the first time transshipment countries had agreed to such practices. EE joined with officials from the Department of State and the U.S. Customs Service to implement the practices. Enforcement teams also worked with officials in Singapore, Malaysia, the United Arab Emirates, Cyprus, and Malta on similar practices.

During FY 2001, EE assigned an export control attaché to the U.S. Embassy in Moscow, Russia, to work cooperatively with the Russian Federation to implement enforcement procedures designed to halt the proliferation of U.S. and Russian exports to countries or organizations of concern. The attaché also is responsible for evaluating the reliability of Russian entities as end-users of controlled U.S. exports.

EE's attaché at the U.S. Embassy in Beijing, China, continued to play a key role in ensuring that U.S. exports licensed to China comply with license conditions through end-use visits. In October 2000, EE

helped organize the first-ever U.S.-China export control seminar designed for businesses from those two countries.

Throughout the year, EE officials worked with Hong Kong officials to ensure that U.S. products destined for that Special Administrative Region were not sent elsewhere in China without appropriate authorization.

EE chaired U.S. interagency delegations that conducted a number of enforcement seminars and workshops with other countries, including the first export enforcement workshops held with enforcement officials in Kyrgyzstan and Moldova. These meetings advanced those countries' understanding of important export enforcement techniques.

EE also participated in international export control seminars and workshops with more than 50 countries in Europe, the former republics of the Soviet Union, Central and Eastern Europe, the Baltic States, the Central Asian republics, and Asia. In all of these discussions, EE provided in-depth information on methods to enforce export control laws and regulations.

EE participated in the international nonproliferation regimes, including enforcement seminars of the Wassenaar Arrangement, the Missile Technology Control Regime, and the Nuclear Suppliers Group. An EE official spoke at the February 2001 Asian Export Control Seminar involving 19 Pacific Rim countries and chaired the seminar's enforcement panel.

#### *Shipper's Export Declaration Review Program*

As the volume of export licenses has decreased, EE has increased the number of Shipper's Export Declarations (SEDs) that it reviews. Onsite reviews of selected SEDs are conducted by OEE Special Agents at U.S. ports, who review numerous transactions before selecting a smaller target group for closer scrutiny.

EE Headquarters conducts a systematic review of SEDs after shipments have occurred. These reviews focus primarily on licensed and license exception shipments, shipments bound for destinations of concern, and shipments of commodities that raise proliferation concerns. OEA identifies SEDs that merit closer review by OEE special agents.

#### *Visa Application Review Program*

OEA administers the Visa Application Review Program to prevent unauthorized access to controlled technology or technical data by foreign nationals visiting the United States. The EAR define an export to include the release of technology or source code to a foreign national in the United States (other than persons lawfully admitted for permanent residence). Any such release is deemed to be an export to the home country of that foreign national.

In FY 2001, OEA expanded its Visa Application Review Program to target not only visas involving

possible technology transfer or procurement in support of weapons of mass destruction programs, but also visas relating to possible terrorist activities identified after the September 11 terrorist attacks. OEA analysis of visa applications involves preventive enforcement efforts such as recommending denial of the issuance of a visa, maintaining the information for future use, and the referral of investigative leads to OEE's field offices for case development.

Return to [Table of Contents](#)

[Return to Table of Contents](#)  
[Go to Antiboycott Statistics Tables](#)

## **Chapter 6. Antiboycott Compliance**

The Office of Antiboycott Compliance (OAC) implements the antiboycott provisions of the Export Administration Act (EAA) and the Export Administration Regulations (EAR). OAC performs three main functions: enforcing the EAR, assisting the public in complying with antiboycott provisions, and compiling and analyzing information regarding international boycotts. Compliance officers in the Enforcement Division enforce the EAR through investigations and audits. The Compliance Policy Division provides advice and guidance to the public on the antiboycott provisions of the EAR and analyzes information about boycotts.

### **Enforcement Division**

Enforcement Division compliance officers perform the investigative and enforcement functions of OAC, which include conducting compliance reviews, investigating potential violations, issuing pre-charging letters for alleged violations, and negotiating settlements when violations have been alleged. The Enforcement Division also prepares settlement documents or charging letters to initiate administrative proceedings and prepares cases for civil litigation through the Office of the Chief Counsel for Export Administration or for criminal prosecution through the Department of Justice.

### **Compliance Policy Division**

The Compliance Policy Division develops and coordinates policies and initiatives to promote compliance with the antiboycott requirements of the EAA and EAR. This includes: preparing amendments, interpretations, and clarifications of the EAR; reviewing international boycott activity through communication with diplomatic posts; analyzing reports received by OAC and review of information from other sources; preparing reports on boycott activity for use by the U.S. Government in its effort to bring an end to the boycott; developing public education programs to assist U.S. companies in complying with the EAR; counseling the public on requirements of the law and how to comply with it; reviewing enforcement actions to ensure consistency with policy guidelines; processing all boycott reports filed with the Department of Commerce; and supervising the informal telephone advice provided to the public by OAC.

### **Policy Implementation**

During FY 2001, the U.S. Government continued to press for complete dismantlement of the Arab

League's boycott of Israel. OAC continued to focus its efforts in four major areas: (1) enforcing the law against antiboycott violators; (2) providing information concerning the boycott to the State Department; (3) educating and counseling the public through the OAC telephone advice line, which handled 1,058 calls during FY 2001; and (4) increasing public awareness and understanding of the EAR. During FY 2001, OAC officials spoke at 16 events sponsored by BXA, Export Enforcement, banking groups, trade associations, and local bar associations. Presentations included updates on OAC enforcement efforts and detailed reviews of the regulatory program.

### **Summary of Boycott Reports**

The antiboycott provisions of the EAA and EAR require U.S. persons to report to the Department requests they receive to take actions that further or support unsanctioned foreign boycotts. The reports filed by U.S. persons contain information concerning both the request and the transaction(s) to which the request relates. The transactions referred to in this context are specific business activities generally involving documents, such as invitations to bid, contracts, export documents, and letters of credit. In connection with these transactions, the reporting person would have received one or more requests to take specific boycott-based action, such as responding to a boycott questionnaire, furnishing information about business relationships with a boycotted country, religious discrimination against U.S. persons, or refusing to do business with a blacklisted firm or boycotted country.

During FY 2001, 319 persons reported receipt of 1,270 documents containing 1,482 boycott requests. Boycott requests can exceed the number of documents containing boycott requests because some documents contain more than one boycott request. The corresponding figures for FY 2000 were 350 persons, and 1,177 documents containing 1,425 boycott requests. As is generally the case, exporters were the principal category of reporters, constituting approximately 64 percent of the reporting entities in FY 2001.

Prohibited boycott requests totaled 355 of the 1,482 boycott requests reported to OAC in FY 2001. A prohibited request is a request to take action prohibited by the EAR (e.g., a request to not use suppliers blacklisted by a boycotting country).

The United Arab Emirates was the leading country from which prohibited boycott requests originated with a total of 110 requests. The next three countries originating prohibited boycott requests were Syria (59), Saudi Arabia (52), and Bahrain (38).

More detailed information on antiboycott activity can be found in the data presented in Tables 6-1 through 6-6. (See Appendix B). In interpreting the data, it should be noted that: (1) the number of reported transactions may be fewer than the number of reported requests because a single transaction may involve more than one boycott request, and (2) the numbers of both transactions and requests (as

well as the value of the transactions) may be somewhat inflated because boycott reports involving the same reportable transaction are required to be filed by each party to the transaction.

### **Enforcement Activities**

During FY 2001, OAC continued to pursue more serious violations of the EAR, such as discrimination based on religion, refusals to do business with other companies for boycott reasons, and furnishing prohibited information. The settlements reached in FY 2001 involved alleged violations of the prohibition against furnishing information about business relationships with companies known or believed to be restricted from having any business with a boycotting country, failures to report receipt of requests to engage in restrictive trade practices or boycotts, and failures to maintain records of boycott-related transactions, as required by the EAR.

### **Cases Completed**

OAC completed five enforcement actions in FY 2001 with two settlement agreements and three companies receiving warning letters. In addition, four investigative cases were closed because violations were not found. Nine investigations were closed in FY 2001 in total.

### **Settlement Agreements and Penalties Imposed**

All of the OAC investigations involving allegations of serious violations were resolved through settlement. Historically, an overwhelming majority of cases brought by OAC have been settled. Settlement agreements may provide for payment of civil penalties, denial of export privileges, and for the establishment of compliance programs. Civil penalties imposed in the settlement agreements totaled \$117,250 in FY 2001.

### **Cases**

#### *G.M. Marketing Company*

The Department of Commerce imposed a \$111,250 civil penalty on G.M. Marketing Company, a Dallas, Texas, furniture exporter, to settle allegations that the company committed 41 violations of the antiboycott provisions of the EAR. The Department alleged that, in ten transactions, G.M. Marketing Company furnished information about its business relationships with other persons who are known or believed to be restricted from having any business relationship with or in a boycotting country. The Department also alleged that G.M. Marketing failed to report its receipt of 20 boycott requests as required by the EAR and, in 11 transactions, failed to maintain records containing information relating to

reportable boycott requests. The transactions involved the sale of goods to Kuwait, Saudi Arabia, Dubai, and Qatar.

Return to [Table of Contents](#)

### *Perry Equipment Corporation*

The Department of Commerce imposed a \$6,000 civil penalty on Perry Equipment Corporation of Mineral Wells, Texas, a drilling equipment manufacturer, for 12 alleged violations of the antiboycott provisions of the EAR when Percy Equipment allegedly failed to report its receipt of 12 boycott requests as required by the EAR. Eleven of the requests were from Pakistan; one request was from the United Arab Emirates.

### **Charging Letters**

Once allegations of violations are made to a respondent, OAC usually offers the respondent the opportunity to discuss the alleged violations. If the company and OAC cannot reach a mutually satisfactory resolution of the matter, a charging letter is issued. The case is then referred to an administrative law judge (ALJ) for formal adjudication. The Office of the Chief Counsel for Export Administration represents OAC before the ALJ, who decides the case and may impose a civil penalty of not more than \$12,000 per violation, a period of a denial of export privileges, or both. Either party may appeal the decision of the ALJ to the Under Secretary for Export Administration. If neither party appeals, the decision of the ALJ becomes the final agency decision. OAC did not issue any charging letters in FY 2001. All previously issued charging letters have been resolved by settlement agreements.

## **Chapter 7. Nonproliferation and Export Control Cooperation**

BXA established the Nonproliferation and Export Control (NEC) Cooperation program in 1994 to coordinate BXA's activities in support of U.S. export control cooperative programs with Russia; the Eastern European, Central Asian, and Caucasus states of the Former Soviet Union (FSU); the Baltic states; and the Central European states that were allies of the FSU. This program was established in recognition that, in a global economy, U.S. efforts to control items and technologies used in the production of weapons of mass destruction can only be successful if matched by comparable efforts in other countries. Since 1994, NEC's focus has broadened to include other countries.

During FY 2001, NEC, in conjunction with other BXA organizations and representatives from the U.S. Government, organized or coordinated 44 bilateral technical exchange workshops and multilateral conferences. These activities included cooperative bilateral export control workshops with Armenia, Azerbaijan, the Czech Republic, Georgia, Hungary, India, Kazakhstan, the Kyrgyz Republic, the Former Yugoslav Republic of Macedonia, Moldova, Poland, Russia, Slovakia, Slovenia, Tajikistan, Ukraine, and Uzbekistan. NEC conducted three multilateral regional conferences for the nations of Central Asia and the Caucasus region, and a trilateral conference for the Baltic states of Estonia, Latvia, and Lithuania during FY 2001.

The overarching purpose of the technical exchange workshops was to familiarize the participating countries with the elements of an effective export control system and to assist them in developing and strengthening their own national export control systems.

In FY 2001, with BXA technical assistance provided by the NEC, many of the targeted nations made major strides in development of their national export control systems. These workshops helped to reduce the proliferation threat from strategic items originating in or transiting through the participating countries will contribute to the proliferation of weapons of mass destruction.

BXA is charged with a major role in the U.S. interagency program of cooperative export control exchange workshops and conferences. Because BXA holds responsibility in all technical areas of export controls, it takes the lead in a wide range of technical exchange workshops to address the following subjects:

- legal basis and framework of export controls;
- export control licensing procedures and practices;
- export enforcement;

- industry-government relations; and
- export control system automation.

BXA arranges for participation of experts from other U.S. agencies with export control or enforcement responsibilities, including the Departments of State, Defense, Energy, and Justice, and the U.S. Customs Service. Technical exchanges, depending on their focus, involve training by policy, legal, licensing, and enforcement officials.

## **Technical Exchange Workshops**

### *Armenia*

- Parliamentary Forum I on Export Control Law, Washington, D.C., April 9-12, 2001

The Parliamentary Forum provided Armenian parliamentarians and staff with an overview of export controls, giving the officials a better context for considering their pending export control legislation. The forum provided an overview of U.S. export control laws and procedures, responsibilities of various agencies, and interagency coordination mechanisms. The Armenian delegation visited the staff of the International Relations Committee of the House of Representatives to obtain Congressional perspectives on export control issues.

- Executive Exchange II, Washington, D.C., July 9-13, 2001

This exchange was held in response to a request by Armenian parliamentarians, the Executive Exchange, led by the Deputy Foreign Minister of Armenia, emphasized the importance of Armenia passing an export control law on dual-use items that reflects international standards and multilateral export control regime requirements, and the role that law would play as the foundation for Armenia's national export control system. Officials from the Departments of State and Defense and senior staff members from the House International Relations Committee also participated in this exchange.

### *Azerbaijan*

- Parliamentary Forum, Washington, D.C., February 26-March 2, 2001

This forum was structured to provide a basic understanding of the legal authorities a nation needs in order to operate a competent national system and included a review of the Azerbaijan's draft export control law prior to its presentation to the Azerbaijan's Parliament. U.S. experts provided an overview of U.S. export control laws and procedures, responsibilities of various agencies, and interagency coordination mechanisms.

- Licensing Procedures and Practices Technical Workshop, Washington, D.C., July 30-August 3, 2001

This workshop familiarized Azerbaijan officials with the administration of an export licensing system and techniques to ensure that the exporting community complies with export control laws and regulations. The exchange sought to assist Azerbaijan in understanding and establishing export control licensing practices meeting international standards and the prescriptions of the multilateral export control regimes.

### *Georgia*

- Export Licensing Procedures and Practices Technical Forum II, Washington, D.C., March 19-23, 2001

This forum addressed the license review process and examined technical and policy analysis techniques, interagency review dispute resolution, and final licensing decisions. Case studies employed during the Forum used the European Union model control list as the foundation for a national control list and Georgian delegates were encouraged to adopt that model. Export enforcement procedures, including pre-license inquiries and end-use and end-user checks, were also reviewed.

- National Control List Technical Workshop for Export Control Officials, Washington, D.C., June 11-15, 2001

This workshop addressed the development and use of a national control list in export control systems. Using a control list for dual-use items based on the European Union model, the workshop focused on the process of integrating the major multilateral regime control lists into a single national list and use of such a consolidated list in the operation of a national export control system. The program incorporated visits to key U.S. export control agencies where briefings were given on the broad aspects of developing and strengthening an export control system.

### *Hungary*

- Internal Control Program Development, Budapest, Hungary, April 1-6, 2001

This exchange resulted in an agreement for BXA to assist Hungary to develop a Hungarian Internal Control Program (ICP) software tool to assist Hungarian exporters to understand and to comply with their country's export control requirements and procedures. The Hungarian government selected the Hungarian Chamber of Commerce as the non-government organization to represent industry interests in the ICP development process.

### *India*

- Export Control Seminar, Washington, D.C., October 17-19, 2000

BXA conducted an interagency export control technical seminar for export control and foreign trade officials from the government of India. The Indian participants expressed an interest in learning more

about deemed exports and technology transfer requirements, especially in view of growing Indian e-commerce activity. The two delegations agreed to explore scheduling exchanges addressing control lists and export control system automation issues.

### *Kazakhstan*

- National Control List Technical Workshop I, Astana, Kazakhstan, November 28-December 1, 2000

This workshop provided training in performing a computer search of a control list to help identify items included on the control list and familiarized Kazakhstan Customs officers in how to use the control list in clearing sensitive items through Customs. Kazakhstan became the first country of the former Soviet Union to promulgate a national control list of dual-use items controlled by the four major international control regimes, using the U.S. and European Union control list structure as a model.

- DOD/FBI Export Control Preventive Enforcement Workshops, Astana, Kazakhstan, December 11-16, 2000, and Bishkek, Kyrgyz Republic, May 1-4, 2001

These workshops were part of the DOD/FBI counterproliferation program under the Central Asia Security Initiative. The Workshops provided enforcement officials in Kazakhstan and the Kyrgyz Republic with an analysis of the structures and functions needed to enforce controls effectively on the export, reexport, and transit of sensitive dual-use items and arms.

### *Kyrgyz Republic*

- Regulations Technical Forum and Workshop, Washington, D.C., July 15-19, 2001

This workshop provided Kyrgyz officials with a broad understanding of the legal basis for export controls and the major elements and processes of a competent national control system. Special attention was given to the components of a sound statute to serve as the legal foundation for such a system to assist the Kyrgyz in finalizing a draft export control law for presentation to the Kyrgyz Parliament.

### *Former Yugoslav Republic of Macedonia*

- Export Control Capability Assessment, Skopje, Former Yugoslav Republic of Macedonia, October 16-18, 2000

An interagency delegation organized and led by the State Department assessed FYR Macedonian export control policies, procedures, and laws. This process entailed meetings with senior officials of the Ministries of Foreign Affairs, Economy, and Interior, and the Department of Finance. The FYR Macedonians expressed interest in obtaining U.S. cooperation in drafting a law addressing selected export control issues, including clarification of nonproliferation elements, administrative structures, and

interagency coordination.

### *Moldova*

- Export Licensing Procedures and Practices Technical Exchange Workshop II, Washington, D.C., December 11-15, 2000

This workshop was the first technical exchange with Moldova since Moldova passed and published its law on export, import, and transit control for weapons, military equipment, and dual-use goods in 2000. The workshop was designed to acquaint Moldovan officials with issues related to implementing its law and how to address these issues most productively. It included visits to the Defense Threat Reduction Agency and the Department of State.

- Legal Area Expert Discussions, Chisinau, Moldova, June 11-12, 2001

A BXA legal expert reviewed and provided comments on the Moldovan draft export control regulations to implement the export control law before the regulations were formally presented to the Moldovan government.

- DOD/FBI Export Control Enforcement Workshop, Chisinau, Moldova, June 13-15, 2001

This workshop, part of the continuing DOD/FBI counterproliferation program, provided Moldova's export control enforcement officials with an analysis of the structures and functions needed to enforce controls effectively on the export, reexport, and transit of sensitive dual-use items and arms.

### *Poland*

- Internal Control Program Workshop, Warsaw, Poland, September 25-27, 2001

U.S. export control specialists worked with Polish technical experts to train Polish instructors to deliver training to Polish exporting enterprises in the use of Poland's customized version of the ICP.

### *Russia*

- Twelve Internal Control Program Workshops, Russia, October 17, 2000-September 28, 2001

Small teams of BXA personnel and U.S. industry representatives from exporting corporations participated in a series of 12 ICP workshops in selected Russian cities. The workshops helped more

than 300 Russian industrial enterprises and institutes understand their export control obligations under Russian law and procedures, and provided them with copies of the ICP software tool that has been customized for use in Russia. Locations included Moscow, Vladimir, Volgograd, Voronezh, Izhevsk, Nizhni Novgorod, Penza, Yekaterinburg, Briansk, Tula, Perm, and Smolensk. The ICP is a software-based tool that helps exporters understand their export control responsibilities and comply with those requirements.

### *Slovakia*

- National Control List Workshop, Washington, D.C., December 4-8, 2000

This workshop addressed the development and use of a national control list in export control systems. Using a control list for dual-use items based on the European Union model, the workshop focused on the process of integrating the major multilateral regime control lists into a single national list and use of such a consolidated list in the operation of a national export control system. The program incorporated visits to key U.S. export control agencies where briefings were given on broad aspects of developing and strengthening an export control system.

### *Slovenia*

- Executive Exchange I, Washington, D.C., May 7-9, 2001

Designed to familiarize Slovenian officials with the U.S. export control system, this exchange focused on the elements of an effective export control system, including the components of a sound legal foundation and interagency coordination. U.S. participants included representatives of U.S. Government agencies with export control responsibilities, non-government entities and U.S. businesses.

### *Tajikistan*

- Licensing Procedures and Practices Workshop II, Washington, D.C., May 21-25, 2001

This workshop examined the mechanisms and processes used by the United States to make dual-use licensing decisions, reviewed the legal and regulatory basis and framework for export control licensing, and introduced Tajik officials to the ways in which the several U.S. agencies with export control responsibilities coordinate discharge of those responsibilities and resolve disputes.

### *Ukraine*

- Six Internal Control Program Workshops, Ukraine, November 29, 2000-September 17, 2001

Small teams of BXA personnel and U.S. industry representatives participated in a series of six ICP workshops in selected Ukrainian cities. The workshops helped the Ukrainians to acquaint more than 100 Ukrainian exporting industrial enterprises and institutes with their export control obligations under

Ukrainian law, and provided them with copies of the ICP software tool that has been customized for use in Ukraine. Locations included Kyiv, Kharkiv, Dnipropetrovsk, Lughansk, Odessa, and Sevastopol.

### *Uzbekistan*

- National Control List Technical Workshop I, Washington, D.C., September 4-7, 2001

This workshop addressed the development and use of a national control list in export control systems. Using a control list for dual-use items based on the European Union model, the workshop focused on the process of integrating the major multilateral regime control lists into a single national list and use of such a consolidated list in the operation of a national export control system. The program incorporated visits to key U.S. export control agencies where briefings were given on broad aspects of developing and strengthening an export control system.

### **Multilateral Conferences**

- Regional Transit Agreement Technical Drafting Workshops, Tbilisi, Republic of Georgia, January 29-30 and Astana, Kazakhstan, March 28-29, 2001

The drafting workshops were organized in response to requests from participants at the 1999 Regional Forum for the states of Central Asia and the Southern Caucasus that the United States help them develop a regional transit agreement to address issues concerning the transit of sensitive goods subject to export control. The workshops assisted the participants from Central Asia and the Southern Caucasus to produce a draft transit agreement based on the principles agreed to at the 1999 Regional Forum.

- Fifth Regional Forum on Export Controls and Nonproliferation of Weapons of Mass Destruction for the Nations of Central Asia and the Southern Caucasus, Bishkek, Kyrgyz Republic, April 24-26, 2001

The United States and the Kyrgyz Republic co-hosted this forum, the most recent in the series that has been underway for six years, for delegates from Armenia, Azerbaijan, Georgia, Kazakhstan, Tajikistan, the Kyrgyz Republic, and Uzbekistan. Representatives of Japan, Moldova, Turkey, and Ukraine attended the forum as observers. More than 100 senior-level export control officials responsible for managing their countries' national export control systems participated. This forum addressed topics of importance to export controls, including national control lists, industry compliance and outreach, information sharing, enforcement, and advanced regional cooperation in export control and border security. Participants agreed to the basic principles of a regional transit agreement designed to facilitate nonproliferation through the exchange of information about the transit of sensitive, controlled commodities among states in the region. This forum also endorsed the use of the European Union model for national control lists, supported harmonizing export control systems across the region, and

discussed the importance of including “catch-all” provisions in national export control laws.

### **Trilateral Conference**

- Internal Control Program Conference for the Baltic countries (Estonia, Latvia, Lithuania) Tallin, Estonia, June 20-22, 2001

This conference assisted Estonia, Latvia, and Lithuania to design a plan for developing a customized version of the ICP software tool for Baltic exporting enterprises. The ICP enables an enterprise’s export control administrator and staff to attain competence in the export control rules and regulations of their country and facilitates the enterprise’s compliance with such rules and regulations.

### **System Automation**

- Country Assessments

In FY 2001, NEC contractors participated in State Department-led system automation assessment visits to several countries to assess the potential of those countries to receive and productively use automation support for their export licensing systems.

Return to [Table of Contents](#)

## **Chapter 8. Critical Infrastructure Assurance Office**

The Critical Infrastructure Assurance Office (the CIAO) is an inter-agency office located within the Bureau of Export Administration.

The CIAO was created as a mechanism to assist in the coordination of the U.S. Government's initiatives on critical infrastructure protection. Critical infrastructures comprise those industries, institutions, and distribution networks and systems that provide a continual flow of goods and services essential to the nation's defense and economic security and the health, welfare, and safety of its citizens. These infrastructures are deemed "critical" because their incapacity or destruction could have a debilitating regional or national impact.<sup>1</sup>

The CIAO's responsibilities include:

- coordinating the development of an integrated national strategy for critical infrastructure protection;
- coordinating departmental analyses on how to lessen unacceptable risks resulting from the U.S. Government's dependencies on critical infrastructures;
- coordinating national education and awareness programs targeted toward increasing public understanding and participation in protection efforts; and
- coordinating legislative and public affairs to integrate infrastructure assurance objectives into the public and private sectors.

In carrying out its mission, the CIAO has focused on critical infrastructure issues that cut across industry sectors and are not the responsibility of existing departments and agencies, thereby ensuring a coherent and cohesive federal approach to national critical infrastructure assurance.

### **Executive Order 13231: Critical Infrastructure Protection**

In May 2001, the Bush Administration announced that it would be developing a national strategy for critical infrastructure protection and that the CIAO would coordinate the development and preparation of the strategy.

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<sup>1</sup> These infrastructures relate to: information and communications; electric power generation, transmission, and distribution; oil and gas storage and distribution; banking and finance; transportation; water supply; and emergency assistance.

On October 16, 2001, President Bush signed Executive Order 13231, *Critical Infrastructure Protection in the Information Age* (the Order). The Order sets forth the policy of the United States to protect against disruption of information systems supporting the nation's critical infrastructures. The Order establishes the President's Critical Infrastructure Protection Board (the Board) to coordinate federal efforts and programs that relate to information systems supporting the nation's critical infrastructure and involve the following:

- cooperation with and protection of private sector infrastructures, state and local governments' critical infrastructures, and supporting programs in corporate and academic organizations;
- protection of federal departments and agencies critical assets and information systems; and
- related national security programs.

The Board coordinates its activities with the White House's Office of Homeland Security and the National Security Council.

The Special Advisor to the President for Cyberspace Security chairs the Board. The Board is made up of Cabinet-level and other senior government officials. The Order assigns a number of key responsibilities to the Department of Commerce and the CIAO, primarily in the area of national outreach and awareness. The Department of Commerce has two Board members: the Under Secretary for Export Administration serves as the designee of the Secretary of Commerce, and the Director of the CIAO also is designated as a member of the Board. The Under Secretary for Export Administration also chairs the Board's standing committee on Private Sector and State and Local Government Outreach.

### **FY 2001 Activities**

During FY 2001, the CIAO's responsibilities in developing and coordinating national critical infrastructure policy focused on four key areas:

- promoting national outreach and awareness campaigns in the private sector;
- assisting federal agency analysis of critical infrastructure dependencies (e.g., Project Matrix);
- coordinating national awareness and outreach programs; and
- coordinating the preparation of an integrated national strategy for critical infrastructure assurance.

#### *Promoting National Awareness*

The CIAO worked with the private sector and other federal agencies to raise awareness of the importance of critical infrastructure protection. The primary foci of these continuing efforts are the owners and operators of critical infrastructures (i.e., information and communications, electric power, oil and gas, banking and finance, transportation, water, and emergency responders and critical government services). In addition to infrastructure owners and operators, awareness efforts have also targeted other influential stakeholders in the economy. The CIAO promoted activities that inform business and technology leaders across a variety of industry sectors of the need to manage the new risks associated with increased reliance on electronic information systems. The target audiences for these activities are the mainstream business, risk management, legal, financial analysis, and state and local government communities. In addition, the CIAO began a program of “in-reach” within the Department of Commerce to explore and take advantage of existing relationships that other entities in the Department already have with the private sector.

The CIAO focuses on initiatives that cut across industry sectors and are not the existing responsibility of other U.S. Government agencies. Three of the CIAO’s major outreach and awareness initiatives during FY 2001 were:

- the Partnership for Critical Infrastructure Security;
- outreach to the business community; and
- support for federal lead agencies.

#### Partnership for Critical Infrastructure Security

As individual federal agencies formed partnerships with each critical infrastructure sector, a need emerged for cross-industry dialogue and sharing of experience to improve the effectiveness and efficiency of individual sector efforts. The Partnership for Critical Infrastructure Security (PCIS) was formed in response to that expressed need and was incorporated in early 2001. The PCIS has membership of approximately 70 companies from all critical infrastructure sectors. The CIAO and the U.S. Chamber of Commerce jointly provide administrative support to the PCIS and the CIAO facilitates communications between the industry members of the PCIS and their federal sector counterparts.

The PCIS also engages other stakeholders in critical infrastructure protection issues, including the risk management (audit and insurance), investment, and mainstream business communities. The PCIS is organized by industry, for industry, with the U.S. Government acting as a catalyst and a participant. Major topics being addressed by the partnership include approaches to addressing interdependency vulnerabilities, multi-sector information sharing, legislative and public policy issues, research and workforce development, industry participation in preparing the national strategy for critical infrastructure protection, and outreach to state and local governments.

## Outreach to the Business Community

In FY 2001, the CIAO developed a roadmap of Chief Executive Officer (CEO)-centric organizations and established new relationships with the Business Roundtable, the Conference Board, and the American Business Conference. The CIAO also solidified its existing relationship with the National Association of Manufacturers. CIAO officials met with these organizations to discuss how best to increase awareness of critical infrastructure protection issues among these organizations' members and to develop a strategy for communicating with key business leaders. Additionally, the CIAO briefed members of the Business Roundtable in a larger public forum on the activities of the CIAO, homeland security, and private sector responsibility in preventing terrorist acts or disruptions to their critical services. These ongoing efforts are designed to change the culture of business to accept critical infrastructure assurance as a business issue and to raise the importance of the matter to the most senior levels within companies. The events of September 11 have accelerated many of these initiatives by highlighting the need to avoid disruptions of critical infrastructures.

The risk management community, including audit and insurance professionals, is also influential in bringing critical infrastructure protection issues to the forefront of corporate governance. The CIAO continued its outreach programs to auditors with a series of six "audit summits" across the country sponsored by an audit community consortium and led by the Institute of Internal Auditors (IIA) and the CIAO. These summits consisted of seminars that educated directors of corporate boards and chief auditors on their emerging responsibilities for overseeing prudent management of information security risks within their institutions. To make these summits as relevant and useful as possible, the CIAO, in combination with the National Association of Corporate Directors and the audit community, brought together participants from Wall Street, the insurance community, and the legal profession. As part of this partnership, the audit community published three booklets providing oversight guidance to corporate directors and auditors.

The outreach work with the audit community has now entered its third phase. In September 2001, in partnership with IIA, a CIAO team began providing two- and four-hour educational presentations to the majority of audit chapters across the United States. In the future, similar presentations may be given in other countries as well. IIA alone has approximately 150 chapters. These briefings are intended to help auditors understand the issue of critical infrastructure protection and give them tools to educate their own institutions and communicate specifically with their senior management and boards on these issues. The CIAO created reference materials that include guidance documents developed as a result of the audit summits, examples of the business case for action, and other resources and tools to inform auditors about standards development, information sharing activities, information security practices, benchmarking, analysis, and warnings of cyber attacks.

The audit summits produced additional outreach partnerships that help to raise awareness of critical infrastructure protection issues by showing how information security is a business issue and a matter of prudent management practice. One of these new partnerships was with the National Association of Corporate Directors (NACD). The NACD, in conjunction with the CIAO, is developing a tool for directors to use in performing their oversight duties over information security. That document will be

sent to NACD's membership in October 2001.

The CIAO also continued a highly successful awareness building partnership with CXO Media during FY 2001. This partnership emerged out of the CXO Media representative's attendance at the first audit summit. CXO Media publishes the *CIO Magazine* that represents the only direct professional conduit for good management practices for Chief Information Officers (CIOs). CXO Media set aside sessions addressing critical infrastructure protection in each of its six annual executive conferences, where the CIAO provided speakers for audiences of up to 400 CIOs from Fortune 500 companies. Together with the CIAO, CXO Media also developed and held two highly successful policy forums on information security and privacy, the most recent taking place in March 2001 in conjunction with the PCIS annual meeting. The CIAO also plans to establish a Public Affairs office to coordinate communication with the media and effectively carry its message to the public.

The CIAO initiated a relationship with the American Corporate Counsel Association (ACCA), whose members represent most of the Fortune 1000 firms. Potential activities with the ACCA include publishing articles in the ACCA newsletter, providing educational briefings for chapters, developing a business case for action for corporate legal counsels, increasing access to directors of boards who may have an interest in carrying the message, and participation of members in other meetings that will help advance the dialogue on critical infrastructure protection, especially on legal issues within a corporate counsel's purview. Activities with the ACCA represent an important channel of influence to corporate boards of directors and to senior corporate management.

CIAO officials also briefed the securities analysts of Salomon Smith Barney in FY 2001 on critical infrastructure protection issues. As part of our outreach efforts to financial analysts, Salomon Smith Barney sent their senior equity strategist to most of the audit summits to deliver remarks from a paper written on the connection between shareholder value and managing information security risk. Subsequently, the President and CEO of the Chicago Mercantile Exchange became a "champion" of the issue, commissioning a study within his own organization and speaking publicly about the results.

The CIAO also began a new state and local initiative to solicit input on the national strategy and to increase awareness of critical infrastructure issues at the community level among key associations, such as the National Governor's Association and the Council of Mayors. Further, the CIAO talked with representatives from several states (e.g., Kansas, Iowa, Georgia, Texas, and others), who volunteered to help provide input into the state and local section of the national strategy.

Briefings in FY 2001 by the CIAO staff to one of the Small Business Advisory Councils to the Department revealed a great deal of interest in critical infrastructure protection from owners of small businesses. From their perspective, reliable and available infrastructure services represent a critical foundation for operational survivability of small businesses. Small businesses have far fewer resources to recover or protect themselves when there is a disruption to their basic services. Consequently, they have far more to lose if such services are disrupted. A roadmap of key small business organizations will be developed to identify the most productive means of reaching out to small business leadership and channels of influence.

Finally, the CIAO's outreach team developed a roadmap of the key bureaus within the Department to raise awareness of critical infrastructure policy, with the potential to develop partnerships on outreach to business communities with whom the Department may already have a relationship. The CIAO met to discuss areas of commonalities with the E-Commerce Office within the International Trade Administration, and is pursuing a future relationship with that office. The CIAO continues working relationships with the National Telecommunications and Information Administration (NTIA) and the Technology Administration's National Institute of Standards and Technology (NIST). NTIA works with the information and communication sector and NIST contributes significantly to standards development and research.

### Support for Federal Lead Agencies

Due to its experience with outreach programs, the CIAO also provided support for the federal lead agencies and their counterparts in industry for outreach and awareness building, specifically through the sponsorship of workshops on common issues shared by many of the sectors (e.g., risk management approaches, information sharing, legal obstacles). It also has provided support for the building of an industry-specific "business case for action," since the business cases for senior leadership in industry tend to center around common concerns such as business operational survivability, customer relationships, and investor and public confidence.

### **Project Matrix**

Project Matrix was established in 1999 to assist federal departments and agencies in identifying critical assets and systems as well as key interdependencies essential to allowing the Federal Government to meet its responsibilities for protecting the nation's security and economy, and the health, welfare, and safety of U.S. citizens.

The results of Project Matrix enable each participating federal department or agency to:

- identify the nodes and networks that should receive robust cyber and physical vulnerability assessments;
- conduct near-term risk management assessments;
- justify funding requests for high-priority security enhancement measures in the areas of physical security, information system security, industrial security, emergency preparedness, counter-intelligence, counter-terrorism; and
- review actual business processes to better understand and improve the efficiencies of their organizations' functions and information technology architectures.

Project Matrix involves a three-step process. In Step 1, the Project Matrix team identifies and ranks the most critical assets of each federal department and agency. In Step 2, the team provides a business process topology on, and identifies significant points of failure associated with, each department or agency's most critical assets. In Step 3, the team identifies the infrastructure dependencies associated with each department or agency's most critical assets.

Project Matrix has solicited the voluntary participation of 17 civilian federal departments and agencies. A "discovery phase" review is typically conducted before Step 1 is initiated to verify that a given federal department or agency should participate fully in Project Matrix. The Project Matrix team also presently is documenting its entire analytical process for potential use throughout the public and private sectors, improving its automated data collection capabilities, and beginning to establish a master crisis management database system for use by the national security community.

### **Coordinating Education, Awareness, and Training**

The United States needs an information-literate work force that is aware of its personal responsibility to employ good cyber security practices, as well as a cadre of information security professionals who are knowledgeable of the recognized "best practices" available in information security and information assurance. The National Colloquium for Information Systems Security Education (the Colloquium) was established to serve as a forum to bring government, industry, and academia together to meet those challenges. The CIAO serves on the Board of the Colloquium.

The Colloquium provides a round table forum to discuss and develop guidance for information security undergraduate and graduate academic curricula; common requirements; specific knowledge, skills, and abilities; certification requirements; and establishment of professionalization boards.

The 5th National Colloquium, held in May 2001 at George Mason University, greatly expanded participation among government, industry, and academia and strengthened these working partnerships by sharing the current trends in information security tools and techniques, including international perspectives. Both Australia and Great Britain made presentations on their educational programs at the conference. Increased numbers of academic institutions participated in an "information assurance boot camp" that included a strong awareness/background module and then provided information security education resources made available by Colloquium members with nationally recognized information assurance programs. As an outcome of the Colloquium, information assurance curricula were added to student studies in more universities than in past years.

The Federal Cyber Services (FCS) training and education initiative was designed to ensure an adequate supply of highly skilled federal information system security specialists entering federal service. Representatives of the CIAO, the National Security Council, the National Security Agency, the National Science Foundation (NSF), and the Office of Personnel Management developed a component of the FCS, the "Scholarship for Service" program, that was funded for FY 2001 in the NSF appropriation. The program offers grants to universities to build capacity for information assurance education, and also offers scholarships for students for up to two years in exchange for a commitment

to an equal amount of service to the Federal Government. Over 30 students accepted scholarships for fall 2001 and committed to working for the Federal Government upon graduation. Seven capacity-building grants were awarded to universities and professors in FY 2001.

The CIAO also actively works with working committees of the Federal Chief Information Officers Council (CIO Council), comprised of CIOs of the largest federal departments and with the Federal Information System Security Education (FISSEA), to share information. Federal CIOs protect the privacy and availability of the data on federal information systems. During FY 2001, the CIO Council working committees and the FISSEA developed and compiled recommended security practices, suggested criteria for evaluating federal security programs, shared security awareness material, and hosted several seminars and conferences to increase awareness of security issues, minimize interruption of government services, maintain privacy, and protect sensitive and national security classified information. Through these efforts, senior government executives are kept informed about developing information security issues and can exchange information on techniques for dealing with information technology security risks.

### **Development of the National Strategy**

The CIAO had lead responsibility for developing version 1.0 of the *National Plan for Information Systems Assurance*. The plan, released in January 2000, focused on the Federal Government's efforts to improve information systems protection. During FY 2001, the CIAO worked with other agencies and the private sector to coordinate the development of the next plan. The next plan will be developed jointly between government and industry as an exercise for arriving at a consensus about respective roles and responsibilities. The purpose of the plan is to present an integrated public-private strategy for government and industry to chart a common course toward achieving the overall goal of national critical infrastructure assurance.

This plan will serve not only as a guide for action, but also as a vehicle for creating consensus in Congress and the public on how to proceed. A national strategy will also help to establish a foundation with the Congress and the public for proposing legislative and public policy reforms where such reforms are needed to advance national policy.

Return to [Table of Contents](#)

## APPENDIX A

<b>TABLE 5-1</b> <b>FY 2001 Criminal Cases</b> <b>For Export Administration Act or</b> <b>International Emergency Economic Powers Act Violations</b>				
Indictment/ Information Date	Defendant	Charge (s)	Enforcement Organization(s)	Sanction
10/11/00	Silicon Telecom Industries, Inc., a.k.a. JFD International, Suntek Microwave, Inc., Charlie Kuan, and Jason Liao	Conspiracy to illegally export detector log video amplifiers and related technology to the People's Republic of China.	Commerce	Trial pending.
11/09/00	Refinery Industries Inc.	Attempted illegal export of gas detection equipment to Iran.	Commerce	Received five years probation.
12/19/00	Multicore Ltd., Soroosh Homayouni, a.k.a. Peter Harris, Saeed Homayouni a.k.a. Joe Barry, a.k.a. Sid Hamilton, and Yew Leng Fung, a.k.a. Pamela Fung	Conspiracy to defraud the United States by purchasing parts for military aircraft and missile systems for export to Iran (Saeed Homayouni) and Misprision of Felony (Yew Leng Fung).	Commerce/ Customs	Guilty pleas on 6/11/01. Saeed Homayouni received a 24-month term of imprisonment and three years of supervised release. Yew Leng Fung received a eight-month term of imprisonment with credit for time served and one year of supervised release. Soroosh Homayouni remains a fugitive.

<b>Indictment/ Information Date</b>	<b>Defendant</b>	<b>Charge (s)</b>	<b>Enforcement Organization(s)</b>	<b>Sanction</b>
5/11/01	TAL Industries, Inc.	False and misleading statements in connection with the export of various machining equipment to the People's Republic of China.	Commerce/ Customs	Plea of <i>nolo contendere</i> . Received a \$1 million fine and a five-year period of corporate probation.
6/28/01	Gunter Kohlke	Conspiracy to illegally export both military and civilian U.S. aircraft parts to Iran and substantive counts.	Commerce/ Customs	Trial pending.
6/30/01	BS& B Process Systems, Inc., and Black, Sivalls & Bryson (UK), Ltd.	Knowingly and willfully transshipping oil field processing equipment to Iran.	Commerce	Sentencing pending.
7/3/01	FJ Technology, Inc., and Zhongda Mark Jin.	Illegal export of chemicals to the People's Republic of China.	Commerce	Trial pending.
8/8/01	Jerry Vernon Ford, Preston John Engebretson, and Thane-Coat, Inc.	Conspiracy to export pipe coating and related products to Libya illegally and false statements in connection with the exports and substantive counts.	Commerce/ Customs	Awaiting sentencing.
8/28/01	Berkeley Nucleonics Corporation, David Brown, Richard Hamilton, and Vincent Delfino	Conspiracy to illegally export nuclear pulse generators to India.	Commerce	Awaiting trial.
9/4/01	Pars Company, Inc.	Illegal export of gas monitors to Iran.	Commerce	Received a \$10,000 fine.



**TABLE 5-2**  
**FY 2001 Closed Export Enforcement Administration Cases**  
**For Export Administration Act or**  
**International Emergency Economic Powers Act Violations**

<b>ORDER DATE</b>	<b>CASES</b>	<b>CHARGES</b>	<b>SECTIONS VIOLATED<sup>1</sup></b>	<b>RESPONDENTS</b>	<b>RESULT</b>
10/23/00	In the Matter of Worchel Transport, Inc., doing business as Prime Transport	Shipped U.S. origin commodities, to wit, perfume, clothing, and silicone sealant to Cosmotrans AG in Switzerland, a person denied all U.S. export privileges by Order dated May 3, 1988.	787.6 [5] 787A.6 [3]	Worchel Transport, Inc., doing business as Prime Transport	Settlement agreement - civil penalty of \$40,000, \$7,000 suspended for one year.
12/14/00	In the Matter of Modern Engineering Services Ltd. also known as Engineering and Technical Services	Made a false or misleading misrepresentation, statement, or certification of material fact, directly or indirectly to BXA, in connection with the preparation, submission, issuance, use or maintenance of an export control document.	787.5(a)(1)[2]	Modern Engineering Services Ltd. also known as Engineering and Technical Services	Export privileges denied for 10 years pursuant to the order of the order of the Administrative Law Judge and upheld by the Under Secretary.
01/02/01	In the Matter of Michel V. Diago	Attempted to export U.S.-origin computer parts to Cuba without the required export license.	Section 2410(a) of the EAA	Michel V. Diago	The Under Secretary amended the September 7, 1994 Order to grant partial relief from the terms of that Order by terminating the denial period as of December 31, 2000

ORDER DATE	CASES	CHARGES	SECTIONS VIOLATED <sup>1</sup>	RESPONDENTS	RESULT
01/05/01	In the Matter of Randy Reyes	Knowingly and willfully exporting and attempting to export from the United States aircraft component parts which were designated as defense articles on the United States Munitions List without having first obtained from the Department of State a license or written authorization, and of knowingly and willfully exporting and attempting to export from the United States to Iran through Geneva, Switzerland, aircraft component parts.	Section 38 of the AECA and Section 1705(b) of the IEEPA	Randy Reyes	Export privileges denied until January 14, 2010 pursuant to Section 11 (h) of the Export Administration Act.
01/05/01	In the Matter of Peter Rigolli, also known as Pietro Rigolli, Ian Falcon, G. Tedaldi, Rafael Heredia, and Farid H. Talab	Knowingly and willfully exporting and causing to be exported from the United States to Canada and Switzerland, and then re-exported to Iran, aircraft parts without having first obtained a validated export license, and of knowingly and willfully making false, fictitious, and fraudulent statements and representations to effect the export of aircraft engine parts by representing that the ultimate destination for those parts was the country of Singapore, which statement he knew to be untrue.	Sections 1702 and 1705(b) of the IEEPA and Section 2410(b) of the EAA	Peter Rigolli, also known as Pietro Rigolli, Ian Falcon, G. Tedaldi, Rafael Heredia, and Farid H. Talab	Export privileges denied until March 27, 2010 pursuant to Section 11 (h) of the Export Administration Act.

<b>ORDER DATE</b>	<b>CASES</b>	<b>CHARGES</b>	<b>SECTIONS VIOLATED<sup>1</sup></b>	<b>RESPONDENTS</b>	<b>RESULT</b>
01/26/01	In the Matter of Maria Del Rosario Cases Ames	Unlawfully, knowingly, and willfully, combining, conspiring, confederating and agreeing with other persons, both known and unknown, including her husband Aldrich Hazen Ames, who had authorized possession of classified documents relating to the national defense of the United States, to communicate, deliver, and transmit to a foreign government, that is the U.S.S.R. and Russia, and to representatives, officers, and agents thereof, documents and writings relating to the national defense of the United States, knowing that the persons to whom these documents and writings were transmitted were not entitled to receive them.	Section 793(g) of the Espionage Act	Maria Del Rosario Cases Ames	Export privileges denied until October 21, 2002.
02/28/01	In the Matter of Life Technologies, a Division of Invitrogen Corporation	Exported U.S.-origin alpha-toxins and microcystin to various countries without obtaining the required validated export licenses.	787.6 [30] 787A.6 [16]	Life Technologies, a Division of Invitrogen Corporation	Settlement agreement - civil penalty of \$230,000, \$100,000 suspended for one year.

<b>ORDER DATE</b>	<b>CASES</b>	<b>CHARGES</b>	<b>SECTIONS VIOLATED<sup>1</sup></b>	<b>RESPONDENTS</b>	<b>RESULT</b>
03/12/01	In the Matter of Refinery Industries, Inc.	Attempted to export U.S.-origin Gastesters from the United States through Germany to Iran, without obtaining the required authorization.	764.2(a) [2]	Refinery Industries, Inc.	Settlement agreement - civil penalty of \$22,000; export privileges denied for 10 years, five years suspended.
03/12/01	In the Matter of Mahmood Reza Hashemi	Attempted to export U.S.-origin Gastesters from the United States through Germany to Iran, without obtaining the required authorization.	764.2(a) [2]	Mahmood Reza Hashemi	Settlement agreement - export privileges denied for 10 years, five years suspended
03/15/01	In the Matter of Optical Associates, Inc.	Exported U.S.-origin Mask Aligner and parts from the United States to Bhaba Atomic Research Center, an entity on the Department of Commerce Entity List.	764.2(a) [1]	Optical Associates, Inc.	Export privileges denied to India for three years.
04/02/01	In the Matter of George K. Cheng	Knowingly and willfully exporting from the United States to the People's Republic of China items that were designated as defense articles on the United States Munitions List, without first obtaining the required licenses or written approval from the Department of State, Office of Defense Trade Controls.	Section 38 of the AECA	George K. Cheng	Export privileges denied until February 23, 2009 pursuant to Section 11 (h) of the Export Administration Act.

<b>ORDER DATE</b>	<b>CASES</b>	<b>CHARGES</b>	<b>SECTIONS VIOLATED<sup>1</sup></b>	<b>RESPONDENTS</b>	<b>RESULT</b>
04/26/01	In the Matter of Quest Technologies, Inc.	Exported from the United States chlorine and sulphur dioxide gas sensors to Vietnam, Taiwan, India, the United Arab Emirates, Egypt, and Saudi Arabia without obtaining the required licenses.	764.2(a) [45]	Quest Technologies, Inc.	Settlement agreement - civil penalty of \$225,000, \$135,000 suspended for one year.
05/09/01	In the Matter of Dow Benelux N.V.	Reexported U.S.-origin chemicals from the Netherlands to the Ivory Coast and Turkey without obtaining from BXA the required reexport authorization.	764.2(a) [4]	Dow Benelux N.V.	Settlement agreement - civil penalty of \$30,000, \$10,000 suspended for one year.
05/11/01	In the Matter of TAL Industries, Inc.	Conspiracy; made false and misleading representations of material facts directly and indirectly to a U.S. Government agency in connection with the preparation, submission, issuance or use of an export control document; violated the terms and conditions of 10 separate export licenses by diverting machine tools to unauthorized end-users in China.	787.3 [1] 787.6 [10] 787.5(a)(1) [13]	TAL Industries, Inc.	Settlement agreement - civil penalty of \$1,320,000; export privileges denied for 10 years.

<b>ORDER DATE</b>	<b>CASES</b>	<b>CHARGES</b>	<b>SECTIONS VIOLATED<sup>1</sup></b>	<b>RESPONDENTS</b>	<b>RESULT</b>
05/11/01	In the Matter of China National Aero-Technology Import and Export Corporation, CATIC USA, INC. and China National Aero-Technology International Supply Company	Conspiracy; made false and misleading representations of material facts directly and indirectly to a U.S. Government agency in connection with the preparation, submission, issuance or use of an export control document; violated the terms and conditions of 10 separate export licenses by diverting machine tools to unauthorized end-users in China.	787.3 [1] 787.6 [10] 787.5(a)(1) [13]	China National Aero-Technology Import and Export Corporation, CATIC USA, INC. and China National Aero-Technology International Supply Company	Settlement agreement - export privileges denied for five years, all of which is suspended.
05/22/01	In the Matter of Opto Power	Exported diode lasers to Israel without obtaining the required validated export licenses.	787.6 [7] 787A.6 [5] 764.2(a) [4]	Opto Power Corporation	Settlement agreement - civil penalty of \$80,000, \$40,000 suspended for one year.
05/22/01	In the Matter of UCAR International, Inc.	Exported U.S.-origin Grade ATJ graphite from the United States to Australia, Brazil, Columbia, Chile, France, Japan, South Africa and South Korea without the required validated licenses.	787.6 [38] 787A.6 [1] 764.2(a) [40]	UCAR International, Inc.	Settlement agreement - civil penalty of \$237,000.

ORDER DATE	CASES	CHARGES	SECTIONS VIOLATED <sup>1</sup>	RESPONDENTS	RESULT
05/29/01	In the Matter of Miguel Angel Fajardo, individually and doing business as Seguiradad y Electronica MAFO, S.A.	Exported shotguns to Honduras with knowledge or reason to know that a violation of the Act or any regulation, order, or license issued thereunder occurred, was about to occur, or was intended to occur; made false or misleading representations, statements or certifications directly or indirectly to a U.S. Government agency in connection with the preparation submission, issuance, use or maintenance of an export control document.	764.2(a) [1] 764.2(e) [1] 764.2(g) [1]	Miguel Angel Fajardo, individually and doing business as Seguiradad y Electronica MAFO, S.A.	Civil penalty of \$30,000; export privileges denied for 20 years.
06/06/01	In the Matter of Immediate Customs Service, Inc.	Participated in the export of U.S. origin commodities, to wit, perfume to Cosmotrans AG in Switzerland, a person denied all U.S. export privileges by Order dated May 3, 1988.	787.6 [3] 787A.6 [1]	Immediate Customs Service, Inc.	Civil penalty of \$30,000; \$20,000 suspended for five years.
07/31/01	In the Matter of Mark Jin, also known as Zhongda Jin, individually, and FJ Technology Service, Inc., also known as FJ Technology	Exported phosphine, arsine, trimethylgallium, thimethylaluminum, and trimethylindium to the People's Republic of China without obtaining the required validated export license that he knew or had reason to know was required.	787.4 [1] 787.6 [1] 787A.6 [4] 787A.4 [4] 764.2(a) [12] 764.2(e) [12]	Mark Jin, also known as Zhongda Jin, individually, and FJ Technology Service, Inc., also known as FJ Technology	Export privileges denied for 25 years pursuant to the order of the Administrative Law Judge.

<b>ORDER DATE</b>	<b>CASES</b>	<b>CHARGES</b>	<b>SECTIONS VIOLATED<sup>1</sup></b>	<b>RESPONDENTS</b>	<b>RESULT</b>
08/17/01	In the Matter of Microtek International Development Systems Division, Inc.	Attempted to export computer processor emulators from the United States through Taiwan to Iran without obtaining the required authorization that he knew or had reason to know was required; made a false or misleading statement in connection with the preparation, submission, issuance or use of any export control document.	764.2(a) [1] 764.2(e) [1] 764.2(g) [1]	Microtek International Development Systems Division, Inc.	Settlement agreement - civil penalty of \$25,000; export privileges denied for three years, all of which is suspended.
08/17/01	In the Matter of Joe-Pin Ouyang	Attempted to export computer processor emulators from the United States through Taiwan to Iran without obtaining the required authorization that he knew or had reason to know was required.	764.2(a) [1] 764.2(e) [1]	Joe-Pin Ouyang	Settlement agreement - export privileges denied for three years, all of which is suspended.
09/06/01	In the Matter of Infocom Corporation, Tetrabal Corporation, Inc., Bayan Medhat Elashi, Ghassan Elashi, Basman Medhat Elashi, Ihsan Medhat "Sammy" Elashi, Hazim Elashi, Fadwa Elafrangi	Reason to believe that the respondents shipped and attempted to ship goods to Libya and Syria without obtaining the necessary authorizations.	764.2(a) 764.2(g)	Infocom Corporation, Tetrabal Corporation, Inc., Bayan Medhat Elashi, Ghassan Elashi, Basman Medhat Elashi, Ihsan Medhat "Sammy" Elashi, Hazim Elashi, Fadwa Elafrangi	Order temporarily denying export privileges for 180 days.

<b>ORDER DATE</b>	<b>CASES</b>	<b>CHARGES</b>	<b>SECTIONS VIOLATED<sup>1</sup></b>	<b>RESPONDENTS</b>	<b>RESULT</b>
09/20/01	In the Matter of The Sumner Corporation (formerly known as Ansimag, Inc.)	Exported centrifugal pumps to Israel and Taiwan without the required validated licenses.	787A.6 [3] 764.2(a) [12]	The Sumner Corporation (formerly known as Ansimag, Inc.)	Settlement agreement - civil penalty of \$75,000.
09/24/01	In the Matter of A.X.O. Chemical, Inc.	Exported U.S.-origin hydrofluoric acid and triethanolamine to the Dominican Republic without obtaining the required export licenses; made false or misleading statements of material fact in connection with the preparation, submission, issuance or use of an export control document.	764.2(a) [13] 764.2(g) [11]	A.X.O. Chemical, Inc.	Settlement agreement - civil penalty of \$48,000; \$45,000 suspended for three years; export privileges denied for three years, all of which is suspended.

[Return to Table of Contents](#)  
[Return to Enforcement Chapter](#)

**APPENDIX B**

Table 6-1  
**Number of Individual Firms, Transactions, Requesting Documents,  
and Restrictive Trade Practices by Firm Type**  
October 2000 through September 2001

**ALL TRANSACTIONS (Summary Totals) (1)**  
(Footnotes (\*) are located at the end of Table 6-1(e))  
(The column “Other” includes but is not limited to law  
firms, consulting firms, and general contractors)

Item	Exporter	Bank	Forwarder	Carrier	Insurer	Other	Total
Individual Firms Reporting	195	50	11	1	0	62	319
Transactions Reported	818	246	13	1	0	192	1,270
Requesting Documents Involved	818	246	13	1	0	192	1,270
Restrictive Trade Practices Requests (2)	986	254	13	1	0	228	1,482

**Number of Individual Firms, Transactions, Requesting Documents,  
and Restrictive Trade Practices by Firm Type  
October 2000 through September 2001  
Table 6-1(a) All Transactions**

<b>Category</b>	<b>Take Action(3)</b>	<b>Refuse(4)</b>	<b>Undecided</b>	<b>Total (5)</b>
<b>Exporter</b>				
Number of Requests	100	716	2	818
Dollar Amount (\$000)	58,451	2,773,781	0	2,832,231
<b>Bank</b>				
Number of Requests	162	84	0	246
Dollar Amount (\$000)	246,133	72,105	0	318,238
<b>Forwarder</b>				
Number of Requests	6	7	0	13
Dollar Amount (\$000)	190	306	0	496
<b>Carrier</b>				
Number of Requests	1	0	0	1
Dollar Amount (\$000)	53	0	0	53
<b>Insurer</b>				
Number of Requests	0	0	0	0
Dollar Amount (\$000)	0	0	0	0
<b>Other</b>				
Number of Requests	34	158	0	192
Dollar Amount (\$000)	80,676	343,411	0	424,087
<b>Total</b>				
Number of Requests	303	965	2	1270
Dollar Amount (\$000)	385,503	3,189,603	0	3,575,106

**Number of Individual Firms, Transactions, Requesting Documents,  
and Restrictive Trade Practices by Firm Type  
October 2000 through September 2001  
Table 6-1(b) Prohibited Transactions**

Category	Take Action(3)	Refuse(4)	Undecided	Total(5)
<b>Exporter</b>				
Number of Requests	2	262	2	266
Dollar Amount (\$000)	138	842,785	0	842,923
<b>Bank</b>				
Number of Requests	0	4	0	4
Dollar Amount (\$000)	0	649	0	649
<b>Forwarder</b>				
Number of Requests	0	2	0	2
Dollar Amount (\$000)	0	23	0	23
<b>Carrier</b>				
Number of Requests	0	0	0	0
Dollar Amount (\$000)	0	0	0	0
<b>Insurer</b>				
Number of Requests	0	0	0	0
Dollar Amount (\$000)	0	0	0	0
<b>Other</b>				
Number of Requests	0	83	0	83
Dollar Amount (\$000)	0	236,755	0	236,755
<b>Total</b>				
Number of Requests	2	351	2	355
Dollar Amount (\$000)	138	1,080,213	0	1,080,351

**Number of Individual Firms, Transactions, Requesting Documents,  
and Restrictive Trade Practices by Firm Type**

October 2000 through September 2001

**Table 6-1(c) Prohibited as First Received, But Amended**

<b>Category</b>	<b>Take Action(3)</b>	<b>Refuse(4)</b>	<b>Undecided</b>	<b>Total(5)</b>
<b>Exporter</b>				
Number of Requests	0	45	0	45
Dollar Amount (\$000)	0	404,991	0	404,991
<b>Bank</b>				
Number of Requests	21	45	0	66
Dollar Amount (\$000)	791	67,803	0	68,594
<b>Forwarder</b>				
Number of Requests	0	1	0	1
Dollar Amount (\$000)	0	138	0	138
<b>Carrier</b>				
Number of Requests	0	0	0	0
Dollar Amount (\$000)	0	0	0	0
<b>Insurer</b>				
Number of Requests	0	0	0	0
Dollar Amount (\$000)	0	0	0	0
<b>Other</b>				
Number of Requests	0	4	0	4
Dollar Amount (\$000)	0	907	0	907
<b>Total</b>				
Number of Requests	21	95	0	116
Dollar Amount (\$000)	791	473,839	0	474,630

**Number of Individual Firms, Transactions, Requesting Documents,  
and Restrictive Trade Practices by Firm Type  
October 2000 through September 2001  
Table 6-1(d) Exceptions to Prohibited**

<b>Category</b>	<b>Take Action(3)</b>	<b>Refuse(4)</b>	<b>Undecided</b>	<b>Total(5)</b>
<b>Exporter</b>				
Number of Requests	84	350	0	434
Dollar Amount (\$000)	39,239	1,497,636	0	1,536,875
<b>Bank</b>				
Number of Requests	9	1	0	10
Dollar Amount (\$000)	6,004	45	0	6,049
<b>Forwarder</b>				
Number of Requests	0	0	0	0
Dollar Amount (\$000)	0	0	0	0
<b>Carrier</b>				
Number of Requests	0	0	0	0
Dollar Amount (\$000)	0	0	0	0
<b>Insurer</b>				
Number of Requests	0	0	0	0
Dollar Amount (\$000)	0	0	0	0
<b>Other</b>				
Number of Requests	32	58	0	90
Dollar Amount (\$000)	80,676	101,818	0	182,494
<b>Total</b>				
Number of Requests	125	409	0	534
Dollar Amount (\$000)	125,919	1,599,499	0	1,725,418

**Number of Individual Firms, Transactions, Requesting Documents,  
and Restrictive Trade Practices by Firm Type  
October 2000 through September 2001  
Table 6-1(e) Not Prohibited**

Category	Take Action(3)	Refuse(4)	Undecided	Total(5)
<b>Exporter</b>				
Number of Requests	14	59	0	73
Dollar Amount (\$000)	19,073	28,369	0	47,443
<b>Bank</b>				
Number of Requests	132	34	0	166
Dollar Amount (\$000)	239,338	3,607	0	242,945
<b>Forwarder</b>				
Number of Requests	6	4	0	10
Dollar Amount (\$000)	190	145	0	335
<b>Carrier</b>				
Number of Requests	1	0	0	1
Dollar Amount (\$000)	53	0	0	53
<b>Insurer</b>				
Number of Requests	0	0	0	0
Dollar Amount (\$000)	0	0	0	0
<b>Other</b>				
Number of Requests	2	13	0	15
Dollar Amount (\$000)	0	3,931	0	3,931
<b>Total</b>				
Number of Requests	155	110	0	265
Dollar Amount (\$000)	258,654	36,052	0	294,707

**Footnotes:**

- (1) Totals, other than the number of firms reporting, are enhanced to the extent that an exporter and one or more other organizations report on the same transaction.
- (2) Two or more types of restrictive trade practices are often reported in connection with one transaction.
- (3) Transactions in this table are characterized as "take action" or "refuse" in terms of action taken on the original request, not on amended or deleted requests.
- (4) "Refuse" does not necessarily mean that business was lost because a firm refused to comply with a prohibited boycott request. Rather, it indicates that firms refused to comply with the request in bidding on contracts totaling the dollar amounts indicated. Prohibited boycott language is often amended or deleted to permit U.S. firms to comply with U.S. law. Amendments and deletions are not reflected in these statistics.

(5) Dollar values may not add due to rounding.

**Table 6-2**  
**Number of Restrictive Trade Practices by**  
**Firm Type and Type of Restrictive Trade Practice**  
 October 2000 through September 2001

**ALL TRANSACTIONS**

Restrictive Trade Practice	Exporter	Bank	Forwarder	Carrier	Insurer	Other	Total
Carrier	125	213	11	1	0	23	373
Manufacturer/Vendor/Buyer	72	1	0	0	0	13	86
Insurance	0	0	0	0	0	0	0
Finance	8	3	0	0	0	1	12
Origin of Goods	415	35	2	0	0	37	489
Marked Goods/Packages	0	0	0	0	0	0	0
War Reparations	3	0	0	0	0	0	3
Observe Boycott Laws	170	0	0	0	0	54	224
Race/Religion/Sex/Origin	0	0	0	0	0	0	0
Relations with Boycotted Country	51	2	0	0	0	16	69
Risk of Loss	0	0	0	0	0	0	0
Destination of Goods	123	0	0	0	0	75	198
Other Restrictive Trade Practices	19	0	0	0	0	9	28
<b>Totals</b>	<b>986</b>	<b>254</b>	<b>13</b>	<b>1</b>	<b>0</b>	<b>228</b>	<b>1482</b>

**OTHER:** Includes but are not limited to law firms, consulting firms, and general contractors.

**TOTALS:** Enhanced to the extent that an exporter and one or more other organizations report on the same transaction.

**Table 6-3**  
**Number <sup>(1)</sup> of Restrictive Trade Practices**  
**by Originating Country and Type of Practice**  
January 2001 through August 2001

Country	Carrier	Manufacturer/Vendor/Buyer	Insurance	Finance	Origin of Goods	Marked Goods/Packaging	War Reparations	Observe Boycott Laws	Race/Religion/Sex/Origin	Relations w/Boycotted Country	Risk of Loss	Destination of Goods	Other Restrictive Practices	Total
Bahrain	37	7	0	0	15	0	0	32	0	1	0	0	0	92
Egypt	1	0	0	0	0	0	0	0	0	0	0	0	0	1
Iraq	4	4	0	0	3	0	0	2	0	9	0	5	0	27
Jordan	7	1	0	0	1	0	1	0	0	1	0	0	0	11
Kuwait	5	0	0	0	16	0	0	5	0	0	0	0	0	26
Lebanon	46	3	0	0	6	0	0	0	0	3	0	0	0	58
Libya	0	4	0	0	18	0	0	0	0	0	0	0	3	25
Qatar	37	2	0	0	19	0	0	13	0	0	0	38	17	126
Saudi Arabia	6	3	0	6	167	0	0	43	0	7	0	1	4	237
Syria	20	9	0	0	19	0	0	24	0	26	0	0	2	100
UAE	178	42	0	6	150	0	0	92	0	21	0	33	1	523
Other (2)	33	11	0	0	76	0	3	12	0	1	0	121	1	258
Total	374	86	0	12	490	0	3	224	0	69	0	198	28	1,484
Percent (3)	25	6	0	1	33	0	0	15	0	5	0	13	2	100

1) All figures are enhanced to the extent that an exporter and one or more other organizations reports on the same transaction.

2) Includes Algeria, Djibouti, Iran, Mauritania, Malaysia, Nigeria, Oman, Pakistan, Somalia, Sudan, Tunisia, and Yemen.

3) Percentages may not add due to rounding.

**Table 6-4**  
**Number <sup>(1)</sup> of Restrictive Trade Practices**  
**by Originating Country and Type of Document**  
 October 2000 through September 2001

Country	Bid or Tender	Carrier Blacklist	Letter of Credit	Questionnaire	Requisition/ Purchase Order	Unwritten	Other Written	Total
Bahrain	34	0	39	0	8	0	0	81
Egypt	1	0	0	0	0	0	0	1
Iraq	3	0	0	0	14	0	3	20
Jordan	1	0	7	0	1	0	1	10
Kuwait	2	0	13	0	11	0	0	26
Lebanon	0	0	50	0	1	0	3	54
Libya	3	0	4	0	17	0	1	25
Qatar	24	0	23	0	51	0	0	98
Saudi Arabia	25	0	7	1	187	2	4	226
Syria	29	0	22	15	6	3	7	82
UAE	85	2	158	0	138	1	26	410
Other (2)	77	0	33	0	105	6	23	238
Total	284	2	356	16	539	0	68	1,271
Percentage (3)	22	0	28	1	42		5	98

(1) All figures are enhanced to the extent that an exporter and one or more other organizations reports on the same transaction.

(2) Includes Algeria, Djibouti, India, Mauritania, Malaysia, Nigeria, Oman, Pakistan, Somalia, Sudan, Tunisia, and Yemen.

(3) Percentages do not add due to rounding.

**Table 6-5**  
**Number and Value of Exporter Transactions by Originating Country**  
**and Decision on the Request**

October 2000 through September 2001

Footnotes (\*) are located at the end of Table 6-5(e)

**All Transactions(1)**

<b>Country</b>	<b>Take Action(2)</b>	<b>Refuse(3)</b>	<b>Undecided</b>	<b>Total(4)</b>
<b>Bahrain</b>				
Number of Requests	0	42	1	43
Dollar Amount (\$000)	0	625,498	0	625,498
<b>Egypt</b>				
Number of Requests	0	1	0	1
Dollar Amount (\$000)	0	0	0	0
<b>Iraq</b>				
Number of Requests	0	18	0	18
Dollar Amount (\$000)	0	214,658	0	214,658
<b>Jordan</b>				
Number of Requests	0	3	0	3
Dollar Amount (\$000)	0	7,175	0	7,175
<b>Kuwait</b>				
Number of Requests	2	11	0	13
Dollar Amount (\$000)	27	24,291	0	24,318
<b>Lebanon</b>				
Number of Requests	0	11	0	11
Dollar Amount (\$000)	0	1,559	0	1,559
<b>Libya</b>				
Number of Requests	0	24	0	24

<b>Country</b>	<b>Take Action(2)</b>	<b>Refuse(3)</b>	<b>Undecided</b>	<b>Total(4)</b>
Dollar Amount (\$000)	0	2,223	0	2,223
<b>Qatar</b>				
Number of Requests	3	49	0	52
Dollar Amount (\$000)	31	207,223	0	207,253
<b>Saudi Arabia</b>				
Number of Requests	2	205	0	207
Dollar Amount (\$000)	0	77,602	0	77,602
<b>Syria</b>				
Number of Requests	4	55	1	60
Dollar Amount (\$000)	1,115	62,120	0	63,235
<b>UAE</b>				
Number of Requests	52	183	0	235
Dollar Amount (\$000)	14,409	1,017,684	0	1,032,092
<b>Other(5)</b>				
Number of Requests	37	114	0	151
Dollar Amount (\$000)	42,869	533,748	0	576,616
<b>Total (4)</b>				
Number of Requests	100	716	2	818
Dollar Amount (\$000)	58,451	2,773,781	0	2,832,231

**Number and Value of Exporter Transactions by Originating Country  
and Decision on the Request**

October 2000 through September 2001

**Table 6-5(b) Prohibited Transactions**

<b>Country</b>	<b>Take Action(2)</b>	<b>Refuse(3)</b>	<b>Undecided</b>	<b>Total(4)</b>
<b>Bahrain</b>				
Number of Requests	0	30	1	31
Dollar Amount (\$000)	0	589,420	0	589,420
<b>Egypt</b>				
Number of Requests	0	1	0	1
Dollar Amount (\$000)	0	0	0	0
<b>Iraq</b>				
Number of Requests	0	10	0	10
Dollar Amount (\$000)	0	48,711	0	48,711
<b>Jordan</b>				
Number of Requests	0	3	0	3
Dollar Amount (\$000)	0	7,175	0	7,175
<b>Kuwait</b>				
Number of Requests	0	7	0	7
Dollar Amount (\$000)	0	42	0	42
<b>Lebanon</b>				
Number of Requests	0	8	0	8
Dollar Amount (\$000)	0	1,475	0	1,475
<b>Libya</b>				
Number of Requests	0	13	0	13
Dollar Amount (\$000)	0	2,190	0	2,190
<b>Qatar</b>				

<b>Country</b>	<b>Take Action(2)</b>	<b>Refuse(3)</b>	<b>Undecided</b>	<b>Total(4)</b>
Number of Requests	0	10	0	10
Dollar Amount (\$000)	0	766	0	766
<b>Saudi Arabia</b>				
Number of Requests	0	41	0	41
Dollar Amount (\$000)	0	28,348	0	28,348
<b>Syria</b>				
Number of Requests	2	44	1	47
Dollar Amount (\$000)	138	60,761	0	60,899
<b>UAE</b>				
Number of Requests	0	73	0	73
Dollar Amount (\$000)	0	75,406	0	75,406
<b>Other (5)</b>				
Number of Requests	0	22	0	22
Dollar Amount (\$000)	0	28,491	0	28,491
<b>Total (4)</b>				
Number of Requests	2	262	2	266
Dollar Amount (\$000)	138	842,785	0	842,923

**Number and Value of Exporter Transactions by Originating Country  
and Decision on the Request**

October 2000 through September 2001

**Table 6-5(c) Prohibited as First Received, but Amended**

<b>Country</b>	<b>Take Action(2)</b>	<b>Refuse(3)</b>	<b>Undecided</b>	<b>Total(4)</b>
<b>Bahrain</b>				
Number of Requests	0	4	0	4
Dollar Amount (\$000)	0	34,370	0	34,370
<b>Egypt</b>				
Number of Requests	0	0	0	0
Dollar Amount (\$000)	0	0	0	0
<b>Iraq</b>				
Number of Requests	0	3	0	3
Dollar Amount (\$000)	0	2,146	0	2,146
<b>Jordan</b>				
Number of Requests	0	0	0	0
Dollar Amount (\$000)	0	0	0	0
<b>Kuwait</b>				
Number of Requests	0	1	0	1
Dollar Amount (\$000)	0	24,000	0	24,000
<b>Lebanon</b>				
Number of Requests	0	1	0	1
Dollar Amount (\$000)	0	32	0	32
<b>Libya</b>				
Number of Requests	0	6	0	6
Dollar Amount (\$000)	0	24	0	24
<b>Qatar</b>				

<b>Country</b>	<b>Take Action(2)</b>	<b>Refuse(3)</b>	<b>Undecided</b>	<b>Total(4)</b>
Number of Requests	0	4	0	4
Dollar Amount (\$000)	0	519	0	519
<b>Saudi Arabia</b>				
Number of Requests	0	4	0	4
Dollar Amount (\$000)	0	4,244	0	4,244
<b>Syria</b>				
Number of Requests	0	5	0	5
Dollar Amount (\$000)	0	596	0	596
<b>UAE</b>				
Number of Requests	0	14	0	14
Dollar Amount (\$000)	0	338,879	0	338,879
<b>Other (5)</b>				
Number of Requests	0	3	0	3
Dollar Amount (\$000)	0	181	0	181
<b>Total (4)</b>				
Number of Requests	0	45	0	45
Dollar Amount (\$000)	0	404,991	0	404,991

**Number and Value of Exporter Transactions by Originating Country  
and Decision on the Request**

October 2000 through September 2001

**Table 6-5(d) Exceptions to Prohibited Transactions**

<b>Country</b>	<b>Take Action(2)</b>	<b>Refuse(3)</b>	<b>Undecided</b>	<b>Total(4)</b>
<b>Bahrain</b>				
Number of Requests	0	1	0	1
Dollar Amount (\$000)	0	30	0	30
<b>Egypt</b>				
Number of Requests	0	0	0	0
Dollar Amount (\$000)	0	0	0	0
<b>Iraq</b>				
Number of Requests	0	5	0	5
Dollar Amount (\$000)	0	163,801	0	163,801
<b>Jordan</b>				
Number of Requests	0	0	0	0
Dollar Amount (\$000)	0	0	0	0
<b>Kuwait</b>				
Number of Requests	2	3	0	5
Dollar Amount (\$000)	27	249	0	277
<b>Lebanon</b>				
Number of Requests	0	0	0	0
Dollar Amount (\$000)	0	0	0	0
<b>Libya</b>				
Number of Requests	0	3	0	3
Dollar Amount (\$000)	0	9	0	9
<b>Qatar</b>				

<b>Country</b>	<b>Take Action(2)</b>	<b>Refuse(3)</b>	<b>Undecided</b>	<b>Total(4)</b>
Number of Requests	1	20	0	21
Dollar Amount (\$000)	0	205,756	0	205,756
<b>Saudi Arabia</b>				
Number of Requests	2	156	0	158
Dollar Amount (\$000)	0	45,008	0	45,008
<b>Syria</b>				
Number of Requests	0	0	0	0
Dollar Amount (\$000)	0	0	0	0
<b>UAE</b>				
Number of Requests	46	79	0	125
Dollar Amount (\$000)	457	600,389	0	600,847
<b>Other (5)</b>				
Number of Requests	33	83	0	116
Dollar Amount (\$000)	38,754	482,393	0	521,147
<b>Total (4)</b>				
Number of Requests	84	350	0	434
Dollar Amount (\$000)	39,239	1,497,636	0	1,536,875



**Number and Value of Exporter Transactions by Originating Country  
and Decision on the Request**

October 2000 through September 2001

**Table 6-5(e) Prohibited as First Received, but Amended**

<b>Country</b>	<b>Take Action(2)</b>	<b>Refuse(3)</b>	<b>Undecided</b>	<b>Total(4)</b>
<b>Bahrain</b>				
Number of Requests	0	7	0	7
Dollar Amount (\$000)	0	1679	0	1679
<b>Egypt</b>				
Number of Requests	0	0	0	0
Dollar Amount (\$000)	0	0	0	0
<b>Iraq</b>				
Number of Requests	0	0	0	0
Dollar Amount (\$000)	0	0	0	0
<b>Jordan</b>				
Number of Requests	0	0	0	0
Dollar Amount (\$000)	0	0	0	0
<b>Kuwait</b>				
Number of Requests	0	0	0	0
Dollar Amount (\$000)	0	0	0	0
<b>Lebanon</b>				
Number of Requests	0	2	0	2
Dollar Amount (\$000)	0	52	0	52
<b>Libya</b>				
Number of Requests	0	2	0	2
Dollar Amount (\$000)	0	0	0	0
<b>Qatar</b>				

<b>Country</b>	<b>Take Action(2)</b>	<b>Refuse(3)</b>	<b>Undecided</b>	<b>Total(4)</b>
Number of Requests	2	15	0	17
Dollar Amount (\$000)	31	181	0	212
<b>Saudi Arabia</b>				
Number of Requests	0	4	0	4
Dollar Amount (\$000)	0	2	0	2
<b>Syria</b>				
Number of Requests	2	6	0	8
Dollar Amount (\$000)	977	764	0	1,741
<b>UAE</b>				
Number of Requests	6	17	0	23
Dollar Amount (\$000)	13,952	3,008	0	16,960
<b>Other (5)</b>				
Number of Requests	4	6	0	10
Dollar Amount (\$000)	4,115	22,683	0	26,797
<b>Total (4)</b>				
Number of Requests	14	59	0	73
Dollar Amount (\$000)	19,073	28,369	0	47,443

**Footnotes:**

(1) Transactions figures and dollar values may include duplications and dollar values for potential transactions that never resulted in a sale.

(2) Transactions in this table are characterized as “take action” or “refuse” in terms of action taken on the original request, not on amended or deleted requests.

(3) “Refuse” does not necessarily mean that business was lost because a firm refused to comply with a prohibited boycott request. Rather, it indicates that firms refused to comply with the request in bidding on contracts totaling the dollar amounts indicated. Prohibited boycott language is often amended or deleted to permit U.S. firms to comply with U.S. law. Amendments and deletions are not reflected in these statistics.

(4) Dollar values may not add due to rounding.

(5) Includes Algeria, India, Iran, Malaysia, Nigeria, Oman, Pakistan, Tunisia, and Yemen.

Table 6-6  
 Number of Individual Firms, Transactions, Requesting Documents  
 and Restrictive Trade Practices Received by  
 (“Controlled-in-Fact”) Foreign Subsidiaries  
 October 2000 through September 2001  
 (Footnotes are located at the end of Table 6-6(e))

ALL TRANSACTIONS (Summary Totals)

Country	Individual Firms Reporting	Transactions Reported	Requesting Documents Involved	Restrictive Trade Practices Requests
<b>United Kingdom</b>	14	29	29	34
<b>France</b>	4	4	4	4
<b>Germany</b>	4	4	4	10
<b>Netherlands</b>	6	25	25	35
<b>Belgium</b>	8	15	15	18
<b>Switzerland</b>	4	13	13	19
<b>Canada</b>	1	1	1	1
<b>Italy</b>	1	2	2	2
<b>Other (European Nations) (1)</b>	7	19	19	22
<b>Other (Arab Nations) (2)</b>	49	150	150	242
<b>All Other Nations</b>	7	113	113	113
<b>Total</b>	105	375	375	500



**Number of Individual Firms, Transactions, Requesting Documents  
and Restrictive Trade Practices Received by  
("Controlled-in-Fact") Foreign Subsidiaries  
October 2000 through September 2001  
ALL TRANSACTIONS (Summary Totals)  
Table 6-6(a) All Transactions**

<b>Country</b>	<b>Take Action</b>	<b>Refuse</b>	<b>Undecided</b>	<b>Total</b>
<b>United Kingdom</b>				
Number of Requests	3	26	0	29
Dollar Amount (\$000)	4,172	21,000	0	25,172
<b>France</b>				
Number of Requests	0	4	0	4
Dollar Amount (\$000)	0	86	0	86
<b>Germany</b>				
Number of Requests	0	4	0	4
Dollar Amount (\$000)	0	6,455	0	6,455
<b>Netherlands</b>				
Number of Requests	0	25	0	25
Dollar Amount (\$000)	0	10,503	0	10,503
<b>Belgium</b>				
Number of Requests	0	15	0	15
Dollar Amount (\$000)	0	3,616	0	3,616
<b>Switzerland</b>				
Number of Requests	0	13	0	13
Dollar Amount (\$000)	0	30,525	0	30,525
<b>Canada</b>				
Number of Requests	0	1	0	1

<b>Country</b>	<b>Take Action</b>	<b>Refuse</b>	<b>Undecided</b>	<b>Total</b>
Dollar Amount (\$000)	0	824	0	824
<b>Italy</b>				
Number of Requests	0	2	0	2
Dollar Amount (\$000)	0	97	0	97
<b>Other European Nations (1)</b>				
Number of Requests	0	19	0	19
Dollar Amount (\$000)	0	1,148	0	1,148
<b>Other Arab Nations (2)</b>				
Number of Requests	1	149	0	150
Dollar Amount (\$000)	0	342,176	0	342,176
<b>All Other Nations</b>				
Number of Requests	9	104	0	113
Dollar Amount (\$000)	1,346	1,384,522	0	1,385,868
<b>Total</b>				
Number of Requests	13	362	0	375
Dollar Amount (\$000)	5,518	1,800,952	0	1,806,470

**Number of Requests of Individual Firms, Transactions, Requesting Documents  
and Restrictive Trade Practices Received by  
("Controlled-in-Fact") Foreign Subsidiaries  
October 2000 through September 2001  
Table 6-6(b) Prohibited Transactions**

<b>Country</b>	<b>Take Action</b>	<b>Refuse</b>	<b>Undecided</b>	<b>Total</b>
<b>United Kingdom</b>				
Number of Requests	0	13	0	13
Dollar Amount (\$000)	0	20,298	0	20,298
<b>France</b>				
Number of Requests	0	3	0	3
Dollar Amount (\$000)	0	53	0	53
<b>Germany</b>				
Number of Requests	0	3	0	3
Dollar Amount (\$000)	0	5,155	0	5,155
<b>Netherlands</b>				
Number of Requests	0	10	0	10
Dollar Amount (\$000)	0	9,844	0	9,844
<b>Belgium</b>				
Number of Requests	0	12	0	12
Dollar Amount (\$000)	0	3,603	0	3,603
<b>Switzerland</b>				
Number of Requests	0	7	0	7
Dollar Amount (\$000)	0	8,178	0	8,178
<b>Canada</b>				
Number of Requests	0	0	0	0
Dollar Amount (\$000)	0	0	0	0

<b>Country</b>	<b>Take Action</b>	<b>Refuse</b>	<b>Undecided</b>	<b>Total</b>
<b>Italy</b>				
Number of Requests	0	2	0	2
Dollar Amount (\$000)	0	97	0	97
<b>Other European Nations (1)</b>				
Number of Requests	0	5	0	5
Dollar Amount (\$000)	0	114	0	114
<b>Other Arab Nations (2)</b>				
Number of Requests	0	107	0	107
Dollar Amount (\$000)	0	247,857	0	247,857
<b>All Other Nations</b>				
Number of Requests	0	4	0	4
Dollar Amount (\$000)	0	41,813	0	41,813
<b>Total</b>				
Number of Requests	0	166	0	166
Dollar Amount (\$000)	0	337,012	0	337,012

**Number of Requests of Individual Firms, Transactions, Requesting Documents  
and Restrictive Trade Practices Received by  
("Controlled-in-Fact") Foreign Subsidiaries  
October 2000 through September 2001  
Table 6-6(c) Prohibited as First Received, but Amended**

<b>Country</b>	<b>Take Action</b>	<b>Refuse</b>	<b>Undecided</b>	<b>Total</b>
<b>United Kingdom</b>				
Number of Requests	0	6	0	6
Dollar Amount (\$000)	0	132	0	132
<b>France</b>				
Number of Requests	0	0	0	0
Dollar Amount (\$000)	0	0	0	0
<b>Germany</b>				
Number of Requests	0	1	0	1
Dollar Amount (\$000)	0	1,300	0	1,300
<b>Netherlands</b>				
Number of Requests	0	6	0	6
Dollar Amount (\$000)	0	541	0	541
<b>Belgium</b>				
Number of Requests	0	1	0	1
Dollar Amount (\$000)	0	11	0	11
<b>Switzerland</b>				
Number of Requests	0	1	0	1
Dollar Amount (\$000)	0	61	0	61
<b>Canada</b>				
Number of Requests	0	1	0	1
Dollar Amount (\$000)	0	824	0	824

<b>Country</b>	<b>Take Action</b>	<b>Refuse</b>	<b>Undecided</b>	<b>Total</b>
<b>Italy</b>				
Number of Requests	0	0	0	0
Dollar Amount (\$000)	0	0	0	0
<b>Other European Nations (1)</b>				
Number of Requests	0	2	0	2
Dollar Amount (\$000)	0	846	0	846
<b>Other Arab Nations (2)</b>				
Number of Requests	0	7	0	7
Dollar Amount (\$000)	0	2,649	0	2,649
<b>All Other Nations</b>				
Number of Requests	0	0	0	0
Dollar Amount (\$000)	0	0	0	0
<b>Total</b>				
Number of Requests	0	25	0	25
Dollar Amount (\$000)	0	6,364	0	6,364

**Number of Requests of Individual Firms, Transactions, Requesting Documents  
and Restrictive Trade Practices Received by  
("Controlled-in-Fact") Foreign Subsidiaries  
October 2000 through September 2001  
Table 6-6(d) Exceptions to Prohibitions**

<b>Country</b>	<b>Take Action</b>	<b>Refuse</b>	<b>Undecided</b>	<b>Total</b>
<b>United Kingdom</b>				
Number of Requests	2	6	0	8
Dollar Amount (\$000)	100	404	0	504
<b>France</b>				
Number of Requests	0	0	0	0
Dollar Amount (\$000)	0	0	0	0
<b>Germany</b>				
Number of Requests	0	0	0	0
Dollar Amount (\$000)	0	0	0	0
<b>Netherlands</b>				
Number of Requests	0	0	0	0
Dollar Amount (\$000)	0	0	0	0
<b>Belgium</b>				
Number of Requests	0	0	0	0
Dollar Amount (\$000)	0	0	0	0
<b>Switzerland</b>				
Number of Requests	0	0	0	0
Dollar Amount (\$000)	0	0	0	0
<b>Canada</b>				
Number of Requests	0	0	0	0
Dollar Amount (\$000)	0	0	0	0

<b>Country</b>	<b>Take Action</b>	<b>Refuse</b>	<b>Undecided</b>	<b>Total</b>
<b>Italy</b>				
Number of Requests	0	0	0	0
Dollar Amount (\$000)	0	0	0	0
<b>Other European Nations (1)</b>				
Number of Requests	0	0	0	0
Dollar Amount (\$000)	0	0	0	0
<b>Other Arab Nations (2)</b>				
Number of Requests	1	24	0	25
Dollar Amount (\$000)	0	88,379	0	88,379
<b>All Other Nations</b>				
Number of Requests	9	100	0	109
Dollar Amount (\$000)	1,346	1,342,709	0	1,344,055
<b>Total</b>				
Number of Requests	12	130	0	142
Dollar Amount (\$000)	1,446	1,431,492	0	1,432,938

**Number of Requests of Individual Firms, Transactions, Requesting Documents  
and Restrictive Trade Practices Received by  
("Controlled-in-Fact") Foreign Subsidiaries  
October 2000 through September 2001  
Table 6-6(e) Not Prohibited**

<b>Country</b>	<b>Take Action</b>	<b>Refuse</b>	<b>Undecided</b>	<b>Total</b>
<b>United Kingdom</b>				
Number of Requests	1	1	0	2
Dollar Amount (\$000)	4,072	166	0	4,238
<b>France</b>				
Number of Requests	0	1	0	1
Dollar Amount (\$000)	0	33	0	33
<b>Germany</b>				
Number of Requests	0	0	0	0
Dollar Amount (\$000)	0	0	0	0
<b>Netherlands</b>				
Number of Requests	0	9	0	9
Dollar Amount (\$000)	0	118	0	118
<b>Belgium</b>				
Number of Requests	0	2	0	2
Dollar Amount (\$000)	0	3	0	3
<b>Switzerland</b>				
Number of Requests	0	5	0	5
Dollar Amount (\$000)	0	22,286	0	22,286
<b>Canada</b>				
Number of Requests	0	0	0	0
Dollar Amount (\$000)	0	0	0	0

<b>Country</b>	<b>Take Action</b>	<b>Refuse</b>	<b>Undecided</b>	<b>Total</b>
<b>Italy</b>				
Number of Requests	0	0	0	0
Dollar Amount (\$000)	0	0	0	0
<b>Other European Nations (1)</b>				
Number of Requests	0	12	0	12
Dollar Amount (\$000)	0	188	0	188
<b>Other Arab Nations (2)</b>				
Number of Requests	0	11	0	11
Dollar Amount (\$000)	0	3,291	0	3,291
<b>All Other Nations</b>				
Number of Requests	0	0	0	0
Dollar Amount (\$000)	0	0	0	0
<b>Total</b>				
Number of Requests	1	41	0	42
Dollar Amount (\$000)	4,072	26,084	0	30,156

**Footnotes:**

(1) Includes Austria, and Sweden.

(2) Includes Bahrain, Egypt, Iraq, Jordan, Kuwait, Lebanon, Libya, Oman, Saudia Arabia, UAE, Qatar, and Yemen.

Return to [Table of Contents](#)  
Return to [Antiboycott Chapter](#)

**APPENDIX C****ALBANIA**

4A003	DIGITAL COMPUTERS/ASSEMBLIES AND RELATED EQUIPMENT	1	\$388,080
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TOTAL APPLICATIONS: 1  
TOTAL CCL'S: 1  
TOTAL DOLLAR VALUE: \$388,080

**ARMENIA**

3D003	CAD SOFTWARE FOR SEMICONDUCTOR DEVICES/INTEGRATED	1	\$0
3E001	TECHNOLOGY FOR DEV OR PROD OF CERTAIN ITEMS IN 3A/	12	\$12
4E001	TECHNOLOGY FOR DEV/PROD/USE OF CERTAIN EQUIP/SOFTW	1	\$1
5E001	TECHNOLOGY FOR DEV/PROD/USE, ETC, OF EQUIP. IN 5A0	1	\$1

TOTAL APPLICATIONS: 13  
TOTAL CCL'S: 4  
TOTAL DOLLAR VALUE: \$14

**AZERBAIJAN**

1C350	CHEMICALS, PRECURSORS FOR TOXIC CHEMICAL AGENTS	1	\$36,348
3A231	NEUTRON GENERATOR SYSTEMS INCLUDING TUBES	1	\$306,000
6A001	ACOUSTICS	1	\$175,440

TOTAL APPLICATIONS: 3  
TOTAL CCL'S: 3  
TOTAL DOLLAR VALUE: \$517,788

**BELARUS**

3E001	TECHNOLOGY FOR DEV OR PROD OF CERTAIN ITEMS IN 3A/	1	\$1
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TOTAL APPLICATIONS: 1  
TOTAL CCL'S: 1  
TOTAL DOLLAR VALUE: \$1

**BULGARIA**

0A984	SHOTGUNS, BUCKSHOT,SHOTGUN SHELLS	4	\$213,570
0A986	SHOTGUN SHELLS (EXCEPT BUCKSHOT SHELLS) AND PARTS	2	\$41,144

CCL	DESCRIPTION	APPLICATIONS	DOLLAR VALUE
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0A987	OPTICAL SIGHTING DEVICES FOR FIREARMS	2	\$85,000
1C111	PROPELLANTS AND CONSTITUENT CHEMICALS	1	\$64,000
2B351	TOXIC GAS MONITORING SYSTEMS & DEDICATED DETECTORS	1	\$6,372
3A001	ELECTRONIC DEVICES/COMPONENTS	4	\$28,496

3A002	GENERAL PURPOSE ELECTRONIC EQUIPMENT	1	\$1,689
3A981	POLYGRAPHS/FINGERPRINT ANALYZERS/CAMERAS/EQUIPMENT	2	\$57,930
3D980	SOFTWARE FOR DEV/PROD/USE OF ITEMS IN 3A980 AND 3A	1	\$14,925
3E001	TECHNOLOGY FOR DEV OR PROD OF CERTAIN ITEMS IN 3A/	3	\$3
4A003	DIGITAL COMPUTERS/ASSEMBLIES AND RELATED EQUIPMENT	2	\$1,620,000
4D001	SOFTWARE FOR CERTAIN EQUIPMENT/SOFTWARE IN 4A-4D	2	\$2
4E001	TECHNOLOGY FOR DEV/PROD/USE OF CERTAIN EQUIP/SOFTW	2	\$2
4E980	TECHNOLOGY FOR DEV/PROD/USE OF ITEMS IN 4A980	2	\$2
5D002	SOFTWARE FOR INFORMATION SECURITY	3	\$117,304
5E001	TECHNOLOGY FOR DEV/PROD/USE, ETC, OF EQUIP. IN 5A0	2	\$101
6A003	CAMERAS	2	\$120,000

TOTAL APPLICATIONS: 31  
TOTAL CCL'S: 17  
TOTAL DOLLAR VALUE: \$2,370,540

### CAMBODIA

0A982	THUMB/CUFFS, LEG IRONS AND SHACKLES	1	\$3,071
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TOTAL APPLICATIONS: 1  
TOTAL CCL'S: 1  
TOTAL DOLLAR VALUE: \$3,071

### CHINA (PRC)<sup>1</sup>

EAR99	ITEMS SUBJECT TO THE EAR N.E.S.	7	\$4,232,692
0A987	OPTICAL SIGHTING DEVICES FOR FIREARMS	2	\$320,000
1A001	COMPONENTS MADE FROM FLUORINATED COMPOUNDS	1	\$5,000
1C008	NON-FLUORINATED POLYMERIC SUBSTANCES	2	\$324,030
1C010	FIBROUS/FILAMENTARY MATERIALS USED IN MATRIX STRUC	4	\$1,689,948
1C111	PROPELLANTS AND CONSTITUENT CHEMICALS	1	\$1,002
1C202	ALUMINUM AND TITANIUM ALLOYS IN THE FORM OF TUBES/	4	\$960,004
1C210	FIBROUS/FILAMENTARY MATERIALS NOT CONTROLLED BY 1C	2	\$5,775,000
1C230	BERYLLIUM	3	\$19,920,894
1C233	LITHIUM	1	\$159
1C350	CHEMICALS, PRECURSORS FOR TOXIC CHEMICAL AGENTS	27	\$57,436,387
1C351	HUMAN PATHOGENS, ZOOSES, AND TOXINS	2	\$574
1C991	VACCINES, IMMUNOTOXINS AND MEDICAL PRODUCTS	1	\$336
1E001	TECHNOLOGY FOR DEVELOPMENT OF EQUIPMENT UNDER 1A00	7	\$3
1E002	OTHER TECHNOLOGY	2	\$2
1E101	TECHNOLOGY FOR DEVELOPMENT OF EQUIPMENT UNDER 1A10	1	\$0
1E103	TECHNOLOGY TO REGULATE TEMPERATURE OF COMPOSITES	2	\$0

CCL	DESCRIPTION	APPLICATIONS	DOLLAR VALUE
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1E201	TECHNOLOGY FOR USE OF 1A002,1A202,1A225 TO 1B225	1	\$0
1E202	TECHNOLOGY FOR DEVELOPMENT OR PRODUCTION OF 1A202,	1	\$0

<sup>1</sup>These figures do not include exports to Hong Kong or Macau since these two destinations are treated a separate destinations for export control purposes under the EAR.



5E001	TECHNOLOGY FOR DEV/PROD/USE, ETC, OF EQUIP. IN 5A0	222	\$2,005,546
5E002	TECHNOLOGY FOR DEV/PROD/USE OF INFORMATION SECURIT	5	\$100,004
6A001	ACOUSTICS	2	\$503,253
6A002	OPTICAL SENSORS	1	\$140,150
6A003	CAMERAS	65	\$3,807,102
6A005	OPTICAL EQUIPMENT (LASERS)	6	\$235,183
6A006	MAGNETOMETERS/MAGNETIC GRADIOMETERS/COMPENSATION S	2	\$37,420
6A007	GRAVITY METERS (GRAVIMETERS)/GRAVITY GRADIOMETERS	1	\$284,300
6A203	CAMERAS/COMPONENTS NOT CONTROLLED BY ECCN 6A003	1	\$55,321
6E001	TECHNOLOGY FOR DEVELOPMENT OF EQUIPMENT/MATERIALS/	3	\$5
6E002	TECHNOLOGY FOR PRODUCTION OF EQUIPMENT/MATERIALS I	2	\$2
7A103	INSTRUMENTATION, NAVIGATION EQUIPMENT/SYSTEMS NOT	7	\$3,767,644
9D004	SOFTWARE FOR VIBRATION TEST EQUIPMENT	1	\$19,260
9E003	OTHER TECHNOLOGY	3	\$3

TOTAL APPLICATIONS: 990  
TOTAL CCL'S: 84  
TOTAL DOLLAR VALUE: \$226,805,646

**CUBA**

EAR99	ITEMS SUBJECT TO THE EAR N.E.S.	192	\$1,371,094,324
2A994	PORTABLE ELECTRIC GENERATORS AND SPECIALLY DESIGNE	1	\$12,000
4A994	ITEMS NOT CONTROLLED BY 4A001/4A002/4A003	8	\$419,434
5A002	SYSTEMS/EQUIPMENT/INTEGRATED CIRCUITS FOR INFO SEC	1	\$2,975
5A991	TRANSMISSION ITEMS NOT W/I PARAMETERS IN 5A001	2	\$2,087
7A994	OTHER NAVIGATION/AIRBORNE COMMUNICATION EQUIPMENT	1	\$189
7D994	OTHER SOFTWARE FOR NAVIGATION AND AVIONICS	1	\$200
8A992	UNDERWATER CAMERA EQUIPMENT	12	\$64,025,000
9A003	GAS TURBINE ENGINE PROPULSION SYSTEMS	1	\$0
9A991	AIRCRAFT AND CERTAIN GAS TURBINE ENGINES N.E.S.	37	\$452,989,260

TOTAL APPLICATIONS: 240  
TOTAL CCL'S: 10  
TOTAL DOLLAR VALUE: \$1,888,545,469

**ESTONIA**

0A979	POLICE HELMETS, SHIELDS AND PARTS	2	\$4,790
0A982	THUMBCUFFS, LEG IRONS AND SHACKLES	2	\$582
0A987	OPTICAL SIGHTING DEVICES FOR FIREARMS	2	\$100,000
1C230	BERYLLIUM	1	\$2,500
1C351	HUMAN PATHOGENS, ZOOSES, AND TOXINS	1	\$166
3A001	ELECTRONIC DEVICES/COMPONENTS	1	\$198
3E001	TECHNOLOGY FOR DEV OR PROD OF CERTAIN ITEMS IN 3A/	2	\$1
6A002	OPTICAL SENSORS	1	\$27,925

CCL	DESCRIPTION	APPLICATIONS	DOLLAR VALUE
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TOTAL APPLICATIONS: 12  
 TOTAL CCL'S: 8  
 TOTAL DOLLAR VALUE: \$136,162

**GEORGIA**

0A987	OPTICAL SIGHTING DEVICES FOR FIREARMS	2	\$55,000
9A018	COMMODITIES ON THE INTERNATIONAL MUNITIONS LIST	1	\$170,496

TOTAL APPLICATIONS: 3  
 TOTAL CCL'S: 2  
 TOTAL DOLLAR VALUE: \$225,496

**KAZAKHSTAN**

EAR99	ITEMS SUBJECT TO THE EAR N.E.S.	2	\$229,670
0A987	OPTICAL SIGHTING DEVICES FOR FIREARMS	2	\$105,000
1A005	BODY ARMOR	1	\$4,540
1C350	CHEMICALS, PRECURSORS FOR TOXIC CHEMICAL AGENTS	1	\$3,900
1E201	TECHNOLOGY FOR USE OF 1A002,1A202,1A225 TO 1B225	1	\$22,500
2B351	TOXIC GAS MONITORING SYSTEMS & DEDICATED DETECTORS	1	\$223,440
2E201	TECHNOLOGY FOR USE OF COMMODITIES CONTROLLED BY 2A	1	\$22,500
3A231	NEUTRON GENERATOR SYSTEMS INCLUDING TUBES	1	\$391,423
3E001	TECHNOLOGY FOR DEV OR PROD OF CERTAIN ITEMS IN 3A/	1	\$0
4A003	DIGITAL COMPUTERS/ASSEMBLIES AND RELATED EQUIPMENT	1	\$87,640

TOTAL APPLICATIONS: 9  
 TOTAL CCL'S: 10  
 TOTAL DOLLAR VALUE: \$1,090,613

**KOREA P DEM REP**

EAR99	ITEMS SUBJECT TO THE EAR N.E.S.	3	\$38,878
4A994	ITEMS NOT CONTROLLED BY 4A001/4A002/4A003	3	\$193,506
5A991	TRANSMISSION ITEMS NOT W/I PARAMETERS IN 5A001	1	\$282
5D992	SOFTWARE NOT CONTROLLED BY 5D002	1	\$120,302
7A994	OTHER NAVIGATION/AIRBORNE COMMUNICATION EQUIPMENT	2	\$834,264

TOTAL APPLICATIONS: 7  
 TOTAL CCL'S: 5  
 TOTAL DOLLAR VALUE: \$1,187,232

CCL	DESCRIPTION	APPLICATIONS	DOLLAR VALUE
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**KYRGYZSTAN**

6A003	CAMERAS	1	\$57,800
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TOTAL APPLICATIONS: 1  
TOTAL CCL'S: 1  
TOTAL DOLLAR VALUE: \$57,800

**LAOS**

TOTAL APPLICATIONS: 0  
TOTAL CCL'S: 0  
TOTAL DOLLAR VALUE: \$0

**LATVIA**

EAR99	ITEMS SUBJECT TO THE EAR N.E.S.	2	\$32,420	
0A984	SHOTGUNS, BUCKSHOT,SHOTGUN SHELLS	2	\$74,602	
0A987	OPTICAL SIGHTING DEVICES FOR FIREARMS	3	\$102,900	
3A001	ELECTRONIC DEVICES/COMPONENTS	4	\$54,566	
3A992	GENERAL PURPOSE ELECTRONIC EQUIPMENT	1	\$172,985	
3E001	TECHNOLOGY FOR DEV OR PROD OF CERTAIN ITEMS IN 3A/	1	\$1	
5D001	SOFTWARE FOR DEV/PROD/USE OF ITEMS IN 5A001/5B001/	1	\$1	
5E001	TECHNOLOGY FOR DEV/PROD/USE, ETC, OF EQUIP. IN 5A0	1	\$1	

TOTAL APPLICATIONS: 11  
TOTAL CCL'S: 8  
TOTAL DOLLAR VALUE: \$437,476

**LITHUANIA**

0A985	DISCHARGE TYPE ARMS	1	\$1,128	
0A987	OPTICAL SIGHTING DEVICES FOR FIREARMS	5	\$368,764	
1A984	CHEMICAL AGENTS, INCLUDING TEAR GAS	1	\$19,600	
1C210	FIBROUS/FILAMENTARY MATERIALS NOT CONTROLLED BY 1C	2	\$528,000	
1C350	CHEMICALS, PRECURSORS FOR TOXIC CHEMICAL AGENTS	1	\$1,770	
3A001	ELECTRONIC DEVICES/COMPONENTS	1	\$48	
3E001	TECHNOLOGY FOR DEV OR PROD OF CERTAIN ITEMS IN 3A/	1	\$1	
5A002	SYSTEMS/EQUIPMENT/INTEGRATED CIRCUITS FOR INFO SEC	2	\$113,182	
6A003	CAMERAS	2	\$63,000	

TOTAL APPLICATIONS: 16

CCL	DESCRIPTION	APPLICATIONS	DOLLAR VALUE
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TOTAL CCL'S: 9  
TOTAL DOLLAR VALUE: \$1,095,493

**MOLDOVA**

TOTAL APPLICATIONS: 0  
TOTAL CCL'S: 0  
TOTAL DOLLAR VALUE: \$0

**MONGOLIA**

TOTAL APPLICATIONS: 0  
TOTAL CCL'S: 0  
TOTAL DOLLAR VALUE: \$0

**ROMANIA**

CCL	DESCRIPTION	APPLICATIONS	DOLLAR VALUE
0A979	POLICE HELMETS, SHIELDS AND PARTS	1	\$18,660
0A984	SHOTGUNS, BUCKSHOT,SHOTGUN SHELLS	1	\$1,944
1C117	TUNGSTEN/MOLYBDENUM/ALLOYS OF THESE METALS IN SPHE	1	\$8,500
3A002	GENERAL PURPOSE ELECTRONIC EQUIPMENT	1	\$12,310
3E001	TECHNOLOGY FOR DEV OR PROD OF CERTAIN ITEMS IN 3A/	8	\$4
4D001	SOFTWARE FOR CERTAIN EQUIPMENT/SOFTWARE IN 4A-4D	2	\$2
4E001	TECHNOLOGY FOR DEV/PROD/USE OF CERTAIN EQUIP/SOFTW	3	\$3
5A001	TELECOMMUNICATIONS/TRANSMISSION EQUIPMENT	1	\$14,400
5A101	TELEMETERING AND TELECONTROL EQUIPMENT USABLE WITH	3	\$21,271
5D002	SOFTWARE FOR INFORMATION SECURITY	2	\$190,865
5D101	SOFTWARE FOR DEV/PROD/USE OF 5A101	1	\$6,000
5E001	TECHNOLOGY FOR DEV/PROD/USE, ETC, OF EQUIP. IN 5A0	7	\$102
5E002	TECHNOLOGY FOR DEV/PROD/USE OF INFORMATION SECURIT	1	\$0
6A003	CAMERAS	1	\$50,000
7A103	INSTRUMENTATION, NAVIGATION EQUIPMENT/SYSTEMS NOT	2	\$72,000

TOTAL APPLICATIONS: 27  
TOTAL CCL'S: 15  
TOTAL DOLLAR VALUE: \$396,061

**RUSSIA**

EAR99	ITEMS SUBJECT TO THE EAR N.E.S.	51	\$2,021,088
0A984	SHOTGUNS, BUCKSHOT,SHOTGUN SHELLS	2	\$107,000
0A985	DISCHARGE TYPE ARMS	1	\$2,500
0A986	SHOTGUN SHELLS (EXCEPT BUCKSHOT SHELLS) AND PARTS	1	\$8,000
0A987	OPTICAL SIGHTING DEVICES FOR FIREARMS	3	\$520,000
0D999	SPECIFIC SOFTWARE	1	\$0
1A005	BODY ARMOR	1	\$3,175
1A985	FINGERPRINTING POWDERS, DYES, AND INKS	3	\$38,888
1A999	SPECIFIC PROCESSING EQUIPMENT, N.E.S	2	\$40,892
1B201	FILAMENT WINDING MACHINES	1	\$802,000
1C008	NON-FLUORINATED POLYMERIC SUBSTANCES	1	\$88,770
1C232	HELIUM-3 OR HELIUM ISOTOPICALLY ENRICHED IN THE HE	1	\$3,000,000
1D002	SOFTWARE UTILIZED FOR DEVELOPMENT OF ORGANIC MATRI	1	\$0
1E001	TECHNOLOGY FOR DEVELOPMENT OF EQUIPMENT UNDER 1A00	3	\$1
1E101	TECHNOLOGY FOR DEVELOPMENT OF EQUIPMENT UNDER 1A10	2	\$1
1E103	TECHNOLOGY TO REGULATE TEMPERATURE OF COMPOSITES	2	\$0
1E201	TECHNOLOGY FOR USE OF 1A002,1A202,1A225 TO 1B225	2	\$1
1E202	TECHNOLOGY FOR DEVELOPMENT OR PRODUCTION OF 1A202,	1	\$0
2B001	NUMERICAL CONTROL UNITS/MOTION CONTROL BOARDS	1	\$175,000

2B350	CHEMICAL MANUFACTURING FACILITIES AND EQUIPMENT	1	\$60,860
2B351	TOXIC GAS MONITORING SYSTEMS & DEDICATED DETECTORS	1	\$203,562
2E003	OTHER TECHNOLOGY	1	\$0
2E201	TECHNOLOGY FOR USE OF COMMODITIES CONTROLLED BY 2A	2	\$1
2E301	TECHNOLOGY FOR USE OF COMMODITIES CONTROLLED BY 2B	1	\$1
3A001	ELECTRONIC DEVICES/COMPONENTS	46	\$642,563
3A002	GENERAL PURPOSE ELECTRONIC EQUIPMENT	1	\$62,100
3A225	INVERTERS/CONVERTERS/FREQUENCY CHANGERS/GENERATORS	1	\$31,670
3A233	MASS SPECTROMETERS	1	\$850,000
3A981	POLYGRAPHS/FINGERPRINT ANALYZERS/CAMERAS/EQUIPMENT	7	\$80,500
3A992	GENERAL PURPOSE ELECTRONIC EQUIPMENT	1	\$20,000
3A999	SPECIFIC PROCESSING EQUIPMENT, N.E.S.	3	\$108,836
3B001	EPITAXIAL EQUIPMENT FOR SEMICONDUCTORS	1	\$35,000
3D003	CAD SOFTWARE FOR SEMICONDUCTOR DEVICES/INTEGRATED	1	\$1
3E001	TECHNOLOGY FOR DEV OR PROD OF CERTAIN ITEMS IN 3A/	16	\$15
3E002	OTHER TECHNOLOGY FOR ITEMS IN CATEGORY 3	2	\$2
3E991	MANUFACTURING AND TEST EQUIPMENT FOR 3B991/92	1	\$1
4A003	DIGITAL COMPUTERS/ASSEMBLIES AND RELATED EQUIPMENT	8	\$10,157,142
4A994	ITEMS NOT CONTROLLED BY 4A001/4A002/4A003	11	\$223,694
4D001	SOFTWARE FOR CERTAIN EQUIPMENT/SOFTWARE IN 4A-4D	4	\$4
4D003	SPECIFIC SOFTWARE, AS DESCRIBED IN THIS ENTRY	51	\$5,048
4D994	SOFTWARE FOR DEV/PROD/USE OF ITEMS IN 4A994/4B994/	2	\$60,001
4E001	TECHNOLOGY FOR DEV/PROD/USE OF CERTAIN EQUIP/SOFTW	49	\$49
4E992	TECHNOLOGY FOR DEV/PROD/USE OF 4A994/4B994/4C994	2	\$10,001
5D002	SOFTWARE FOR INFORMATION SECURITY	1	\$708
5D992	SOFTWARE NOT CONTROLLED BY 5D002	2	\$2,104,509
5E001	TECHNOLOGY FOR DEV/PROD/USE, ETC, OF EQUIP. IN 5A0	10	\$404
5E002	TECHNOLOGY FOR DEV/PROD/USE OF INFORMATION SECURIT	24	\$24
6A001	ACOUSTICS	3	\$4,256,700
6A002	OPTICAL SENSORS	1	\$2,336
6A003	CAMERAS	46	\$2,106,387
6A006	MAGNETOMETERS/MAGNETIC GRADIOMETERS/COMPENSATION S	1	\$199,560
6A007	GRAVITY METERS (GRAVIMETERS)/GRAVITY GRADIOMETERS	1	\$300,000
6A225	VELOCITY INTERFEROMETERS FOR MEASURING VELOCITIES	1	\$0
6E001	TECHNOLOGY FOR DEVELOPMENT OF EQUIPMENT/MATERIALS/	1	\$1
6E002	TECHNOLOGY FOR PRODUCTION OF EQUIPMENT/MATERIALS I	1	\$2
7A103	INSTRUMENTATION, NAVIGATION EQUIPMENT/SYSTEMS NOT	2	\$4,533,348
9A004	SPACECRAFT	1	\$9,450,000
9E001	TECHNOLOGY FOR DEV OF EQUIPMENT OR SOFTWARE IN 9A/	3	\$3
9E003	OTHER TECHNOLOGY	1	\$0

TOTAL APPLICATIONS: 270

TOTAL CCL'S: 59

TOTAL DOLLAR VALUE: \$42,312,349

#### **TAJIKISTAN**

TOTAL APPLICATIONS: 0

TOTAL CCL'S: 0

TOTAL DOLLAR VALUE: \$0

**TURKMENISTAN**

1C350	CHEMICALS, PRECURSORS FOR TOXIC CHEMICAL AGENTS	1	\$4,620
3A231	NEUTRON GENERATOR SYSTEMS INCLUDING TUBES	1	\$102,000
9A018	COMMODITIES ON THE INTERNATIONAL MUNITIONS LIST	1	\$56,832

TOTAL APPLICATIONS: 3  
TOTAL CCL'S: 3  
TOTAL DOLLAR VALUE: \$163,452

**UKRAINE**

0A984	SHOTGUNS, BUCKSHOT,SHOTGUN SHELLS	1	\$200
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CCL	DESCRIPTION	APPLICATIONS	DOLLAR VALUE
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0A987	OPTICAL SIGHTING DEVICES FOR FIREARMS	3	\$62,900
2B351	TOXIC GAS MONITORING SYSTEMS & DEDICATED DETECTORS	1	\$70,000
3A001	ELECTRONIC DEVICES/COMPONENTS	2	\$8,738
3A981	POLYGRAPHS/FINGERPRINT ANALYZERS/CAMERAS/EQUIPMENT	2	\$22,750
3E001	TECHNOLOGY FOR DEV OR PROD OF CERTAIN ITEMS IN 3A/	3	\$3
4A980	COMPUTERS FOR FINGERPRINT EQUIPMENT, N.E.S.	1	\$64,318
4E001	TECHNOLOGY FOR DEV/PROD/USE OF CERTAIN EQUIP/SOFTW	1	\$1
5A002	SYSTEMS/EQUIPMENT/INTEGRATED CIRCUITS FOR INFO SEC	2	\$41,715
5D001	SOFTWARE FOR DEV/PROD/USE OF ITEMS IN 5A001/5B001/	1	\$1
5E001	TECHNOLOGY FOR DEV/PROD/USE, ETC, OF EQUIP. IN 5A0	3	\$3
6A003	CAMERAS	1	\$52,000

TOTAL APPLICATIONS: 20  
TOTAL CCL'S: 12  
TOTAL DOLLAR VALUE: \$322,629

**UZBEKISTAN**

1C350	CHEMICALS, PRECURSORS FOR TOXIC CHEMICAL AGENTS	1	\$20,200,000
2B351	TOXIC GAS MONITORING SYSTEMS & DEDICATED DETECTORS	1	\$14,355
3E001	TECHNOLOGY FOR DEV OR PROD OF CERTAIN ITEMS IN 3A/	3	\$3
9A018	COMMODITIES ON THE INTERNATIONAL MUNITIONS LIST	1	\$56,832

TOTAL APPLICATIONS: 6  
TOTAL CCL'S: 4  
TOTAL DOLLAR VALUE: \$20,271,190

**VIETNAM**

2B350	CHEMICAL MANUFACTURING FACILITIES AND EQUIPMENT	1	\$63,428
2B351	TOXIC GAS MONITORING SYSTEMS & DEDICATED DETECTORS	10	\$16,486
3A001	ELECTRONIC DEVICES/COMPONENTS	1	\$1
3A002	GENERAL PURPOSE ELECTRONIC EQUIPMENT	1	\$6,759
3A232	DETONATORS/MULTIPOINT INITIATION SYSTEMS	1	\$44,500
3D980	SOFTWARE FOR DEV/PROD/USE OF ITEMS IN 3A980 AND 3A	1	\$30,000
3E001	TECHNOLOGY FOR DEV OR PROD OF CERTAIN ITEMS IN 3A/	4	\$4

4D001	SOFTWARE FOR CERTAIN EQUIPMENT/SOFTWARE IN 4A-4D	1	\$1
4D980	SOFTWARE FOR DEV/PROD/USE WITH 4A980 ITEMS	1	\$51,000
4E001	TECHNOLOGY FOR DEV/PROD/USE OF CERTAIN EQUIP/SOFTW	1	\$1
5A001	TELECOMMUNICATIONS/TRANSMISSION EQUIPMENT	1	\$1
9A018	COMMODITIES ON THE INTERNATIONAL MUNITIONS LIST	4	\$1,893,100

TOTAL APPLICATIONS: 25

TOTAL CCL'S: 12

TOTAL DOLLAR VALUE: \$2,105,281



## APPENDIX D

### Report on Domestic Impact of U.S. Exports to Controlled Countries

In accordance with Section 14(e) of the Export Administration Act of 1979, as amended, the Bureau of Export Administration (BXA) 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 as an amendment to the Act in 1985, requires the following:

*“...a detailed description of the extent of injury to U.S. industry and the extent of job displacement caused by U.S. exports of goods and technology to controlled countries.”*

*“...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 compete with U.S. products in export markets.”*

### Turnkey Plants and Facilities Exports

The Export Administration Regulations (EAR) require a license to export most turnkey plants and facilities (and related software and technology) to controlled destinations. In FY 2001, BXA did not process any license applications for export of turnkey plants to a controlled country.

As a result of several revisions to the EAR in recent years, an increasing number of turnkey plants and facilities (and related software and technology) have become eligible for export to controlled destinations either without a license or under a license exception. For example, a license is generally not required for exports to controlled destinations (except Cuba which is subject to an embargo) of turnkey plants and facilities (and related software and technology) that are classified as EAR99 (the designation for items that are subject to the EAR, but not listed on the Commerce Control List). In addition, certain turnkey plants and facilities (and related software and technology) may be listed in a

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<sup>1</sup> For the purpose of this section, “controlled countries” are: Albania; Armenia; Azerbaijan; Belarus; Bulgaria; China (PRC); Cuba; Estonia; Georgia; Kazakhstan; Kyrgystan; Latvia; Lithuania; Moldova; Mongolia; North Korea; Romania; Russia; Tajikistan; Tibet; Turkmenistan; Ukraine; Uzbekistan; and Vietnam.

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 turnkey plants and facilities (and related technology and software) may be eligible for export to controlled destinations under a license exception, such as License Exception CIV (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 (which authorizes exports of operation technology and software, sales technology, and software updates, subject to certain conditions).

BXA does not maintain data on actual U.S. exports, regardless of whether or not a license is required. In addition, U.S. export data that are available from the Bureau of the Census do not provide the level of specificity needed to identify exports of turnkey plants and facilities. These factors preclude a thorough assessment of the impact of U.S. exports of turnkey plants and facilities to controlled countries. However, the small number of such exports in the past, coupled with the low percentage of U.S. exports destined for controlled countries (see below), make it reasonable to conclude that the ultimate impact on U.S. production is insignificant.

## **Goods and Technology Exports**

Historically, the dollar value of trade with controlled destinations has been low. In 2000, U.S. exports to these countries totaled \$19.5 billion, which represents an increase of \$3.1 billion from 1999 levels, and about 3 percent of total U.S. exports. China is, by far, the largest single export market among the controlled country group, with over 78 percent of the total. A breakdown of exports by commodity category indicates that capital goods items, including machinery and transportation equipment, represented about half of the total U.S. exports to controlled countries. Given the small share of U.S. exports to controlled countries, relative to total U.S. exports, the overall adverse impact through injury to U.S. industry and job displacement is probably minimal.

Although the bases for our export controls are national security, foreign policy, and short supply, BXA, as part of its defense industrial base monitoring responsibilities, reviews, on an ongoing basis, the potential impact of U.S. technology transfers. In this regard, BXA recently conducted a study that examines the extent to which access to the Chinese market is conditioned upon technology transfers, including those related to the establishment of turnkey plants and facilities. The study found that the Chinese government routinely seeks to obtain technology from foreign bidders through formal and informal means. Such technology transfer occurs in the form of local content requirements, investment requirements, establishment of R&D facilities, and other concessions. U.S. (and other Western) companies accede to these demands in order to capture the sale or establish a joint venture. Such trade-related investment requirements and commercial offset demands are not limited to China, but are contrary to free trade principles adhered to by members of the World Trade Organization. It is yet to be seen what the impact of China's upcoming accession to the WTO will be on such requirements. The United States runs a substantial trade deficit with China (\$85.0 billion in 2000), and a very high

percentage of China's exports (more than 50%) originate from foreign-invested enterprises. Thus, these practices do raise concerns with regard to their impact on the competitiveness of U.S. industry and employment over the long term.

While few full turnkey plants could be identified, a review of export license applications for China in the past fiscal years shows that a significant number involve exports of components, manufacturing equipment, and/or technology for use in foreign invested production facilities. Among the components being exported (for incorporation into products manufactured in China) are aircraft bearings, microprocessors for personal computers, and aluminum forgings. Examples of equipment are vacuum measurement equipment, semiconductor test equipment, milling machines, and oscilloscopes. Again, many other types of components, equipment, and technology are doubtless exported without the need for an export license (i.e., because they do not require a license to such destinations or are eligible for shipment under a license exception).

In addition to the above-mentioned study on U.S. Commercial Technology Transfers to the People's Republic of China, BXA monitors certain forms of technology transfer as part of its overall responsibilities for the defense industrial base. Among these responsibilities are: reviewing the impact of offsets on defense trade; participating in the Treasury Department-chaired Committee on Foreign Investment in the United States (CFIUS); 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 BXA's Office of Strategic Industries and Economic Security (SIES) webpage at [www.doc-bxa.bmpcoe.org](http://www.doc-bxa.bmpcoe.org). [URL to change 2/02]

Return to [Table of Contents](#)

## APPENDIX E

All data for this appendix were provided by the U.S. Department of Agriculture

### Agricultural Commodities Supply Information

#### Wheat

##### *Domestic Situation*

United States' wheat production in 2000/01 was 60.8 million tons, down 3 percent from 1999/00. However, prices were low due to large stocks held by the major exporters. The season average farm price increased only slightly to \$2.62 per bushel, up about 14 cents from 1999/00. Global trade was down from the previous year as were U.S. exports by about the same amount. While U.S. production fell nearly 2 million tons, utilization increased by 1 million tons resulting in U.S. ending stocks 8 percent lower than 1999/00 but relatively high compared to recent years.

##### *World Supply and Trade*

Global wheat trade in 2000/01 is estimated at 102.8 million tons, which is about 9 percent lower than the previous year. World production is estimated at 582 million tons, down 3.7 million from the previous year and down 27 million tons from the record 1997/98 crop. European Union production increased nearly 7 million tons while India and Pakistan increased by a combined 8 million tons. The former Soviet Union (FSU) and Australian production fell minimally while Chinese production dropped dramatically by more than 14 million tons. Demand fell from fewer imports by South Asia of more than 3 million tons. Imports were also down in the FSU, by 4 million tons, and Iran by nearly 1 million tons. Imports were up slightly in Indonesia and Eastern Europe. Global consumption continued to outpace production and was more than 7 million tons larger in 2000/01. The result is that ending stocks fell 9 million tons to the lowest level since 1996/97.

#### Coarse Grains

##### *Domestic Situation*

United States' coarse grains production in 2000/01 reached 274.5 million tons, up 11.3 million from the previous year. However, domestic consumption increased 4.7 million tons to 216.8 million. U.S. stocks rose by 3.8 million tons, to 52.7 million. Coarse grains exports fell off from the previous year by 1.3 million tons to 55.6 million tons due to increased export competition from Argentina and Brazil.

##### *World Supply and Trade*

World coarse grain production in 2000/01 was 856.8 million tons, decreasing 19.7 million from

the previous year. Stock estimates fell 21.8 million tons to 187.8 million, primarily due to reduced stocks in China. Global consumption was 878.6 million, a decrease of more than 3 million tons over the previous year.

Global coarse grains trade shrank slightly to 103.7 million tons in 2000/01. The decrease is mainly due to reduced demand for feed by Eastern European countries and lower imports by Russia and Saudi Arabia.

World consumption of coarse grains continued to outpace production by a dramatic 21.8 million tons in 2000/01, compared to a 5.4 million ton production deficit the previous year. Tightened supplies resulted in decreased demand and shrinking trade. China decreased its exports by 2.7 million tons and the EU decreased barley exports by nearly 3.7 million tons. At the same time, U.S. coarse grains exports fell from 56.5 million tons to 55.6 million tons.

Argentina corn exports increased dramatically to 12 million tons because of higher production, while Chinese corn exports decreased 2.7 million tons to 7.3 million due to a smaller crop. Brazil made a dramatic entry into the global corn market, exporting 3.7 million tons from a record crop. Canadian barley exports rose to 2.1 million tons, up 300,000 from the previous year's estimate. Due to a larger crop, Australian barley exports increased about 700,000 tons to 3.6 million.

## **Rice**

### *Domestic Situation*

U.S. area devoted to rice production shrank by over 13 percent in 2000/01, reducing U.S. production (rough basis) by nearly 700,000 metric tons (mt) over the previous year, to 8.7 million. Domestic utilization and exports (milled basis) also declined to 3.7 million and 2.7 million respectively. In contrast, carry-out stocks rose to 887,000 mt, an increase of 2 percent year-to-year.

### *World Supply and Trade*

Global rice trade is forecasted to reach 23.4 million tons for calendar year 2001, a year-to-year increase of 500,000 tons and the third highest level on record. African import demand surged increasing twice as much as the decline in import demand in the Middle East. Nigeria is expected to become the top rice importer, outpacing traditional Asia buyers. Worldwide rice production declined by 16.5 million tons to 591 million (rough basis), a near record. Global consumption increased modestly to nearly 403 million, while ending stocks shrank by almost 6 million from the previous year to roughly 137 million.

Shrinking supplies and growing consumption would imply strength in demand and, therefore,

prices. However, over the past year, international rice prices have sunk to all time lows.

## **Soybeans and Products**

### *Domestic Situation*

Facing lower prices for all major agricultural commodities during 2000/01, many farmers continued to find soybeans more attractive than competing crops, triggering another year of record acreage for U.S. soybeans. During the 2000/01 marketing year (September-August), farmers scaled back winter wheat and sorghum crops, while increasing soybean acreage to 74.2 million acres, 536,000 acres above the previous year's record. Fair weather conditions throughout the season resulted in a yield of 38.1 bushels per acre, 1.5 bushels per acre greater than in the previous year.

Harvesting over 72.4 million acres, U.S. farmers produced 75.1 million tons of soybeans, the highest total ever. The U.S. season average price for 2000/01 slipped to \$4.55 per bushel from \$4.63 per bushel in 1999/2000 due primarily to burdensome world supplies. These lower prices helped stimulate exports to a record 27.2 million tons, despite strong foreign competition in many markets overseas.

U.S. soybean crush rose to 44.7 million tons, 1.7 million tons greater than in 1999/2000. Ending stocks, however, fell 1.1 million tons to 6.7 million tons due to the strong pace of exports. Exports to China were particularly strong. China took 5.8 million tons of U.S. soybeans in 2000/01, maintaining its status as the single largest importer of U.S. soybeans.

Soybean meal exports rose 244,000 tons in the 2000/01 marketing year (October-September) to 6.9 million tons. U.S. soybean meal disappearance increased to 28.8 million tons in 2000/01, 1.3 million tons more than in 1999/2000. Soybean meal prices increased to \$173.60 per metric ton, an increase of \$5.90 per metric ton over the previous year's average price.

Large world vegetable oil supplies and low prices continued to confront U.S. soybean oil suppliers, as exports remained mostly unchanged in 2000/01 at 649,000 metric tons. Soybean oil prices also stagnated at 14.15 cents per pound, a decrease of nearly 1.5 cents per pound from the previous year. As a result of lower prices and its ready availability, U.S. soybean oil consumption jumped in 2000/01 to 7.3 million tons, an increase of 66,000 tons over 1999/2000 and nearly 250,000 tons over the three-year average.

### *World Oilseeds and Products Supply and Trade*

World oilseed production in 2000/01 increased by 7.7 million tons over the previous year's production to 311.0 million tons. Production increased for all major oilseed crops except

rapeseed and sunflower seed, both of which suffered from drought in Eastern Europe and declining production in Argentina, Canada, and the European Union. Soybeans, which represent over half of total oilseed production, recorded a production increase of 13.5 million tons, the largest increase of any oilseed, bringing soybean production to 173.4 million tons. The increase in soybean production was primarily due to larger harvests in the U.S., Brazil, Argentina, and China.

World oilseed crush topped 254.9 million tons in 2000/01, 7.3 million tons above the 1999/2000 level. World soybean crush represented the largest increase of all oilseeds at 11.3 million tons, for a total of 147.5 million tons. Rapeseed crush declined 800,000 tons from its record 1999/2000 level to 35.7 million tons. Cottonseed and sunflowerseed crush also experienced declines in 2000/01. Exports of oilseeds increased 6.7 million tons in 2000/01 due mainly to increases in soybean exports. World ending stocks for oilseeds decreased 951,000 tons to 33.2 million tons in 2000/01, as decreases in ending stocks for rapeseed, peanut, and sunflowerseed more than offset an increase in soybean ending stocks of 1.4 million tons.

World protein meal production increased from 168.7 million tons in 1999/2000 to 176.2 million tons in 2000/01, while world exports of protein meal increased only 358,000 tons to 56.5 million tons over the same period. Soybean meal accounted for the bulk of the increase in production, while production of cottonseed, rapeseed, and sunflowerseed all declined. Soybean meal exports increased 1.2 million tons in 2000/01, due to increases of soybean meal exports out of the U.S., Brazil, and Argentina. World soybean meal consumption continued to increase, particularly as countries in the European Union and Eastern Europe substituted soybean meal for meat-and-bone meal.

Increased production of soybean oil and palm oil pushed world vegetable oil production to 88.7 million tons in 2000/01. World vegetable oil prices were led lower by palm oil as production increased dramatically for the second year in a row in Malaysia and Indonesia. Vegetable oil exports increased in 2000/01 to 34.4 million tons, due primarily to increased trade in palm oil. Vegetable oil consumption reached a record 88.2 million tons in 2000/01, up 4.4 million tons from its 1999/2000 level. Because of increased demand, vegetable oil ending stocks in 2000/01 were down 128,000 tons.

## **Cotton**

### *Domestic Situation*

Cotton production in MY 2000/2001 was 17.2 million bales, up 1 percent from the previous season. The 2000/2001 output was the seventh largest crop on record. Upland cotton production, at 16.8 million bales, was 3 percent above the previous year. American-pima production totaled 389,000 bales, down 42 percent above the previous season.

The area planted to all cotton totaled 15.5 million acres, a 4 percent increase from the previous season. Harvested area, at 13.1 million acres, was down 3 percent from the previous season. The increases in planted acreage were attributable to the favorableness of cotton as an alternative crop during times of low prices. Harvested acreage decreased due to higher than traditional abandonment levels due to dry conditions. Yields for the U.S. averaged 632 pounds per harvested acre.

Total cotton mill use during 2000/2001 was 8.9 million bales, down from 10.1 million the previous season. Upland cotton use, at 8.76 million bales was down 13.3 percent. American-pima mill use was estimated at 122 thousand bales, down 19.9 percent. Total 2000/2001 exports were estimated at 6.8 million bales, unchanged from the previous season. According to FAS data, the top six markets during 2000/2001 were Mexico, Turkey, Indonesia, Korea, Taiwan, and India. Ending stocks for 2000/2001 were estimated at 6.0 million bales, up 53 percent from the previous season.

## **Hides and Skins**

### *U.S. Trade*

According to the U.S. Bureau of the Census, exports during 2000 totaled 22 million whole cattle hides. This reflected a 23 percent rise from 1999, and the value of whole cattle hide exports increased by 43 percent to \$1.2 billion. In 2001, the value of exports of cattle hides, whole and parts, is 26 percent higher through September at \$1.1 billion compared to \$901 million during the same period in 2000.

## **Wood Products**

### *Domestic Housing Situation*

Construction put in place during September 2001 was estimated at a seasonally adjusted annual rate of \$843.1 billion, nearly the same as the revised August estimate of \$846.1 billion, according to the U.S. Commerce Department's Census Bureau. The September figure represents a 3 percent increase over September 2000. During the first 9 months of this year \$642.6 billion of construction was put in place, 6 percent above the \$606.5 billion for the same period in 2000. In constant 1996 dollars, the September annual rate was \$706.6 billion, nearly the same as the revised estimate of \$709.7 billion for August. Spending on new residential housing units was at a seasonally adjusted annual rate of \$278.3 billion in September, 1 percent below the revised August estimate of \$280.0 billion. Nonresidential building construction was at a rate of \$195.2 billion, nearly the same as the revised August estimate of \$195.9 billion.

### *Domestic Wood Product Situation*

The United States is the world's largest producer and consumer of wood products. The U.S. produces around 30 percent of global industrial roundwood, and its share of global production and consumption of sawn timber, and wood-based panels is of similar magnitude. The solid wood products industry in the United States represents 7 percent of U.S. manufacturing employment and shipments. Manufacturing and distribution facilities for primary and secondary products are located in all 50 states. Farmers and other private owners control 58 percent of U.S. timberland, while national forests managed by the Forest Service (USDA) account for 19 percent. Companies engaged in the manufacture of wood and/or paper products account for approximately 13 percent of the total. The balance is managed by various other government entities.

With less forest land than Canada, Russia, and Brazil, the United States still leads the world in the harvest and processing of forest products. U.S. resources are large and benefit from productive soils and a climate favorable to forest growth. The large U.S. market for forest products has encouraged investments in management and capital that have made the U.S. forests among the most productive in the world.

The United States is the world's largest producer of softwood lumber, softwood plywood, engineered wood products, and temperate hardwood products, including temperate hardwood lumber and hardwood plywood. Demand for most forest products is directly related to economic activity and in recent years the United States has experienced a period of economic growth and low interest rates. Consequently, there has been an increase in business, residential, and industrial construction demand for lumber and wood products.

#### *U.S. Solid Wood Product Exports*

In Fiscal Year (FY) 2001, the United States exported \$5.4 billion of solid wood products, down 13 percent from the previous year. Rather than being attributed to any single market or region, decreases were registered in a majority of the U.S. export markets. Of the top 15 export markets for U.S. solid wood products, only China posted a gain in FY 2001. U.S. wood products are forecast to reach \$5.5 billion in 2002 on continued strength of the Chinese market as well as a rebound in exports to Mexico.

In FY 2001, exports to Japan totaled \$1.2 billion, a decrease of \$266 million from the previous year. Much of the loss was attributed to declining log exports. As Japanese consumers and government officials turn their attention towards increasing the quality and longevity of houses, builders are utilizing more softwood lumber and engineered wood products. This change in preference favors building structures with kiln-dried lumber rather than green lumber processed from Douglas-fir logs. European exports of softwood lumber to Japan have displaced much of the U.S. Douglas-fir log trade that had once thrived.

Exports to the European Union (EU) totaled \$1.1 billion in FY 2001, a decrease of \$212 million

from the previous year. Of the major products exported to the EU, softwood lumber decreased \$64 million, hardwood lumber decreased \$50 million, and panel products decreased \$25 million.

These declines are attributed partly to increased production of these products in the EU. For example, softwood lumber production increased steadily from 86.6 million cubic meters in 1997 to 92.0 million cubic meters in 2000. Hardwood lumber production increased from 12.8 million cubic meters in 1997 to 14.9 million cubic meters in 2000. Also, plywood production increased from 3.9 million cubic meters in 1997 to 4.4 million cubic meters in 2000, and oriented strandboard production increased from 0.5 million cubic meters to 1.2 million cubic meters in 2000.

In FY 2001, exports to Mexico were \$383 million, a decrease of \$50 million from the previous year. Mexico has been one of the countries most affected by the economic slowdown in the United States in 2001. The impact of this slowdown has been unfavorable for U.S. wood product exports, because much of the wood is processed into furniture and exported back to the United States. The construction and furniture sectors in Mexico have also been negatively influenced by the stagnant growth. Moreover, consumers have experienced slight wage decreases and higher unemployment. This has resulted in decreased consumer spending in the furniture and construction industries. Hardwood lumber exports, used mainly by Mexico's furniture industry, decreased \$15 million in FY 2001. Decreased demand for housing has also reduced market opportunities for U.S. wood products.

In FY 2001, exports to China totaled \$118 million, an increase of \$33 million from the previous year. A majority of the increase is attributed to log exports and are a direct result of a ban on logging in certain parts of the country's interior, particularly along the upper Yangtze and Yellow rivers. The ban was recently expanded to include the remaining primeval forests in Northeast China, and additional expansions are anticipated. Enforcement of the ban appears to be improving, as indicated by the drop in production and growing demand for imports. The logging ban is part of an ambitious plan to increase China's forest cover and reduce effects of deforestation.

## **U.S. Trade Policy Update**

### **EU Implements Program for Coniferous Non-Manufactured Wood Packing Material**

On October 1, 2000, the European Union (EU) adopted temporary emergency measures to prevent the introduction of the pinewood nematode into Europe. The measures require that all new and used coniferous pallets, boxes and other forms of non-manufactured wood packing material (NMWP) originating in the United States, Canada, China, or Japan be treated and marked. The EU measures allow three treatment options for coniferous NMWP: heat treatment (HT), fumigation or chemical pressure impregnation. In all cases, the treated wood must bear a mark indicating the organization that treated the NMWP and the location of that organization. The EU requires that the HT program be an official program with official marks.

Information on the EU's measures can be found on the USDA/APHIS web site: [www.aphis.usda.gov](http://www.aphis.usda.gov) or the EU's web site: [http://europa.eu.int/comm/food/fs/ph\\_ps/harm/question\\_woodpack\\_en.pdf](http://europa.eu.int/comm/food/fs/ph_ps/harm/question_woodpack_en.pdf).

### **ITTO Meets in Yokohama, Japan, October 29 – November 3, 2001**

The Thirty-First Session of the International Tropical Timber Council, the governing body of the International Tropical Timber Organization (ITTO), met in Yokohama, Japan, October 29 – November 3, 2001. A wide-range of decisions was taken at the recent meeting, most notable a decision on the issue of illegal logging and the trade of illegally logged timber. The decision authorized the Executive Director of ITTO, upon request of producer members, to engage consultants to conduct studies and to assist producer members in devising ways to enhance forest law enforcement. The Council also adopted a new action plan to guide ITTO over the next five years. Documents relating to the Thirty-First Session can be found at <http://www.itto.or.jp/Index.html>.

### **UN Forum on Forests Meets**

The United Nations Forum on Forests (UNFF) met in New York, June 11-22, 2001. Over 125 countries, intergovernmental organizations, and non-governmental organizations participated in the meeting. The UNFF adopted a multi-year (2001-2005) program of work for the period 2001-2005 aimed at a plan of action to guide the "effective and coherent implementation" of the proposals for action. The next meeting of the UNFF is scheduled for March 4-15, 2002, in San Jose, Costa Rica.

### **Indonesia Requests Ramin Be Included on Appendix III of Cites**

On May 18, 2001, the Government of Indonesia requested the Secretariat of CITES (Convention on International Trade in Endangered Species of Wild Fauna and Flora) to include ramin on

Appendix III. The listing was effective August 6, 2001. An Appendix III listing obligates the CITES Management Authority in Indonesia to verify that all shipments have been obtained legally. Shipments must also be accompanied by export permit issued by the Management Authority. Shipments of ramin originating in countries other than Indonesia are required to have a certificate of origin.

### **U.S. and Canada continue discussions over Antidumping Investigation of Canadian Softwood Lumber**

Government-to-government discussions are ongoing in an effort to find a durable solution to the long-standing dispute, and bring an end to the litigation. On October 31, 2001, the Department of Commerce (DOC) announced its preliminary determination in its antidumping investigation of certain softwood lumber products from Canada, finding that Canadian producers/exporters of softwood lumber have sold their products at less than fair value in the United States. The preliminary dumping margins ranged from 5.94 to 19.24 percent (information can be found at <http://www.itto.or.jp/Index.html>)

World Cotton Supply, Use, and Trade  
1996/97 - 2001/02 (Season Beginning August 1)  
In 1,000 480 Lb. Bales

	<u>1996/97</u>	<u>1997/98</u>	<u>1998/99</u>	<u>1999/2000</u>	<u>2000/01</u>	<u>2001/02</u> <u>Forecast</u>
<b><u>Production</u></b>						
World Total	89,658	91,755	84,979	87,360	88,405	96,871
China, People's Rep.	19,300	21,100	20,700	17,600	20,300	23,500
United States	18,942	18,793	13,918	16,968	17,188	20,175
India	13,918	12,337	12,883	12,180	10,900	12,200
Pakistan	7,323	7,175	6,300	8,600	8,200	8,300
Uzbekistan, Rep.	4,813	5,228	4,600	5,180	4,400	4,700
Franc-Zone Africa 2/	3,665	4,320	4,034	3,894	3,220	4,380
Turkey	3,600	3,651	3,860	3,634	3,600	4,050
Others	18,097	19,151	18,684	19,304	20,597	19,566
<b><u>Consumption</u></b>						
World Total	88,031	87,195	85,370	91,898	91,792	91,637
China, People's Rep.	20,300	19,600	19,200	22,200	23,500	23,500
India	13,120	12,675	12,620	13,547	13,400	13,300
Pakistan	7,000	7,187	7,000	7,650	8,100	8,250
United States	11,126	11,349	10,401	10,241	8,882	8,100
Turkey	4,735	5,000	4,600	5,600	5,000	5,500
S.E. Asia 1/	4,412	3,987	4,342	4,565	5,000	5,130
EU-15	5,224	5,217	4,913	4,860	4,895	4,875
Others	22,114	22,180	22,294	23,235	23,015	22,982
<b><u>Imports</u></b>						
World Total	28,832	26,044	25,037	28,459	26,727	28,421
S.E. Asia 1/	4,503	3,932	4,409	4,860	5,195	5,255
EU-15	4,833	4,487	4,021	4,002	4,042	4,062
Turkey	1,355	1,450	1,139	2,400	1,650	1,750
Mexico	894	1,371	1,422	1,813	1,950	1,750
India	15	145	508	1,600	1,550	1,700
Russian Federation	1,000	1,225	850	1,600	1,650	1,700
Korea, South	1,504	1,322	1,472	1,524	1,420	1,350
Others	14,728	12,112	11,216	10,660	9,270	10,854
<b><u>Exports</u></b>						
World Total	26,852	26,727	23,702	27,275	26,397	28,114
United States	6,865	7,500	4,344	6,750	6,763	9,400
Franc-Zone Africa 2/	3,308	3,617	3,596	3,746	3,161	3,736

Uzbekistan, Rep.	4,550	4,570	3,812	4,100	3,400	3,200
Australia	2,380	2,712	3,040	3,209	3,904	3,150
EU-15	1,604	1,390	1,344	1,517	1,580	1,430
Syria	700	1,000	850	950	1,050	1,025
Turkmenistan	525	500	750	800	675	500
Others	6,920	5,438	5,966	6,203	5,864	5,673
<b>Ending Stocks</b>						
World Total	40,181	43,860	45,130	41,577	38,932	44,381
China, People's Rep.	16,655	19,955	21,133	14,958	11,542	11,842
United States	3,971	3,887	3,939	3,922	6,002	8,700
India	4,679	4,174	4,750	4,913	3,913	4,463
Pakistan	1,818	1,521	1,711	2,696	2,646	2,921
Australia	1,448	1,808	2,085	2,309	1,995	1,960
Brazil	1,257	1,486	1,023	1,561	1,686	1,736
EU-15	1,197	1,276	1,226	1,409	1,365	1,433
Others	9,156	9,753	9,263	9,809	9,783	11,326

1/ Includes Indonesia, Malaysia, Philippines, Singapore, Thailand, and Vietnam.

2/ Includes Benin, Burkina, Cameroon, CAR, Chad, Cote d'Ivoire, Mali, Niger, Senegal, and Togo.

Note: Totals may not add due to rounding.

Nov-2001

Source:  
USDA/FAS

**ALL GRAIN SUMMARY**  
**PRODUCTION, CONSUMPTION, STOCKS AND TRADE**  
**TOTAL FOREIGN COUNTRIES, USA, AND TOTAL WORLD**  
**(MILLION METRIC TONS)**

	<i>1997/98</i>	<i>1998/99</i>	<i>1999/00</i>	<i>2000/01</i>
<b>WHEAT</b>				
Production	541.7	519.4	523.4	521.6
Consumption	549.2	546.6	556.2	553.1
Ending Stocks	151.7	150.1	144.3	139.2
<b>USA</b>				
Production	67.5	69.3	62.6	60.8
Imports	2.6	2.9	2.5	2.4
Consumption	34.2	37.7	35.4	36.3
Exports	28.1	29.0	29.5	27.9
Ending Stocks	19.7	25.7	25.8	23.8
World Total, Trade	104.0	101.9	112.3	102.9
<b>RICE</b>				
Production	381.1	388.3	401.9	391.0
Consumption	376.2	383.7	394.6	399.0
<b>USA</b>				
Production	5.8	5.8	6.5	5.9
Imports	0.3	0.4	0.3	0.3
Consumption	3.3	3.6	3.8	3.7
Exports	3.2	2.6	2.8	2.7
World Total, Trade	27.7	24.9	22.9	23.4
<b>TOTAL COARSE GRAINS</b>				
Production	623.5	617.5	613.4	582.4
Consumption	666.5	664.5	669.9	662.7

USA				
Production	260.4	271.5	263.2	274.5
Imports	2.9	2.7	2.6	2.7
Consumption	207.0	205.4	212.1	216.8
Exports	44.0	57.7	56.5	55.2
Ending Stocks	38.5	51.4	48.9	52.7
World Total, Trade	85.6	96.4	104.3	103.9

**WORLD TOTAL GRAIN, INCLUDING RICE**

Production	1,546.2	1,525.2	1,538.6	1,494.9
Consumption	1,591.9	1,594.8	1,620.7	1,614.8
USA				
Production	333.7	346.6	332.2	341.2
Imports	5.8	5.9	5.5	5.4
Exports	75.2	89.3	88.8	85.7
World Total, Trade	217.3	223.2	239.5	230.2

**WORLD WHEAT, FLOUR, AND PRODUCTS TRADE  
JULY/JUNE YEAR  
THOUSAND METRIC TONS**

	1997/98	1998/99	1999/00	2000/01
<b>EXPORTS</b>				
Argentina	9,606	8,985	10,782	11,396
<u>Australia</u>	<u>15,398</u>	<u>16,104</u>	<u>17,124</u>	<u>16,682</u>
Canada	21,314	14,394	19,373	17,351
<u>India</u>	<u>41</u>	<u>0</u>	<u>200</u>	<u>2,177</u>
Kazakstan	3,560	2,295	6,514	3,668
<u>Syria</u>	<u>796</u>	<u>411</u>	<u>82</u>	<u>0</u>

Turkey	1,474	2,803	1,984	1,601
EU	<u>14,196</u>	<u>14,589</u>	<u>17,432</u>	<u>15,000</u>
Eastern Europe	3,085	4,130	3,384	2,292
Others	<u>6,476</u>	<u>9,127</u>	<u>5,920</u>	<u>4,830</u>
Subtotal	75,946	72,838	82,795	74,997
United States	28,090	29,035	29,462	27,872
<u>WORLD TOTAL</u>	<u>104,036</u>	<u>101,873</u>	<u>112,257</u>	<u>102,869</u>
IMPORTS				
Algeria	5,221	4,250	4,750	5,000
Bangladesh	<u>839</u>	<u>2,033</u>	<u>1,596</u>	<u>1,200</u>
Bolivia	296	399	375	375
Brazil	<u>6,084</u>	<u>7,325</u>	<u>7,196</u>	<u>7,300</u>
Chile	506	754	710	500
China	<u>1,916</u>	<u>829</u>	<u>1,010</u>	<u>300</u>
Colombia	1,099	1,101	1,135	1,200
Cuba	<u>946</u>	<u>977</u>	<u>1,119</u>	<u>1,000</u>
Ecuador	479	410	485	500
Egypt	<u>7,166</u>	<u>7,430</u>	<u>5,973</u>	<u>5,800</u>
Ethiopia	602	466	937	850
Georgia	<u>644</u>	<u>500</u>	<u>391</u>	<u>500</u>
India	2,344	1,294	1,311	100
Indonesia	<u>3,664</u>	<u>3,117</u>	<u>3,739</u>	<u>4,000</u>
Iran	3,587	2,538	7,363	6,500
Iraq	<u>2,707</u>	<u>2,028</u>	<u>2,650</u>	<u>3,300</u>
Israel	1,300	1,517	1,600	1,600
Japan	<u>6,200</u>	<u>5,959</u>	<u>5,960</u>	<u>5,911</u>
Jordan	692	344	741	700
Korea, North	<u>679</u>	<u>703</u>	<u>334</u>	<u>500</u>
Korea, South	3,917	4,689	3,811	3,127
Lebanon	<u>458</u>	<u>400</u>	<u>400</u>	<u>400</u>
Libya	1,473	1,236	1,600	1,400
Malaysia	<u>1,162</u>	<u>1,263</u>	<u>1,278</u>	<u>1,300</u>
Mexico	2,166	2,485	2,632	3,100
Morocco	<u>2,591</u>	<u>2,819</u>	<u>3,100</u>	<u>3,300</u>
Nigeria	1,145	1,466	1,275	1,900

<u>Pakistan</u>	<u>3,562</u>	<u>3,130</u>	<u>1,766</u>	<u>150</u>
Peru	1,265	1,348	1,250	1,500
<u>Philippines</u>	<u>1,959</u>	<u>2,328</u>	<u>2,982</u>	<u>3,100</u>
Russia	3,120	2,490	5,083	1,500
<u>South Africa</u>	<u>665</u>	<u>567</u>	<u>806</u>	<u>600</u>
Sri Lanka	761	867	834	825
<u>Taiwan</u>	<u>1,029</u>	<u>1,011</u>	<u>1,125</u>	<u>1,000</u>
Thailand	659	830	808	900
<u>Tunisia</u>	<u>1,498</u>	<u>1,084</u>	<u>1,186</u>	<u>1,300</u>
Turkey	1,775	1,862	1,455	500
<u>UAE</u>	<u>712</u>	<u>774</u>	<u>1,250</u>	<u>1,200</u>
Ukraine	103	78	450	700
<u>Uzbekistan</u>	<u>732</u>	<u>380</u>	<u>550</u>	<u>600</u>
Venezuela	1,224	1,300	1,386	1,400
<u>Vietnam</u>	<u>618</u>	<u>604</u>	<u>550</u>	<u>650</u>
Yemen	2,366	2,066	2,002	2,000
<u>EU</u>	<u>3,858</u>	<u>3,761</u>	<u>4,176</u>	<u>4,000</u>
O.W. Europe	520	576	743	560
<u>Eastern Europe</u>	<u>2,024</u>	<u>2,075</u>	<u>1,391</u>	<u>2,578</u>
United States	2,556	2,876	2,540	2,400
Subtotal	90,889	88,339	95,804	89,126
Other Countries	11,056	11,362	14,028	12,830
Unaccounted	2,091	2,172	2,425	913
<u>WORLD TOTAL</u>	<u>104,036</u>	<u>101,873</u>	<u>112,257</u>	<u>102,869</u>

WORLD WHEAT PRODUCTION, CONSUMPTION AND  
STOCKS  
LOCAL MARKETING YEARS

	1997/98	1998/99	1999/00	2000/01
<b>PRODUCTION</b>				
Algeria	670	2,200	1,470	760
<u>Argentina</u>	<u>14,800</u>	<u>12,400</u>	<u>15,700</u>	<u>16,500</u>
Australia	19,224	21,465	24,757	23,766
<u>Brazil</u>	<u>2,380</u>	<u>2,188</u>	<u>2,403</u>	<u>1,660</u>
Canada	24,280	24,076	26,900	26,804
<u>China</u>	<u>123,289</u>	<u>109,726</u>	<u>113,880</u>	<u>99,640</u>
India	69,350	66,350	70,780	75,754
<u>Japan</u>	<u>573</u>	<u>570</u>	<u>583</u>	<u>688</u>
Kazakhstan	8,950	4,700	11,200	9,100
<u>Mexico</u>	<u>3,639</u>	<u>3,235</u>	<u>3,050</u>	<u>3,300</u>
Morocco	2,317	4,378	2,154	1,381
<u>Pakistan</u>	<u>16,650</u>	<u>18,694</u>	<u>17,854</u>	<u>21,079</u>
Russia	44,200	27,000	31,000	34,450
<u>Saudi Arabia</u>	<u>1,800</u>	<u>1,800</u>	<u>1,800</u>	<u>1,800</u>
Tunisia	950	1,353	1,393	1,320
<u>Turkey</u>	<u>16,000</u>	<u>18,000</u>	<u>16,500</u>	<u>17,500</u>
Ukraine	18,404	14,937	13,585	10,197
<u>EU</u>	<u>94,181</u>	<u>103,085</u>	<u>96,770</u>	<u>105,313</u>
Eastern Europe	34,269	33,928	28,195	28,296
<u>Others</u>	<u>45,725</u>	<u>49,323</u>	<u>43,389</u>	<u>42,279</u>
Subtotal	541,651	519,408	523,363	521,587
United States	67,534	69,327	62,569	60,758
<u>WORLD TOTAL</u>	<u>609,185</u>	<u>588,735</u>	<u>585,932</u>	<u>582,345</u>
<b>CONSUMPTION</b>				
Algeria	6,050	6,150	6,100	6,150
<u>Australia</u>	<u>4,973</u>	<u>4,530</u>	<u>5,218</u>	<u>6,870</u>
Brazil	8,502	9,071	9,479	9,500
<u>Canada</u>	<u>7,336</u>	<u>8,077</u>	<u>7,606</u>	<u>8,169</u>
China	113,773	114,701	115,625	114,000

Egypt	<u>12,815</u>	<u>12,934</u>	<u>12,850</u>	<u>12,500</u>
India	69,246	63,707	68,793	65,865
Japan	<u>6,109</u>	<u>6,112</u>	<u>5,909</u>	<u>5,824</u>
Morocco	5,538	5,552	5,684	5,761
Pakistan	<u>20,258</u>	<u>21,284</u>	<u>20,452</u>	<u>20,500</u>
Russia	39,809	34,838	35,365	35,050
Turkey	<u>16,751</u>	<u>16,886</u>	<u>16,777</u>	<u>16,699</u>
Ukraine	15,643	12,819	12,590	11,369
EU	<u>82,793</u>	<u>88,210</u>	<u>87,158</u>	<u>92,269</u>
Eastern Europe	31,601	31,898	29,457	28,951
Others	<u>107,992</u>	<u>109,822</u>	<u>117,172</u>	<u>113,668</u>
Subtotal	549,189	546,591	556,235	553,145
United States	34,212	37,685	35,384	36,316
<u>WORLD TOTAL</u>	<u>583,401</u>	<u>584,276</u>	<u>591,619</u>	<u>589,461</u>
ENDING STOCKS				
Australia	1,348	1,868	3,613	4,629
Canada	<u>5,989</u>	<u>7,435</u>	<u>7,739</u>	<u>9,208</u>
EU	13,950	18,072	14,432	16,476
Others	<u>130,391</u>	<u>122,681</u>	<u>118,481</u>	<u>108,838</u>
Subtotal	151,678	150,056	144,265	139,151
United States	19,663	25,744	25,848	23,846
<u>WORLD TOTAL</u>	<u>171,341</u>	<u>175,800</u>	<u>170,113</u>	<u>162,997</u>

REGIONAL WHEAT IMPORTS, PRODUCTION,  
CONSUMPTION AND STOCKS  
THOUSAND METRIC TONS

1997/98      1998/99      1999/00

2000/01

IMPORTS				
North America	4,854	5,513	5,347	5,650
1/				
<u>Latin America</u> 2/	<u>14,023</u>	<u>15,901</u>	<u>16,083</u>	<u>16,310</u>
EU	3,858	3,761	4,176	4,000
<u>Other Wst. Eur.</u>	<u>520</u>	<u>576</u>	<u>743</u>	<u>560</u>
3/				
Former USSR	6,838	5,625	9,816	5,670
<u>Eastern Europe</u>	<u>2,024</u>	<u>2,075</u>	<u>1,391</u>	<u>2,578</u>
4/				
Middle East 5/	14,225	12,196	18,281	16,935
<u>North Africa</u> 6/	<u>17,949</u>	<u>16,819</u>	<u>16,609</u>	<u>16,800</u>
Other Africa 7/	6,693	6,934	8,196	8,200
<u>South Asia</u> 8/	<u>7,600</u>	<u>7,391</u>	<u>5,861</u>	<u>2,785</u>
Other Asia 9/	22,897	22,467	22,805	21,988
<u>Oceania</u> 10/	<u>464</u>	<u>443</u>	<u>524</u>	<u>480</u>
PRODUCTION				
North America	95,453	96,638	92,519	90,862
1/				
<u>Latin America</u> 2/	<u>20,088</u>	<u>16,909</u>	<u>20,429</u>	<u>20,711</u>
EU	94,181	103,085	96,770	105,313
<u>Other Wst. Eur.</u>	<u>885</u>	<u>963</u>	<u>901</u>	<u>905</u>
3/				
Former USSR	82,250	57,561	66,024	64,321
<u>Eastern Europe</u>	<u>34,269</u>	<u>33,928</u>	<u>28,195</u>	<u>28,296</u>
4/				
Middle East 5/	32,256	37,577	30,437	30,579
<u>North Africa</u> 6/	<u>9,947</u>	<u>14,195</u>	<u>11,527</u>	<u>10,150</u>
Other Africa 7/	4,826	4,727	4,907	5,222
<u>South Asia</u> 8/	<u>91,259</u>	<u>90,731</u>	<u>94,172</u>	<u>101,212</u>
Other Asia 9/	124,252	110,681	115,019	100,733
<u>Oceania</u> 10/	<u>19,519</u>	<u>21,740</u>	<u>25,032</u>	<u>24,041</u>
CONSUMPTION				

North America	46,729	48,368	48,368	50,130
1/				
<u>Latin America</u> 2/	<u>23,156</u>	<u>23,816</u>	<u>24,609</u>	<u>25,332</u>
EU	82,793	88,210	87,158	92,269
<u>Other Wst. Eur.</u>	<u>1,405</u>	<u>1,539</u>	<u>1,644</u>	<u>1,465</u>
3/				
Former USSR	73,593	65,949	67,202	64,874
<u>Eastern Europe</u>	<u>31,601</u>	<u>31,898</u>	<u>29,457</u>	<u>28,951</u>
4/				
Middle East 5/	47,338	46,709	47,180	47,043
<u>North Africa</u> 6/	<u>28,278</u>	<u>28,292</u>	<u>28,894</u>	<u>28,436</u>
Other Africa7/	11,158	11,645	12,599	13,148
<u>South Asia</u> 8/	<u>96,653</u>	<u>92,949</u>	<u>97,467</u>	<u>93,629</u>
Other Asia 9/	134,662	135,700	136,807	135,731
<u>Oceania</u> 10/	<u>5,704</u>	<u>5,177</u>	<u>5,958</u>	<u>7,560</u>
ENDING STOCKS				
North America	26,352	33,879	34,187	33,704
1/				
<u>Latin America</u> 2/	<u>1,895</u>	<u>2,055</u>	<u>2,555</u>	<u>2,245</u>
EU	13,950	18,072	14,432	16,476
<u>Other Wst. Eur.</u>	<u>475</u>	<u>475</u>	<u>475</u>	<u>475</u>
3/				
Former USSR	17,886	6,200	5,600	5,969
<u>Eastern Europe</u>	<u>7,753</u>	<u>7,686</u>	<u>4,414</u>	<u>4,025</u>
4/				
Middle East 5/	12,815	12,233	10,599	8,919
<u>North Africa</u> 6/	<u>4,550</u>	<u>7,041</u>	<u>6,113</u>	<u>4,407</u>
Other Africa7/	1,460	1,310	1,060	1,109
<u>South Asia</u> 8/	<u>8,689</u>	<u>14,771</u>	<u>17,532</u>	<u>26,078</u>
Other Asia 9/	74,068	70,110	69,433	54,861
<u>Oceania</u> 10/	<u>1,448</u>	<u>1,968</u>	<u>3,713</u>	<u>4,729</u>

WORLD COARSE GRAIN TRADE  
OCTOBER/SEPTEMBER YEAR  
THOUSAND METRIC TONS

	1997/98	1998/99	1999/00	2000/01
EXPORTS				
Argentina	14,268	8,499	9,612	13,270
<u>Australia</u>	<u>3,233</u>	<u>4,859</u>	<u>3,804</u>	<u>4,636</u>
Canada	3,421	3,297	3,645	3,560
<u>China</u>	<u>6,203</u>	<u>3,357</u>	<u>9,953</u>	<u>7,295</u>
South Africa	1,064	798	836	1,150
<u>Russia</u>	<u>1,338</u>	<u>105</u>	<u>443</u>	<u>1,082</u>
Turkey	1,396	801	248	207
<u>EU</u>	<u>4,658</u>	<u>10,757</u>	<u>13,371</u>	<u>9,000</u>
Others	6,019	6,271	5,855	8,493
Subtotal	41,600	38,744	47,767	48,693
United States	43,965	57,660	56,536	55,215
<u>WORLD TOTAL</u>	<u>85,565</u>	<u>96,404</u>	<u>104,303</u>	<u>103,908</u>
IMPORTS				
Algeria	1,326	1,930	1,952	2,002
<u>Brazil</u>	<u>1,563</u>	<u>1,081</u>	<u>2,178</u>	<u>1,060</u>
Canada	1,441	948	1,133	2,863
<u>Chile</u>	<u>859</u>	<u>1,343</u>	<u>1,350</u>	<u>1,230</u>
China	1,591	2,615	2,207	2,400
<u>Colombia</u>	<u>2,076</u>	<u>1,686</u>	<u>2,112</u>	<u>1,915</u>
Costa Rica	382	430	550	500
<u>Dominican Republic</u>	<u>671</u>	<u>814</u>	<u>1,000</u>	<u>1,000</u>
Ecuador	297	320	270	235
<u>Egypt</u>	<u>3,254</u>	<u>3,687</u>	<u>4,600</u>	<u>5,450</u>
Iran	1,303	1,448	2,100	1,750
<u>Israel</u>	<u>1,032</u>	<u>1,135</u>	<u>1,331</u>	<u>1,358</u>

Japan	21,038	20,922	20,414	20,249
<u>Jordan</u>	<u>781</u>	<u>902</u>	<u>1,162</u>	<u>1,075</u>
Korea, North	347	200	150	750
<u>Korea, South</u>	<u>7,598</u>	<u>7,806</u>	<u>9,280</u>	<u>8,886</u>
Libya	574	339	475	450
<u>Malaysia</u>	<u>2,202</u>	<u>2,384</u>	<u>2,296</u>	<u>2,450</u>
Mexico	7,980	9,095	9,939	10,765
<u>Morocco</u>	<u>804</u>	<u>1,822</u>	<u>1,497</u>	<u>1,505</u>
Peru	1,294	1,100	912	975
<u>Poland</u>	<u>592</u>	<u>499</u>	<u>756</u>	<u>857</u>
Romania	139	161	150	525
<u>Russia</u>	<u>275</u>	<u>1,185</u>	<u>2,048</u>	<u>550</u>
Saudi Arabia	5,260	7,079	7,300	6,000
<u>South Africa</u>	<u>274</u>	<u>391</u>	<u>493</u>	<u>180</u>
Syria	482	1,002	1,325	1,200
<u>Taiwan</u>	<u>4,757</u>	<u>4,798</u>	<u>5,231</u>	<u>5,238</u>
Thailand	255	151	451	50
<u>Tunisia</u>	<u>539</u>	<u>784</u>	<u>839</u>	<u>1,350</u>
Turkey	851	1,027	1,461	740
<u>Venezuela</u>	<u>1,161</u>	<u>1,463</u>	<u>1,300</u>	<u>1,250</u>
Zimbabwe	415	350	50	100
<u>EU</u>	<u>2,403</u>	<u>3,117</u>	<u>2,699</u>	<u>3,010</u>
O.W. Europe	737	666	957	881
<u>United States</u>	<u>2,934</u>	<u>2,659</u>	<u>2,607</u>	<u>2,666</u>
Subtotal	79,487	87,339	94,575	93,465
Other Countries	4,740	4,307	7,186	4,793
Unaccounted	839	3,771	1,684	3,543
<u>WORLD TOTAL</u>	<u>85,565</u>	<u>96,404</u>	<u>104,303</u>	<u>103,908</u>

WORLD COARSE GRAIN PRODUCTION, CONSUMPTION  
AND STOCKS  
LOCAL MARKETING YEARS  
THOUSAND METRIC TONS

	1997/98	1998/99	1999/00	2000/01
PRODUCTION				
Australia	9,524	10,069	8,686	10,846
Argentina	<u>24,676</u>	<u>17,751</u>	<u>21,462</u>	<u>19,525</u>
Brazil	31,290	33,505	32,553	42,102
Canada	<u>25,115</u>	<u>26,565</u>	<u>26,832</u>	<u>24,326</u>
China	114,662	143,460	137,218	113,952
Egypt	<u>6,944</u>	<u>6,540</u>	<u>6,598</u>	<u>6,570</u>
Hungary	8,445	7,597	8,293	6,107
India	<u>30,952</u>	<u>31,670</u>	<u>30,480</u>	<u>29,210</u>
Indonesia	5,700	6,500	6,200	5,500
Mexico	<u>23,114</u>	<u>24,698</u>	<u>26,184</u>	<u>24,000</u>
Philippines	3,528	4,894	4,449	4,508
Romania	<u>14,954</u>	<u>9,640</u>	<u>11,945</u>	<u>5,655</u>
South Africa	8,281	8,143	11,054	7,847
Ukraine	<u>15,457</u>	<u>10,337</u>	<u>10,591</u>	<u>12,993</u>
EU	109,400	105,549	103,005	107,505
Others	<u>191,478</u>	<u>170,616</u>	<u>167,818</u>	<u>161,747</u>
Subtotal	623,520	617,534	613,368	582,393
United States	260,427	271,474	263,172	274,471
<u>WORLD TOTAL</u>	<u>883,947</u>	<u>889,008</u>	<u>876,540</u>	<u>856,864</u>
CONSUMPTION				
Argentina	9,661	10,033	8,858	8,435
Brazil	<u>34,754</u>	<u>34,863</u>	<u>34,099</u>	<u>36,312</u>
Canada	23,463	23,583	23,261	24,720
China	<u>125,064</u>	<u>128,923</u>	<u>129,395</u>	<u>130,237</u>
Egypt	10,203	10,227	11,098	12,020
India	<u>31,226</u>	<u>31,823</u>	<u>30,450</u>	<u>29,370</u>
Indonesia	5,707	6,711	7,279	6,950
Japan	<u>20,715</u>	<u>21,273</u>	<u>20,818</u>	<u>20,456</u>
Korea, South	8,310	8,312	9,392	9,448

<u>Malaysia</u>	<u>2,370</u>	<u>2,425</u>	<u>2,353</u>	<u>2,265</u>
Mexico	31,686	33,502	35,553	35,865
<u>Romania</u>	<u>12,555</u>	<u>10,311</u>	<u>10,960</u>	<u>7,430</u>
Russia	34,234	25,637	24,877	26,982
<u>Saudi Arabia</u>	<u>7,113</u>	<u>7,669</u>	<u>7,454</u>	<u>6,404</u>
South Africa	8,695	7,996	8,644	7,327
<u>Others</u>	<u>300,705</u>	<u>301,212</u>	<u>305,367</u>	<u>298,479</u>
Subtotal	666,461	664,500	669,858	662,700
United States	206,969	205,372	212,057	216,789
<u>WORLD TOTAL</u>	<u>873,430</u>	<u>869,872</u>	<u>881,915</u>	<u>879,489</u>
ENDING STOCKS				
Canada	4,273	4,876	5,673	4,262
<u>China</u>	<u>88,818</u>	<u>102,613</u>	<u>102,690</u>	<u>81,510</u>
Russia	7,415	1,785	1,060	2,283
<u>EU</u>	<u>21,941</u>	<u>23,352</u>	<u>19,694</u>	<u>17,940</u>
Others	35,238	30,968	31,618	28,282
<u>Subtotal</u>	<u>157,685</u>	<u>163,594</u>	<u>160,735</u>	<u>134,277</u>
United States	38,151	51,373	48,857	52,690
<u>WORLD TOTAL</u>	<u>195,836</u>	<u>214,967</u>	<u>209,592</u>	<u>186,967</u>

REGIONAL COARSE GRAIN IMPORTS, PRODUCTION,  
CONSUMPTION AND STOCKS  
THOUSAND METRIC TONS

1997/98 1998/99 1999/00 2000/01

IMPORTS				
North America	12,355	12,702	13,679	16,294
1/				
<u>Latin America</u> 2/	<u>9,590</u>	<u>9,926</u>	<u>11,931</u>	<u>10,245</u>
EU	2,403	3,117	2,699	3,010
<u>Other West.Eur.</u>	<u>737</u>	<u>666</u>	<u>957</u>	<u>881</u>
3/				
Former USSR	493	1,606	2,921	1,025
<u>Eastern Europe</u>	<u>1,441</u>	<u>1,241</u>	<u>1,711</u>	<u>2,869</u>
4/				
Middle East 5/	10,512	13,514	15,654	13,179
<u>North Africa</u> 6/	<u>6,497</u>	<u>8,562</u>	<u>9,363</u>	<u>10,757</u>
Other Africa7/	1,713	1,351	1,218	1,499
<u>South Asia</u> 8/	<u>1</u>	<u>175</u>	<u>260</u>	<u>415</u>
Other Asia 9/	38,910	39,642	42,115	41,928
<u>Oceania</u> 10/	<u>44</u>	<u>75</u>	<u>81</u>	<u>80</u>
PRODUCTION				
North America	308,656	322,737	316,188	322,797
1/				
<u>Latin America</u> 2/	<u>66,990</u>	<u>61,701</u>	<u>65,010</u>	<u>72,961</u>
EU	109,400	105,549	103,005	107,505
<u>Other West.Eur.</u>	<u>1,852</u>	<u>1,819</u>	<u>1,827</u>	<u>1,827</u>
3/				
Former USSR	71,252	39,830	42,322	51,278
<u>Eastern Europe</u>	<u>58,806</u>	<u>51,119</u>	<u>54,552</u>	<u>36,223</u>
4/				
Middle East 5/	16,871	17,497	14,032	14,257
<u>North Africa</u> 6/	<u>9,186</u>	<u>10,063</u>	<u>9,396</u>	<u>7,989</u>
Other Africa7/	63,265	67,619	69,204	63,517
<u>South Asia</u> 8/	<u>35,134</u>	<u>36,021</u>	<u>34,808</u>	<u>33,410</u>
Other Asia 9/	132,112	164,095	156,636	133,355
<u>Oceania</u> 10/	<u>10,144</u>	<u>10,679</u>	<u>9,306</u>	<u>11,466</u>
CONSUMPTION				
North America	262,118	262,457	270,871	277,374

1/				
<u>Latin America</u> <sup>2/</sup>	<u>63,307</u>	<u>64,018</u>	<u>63,082</u>	<u>64,836</u>
EU	97,858	98,019	95,623	102,324
<u>Other West. Eur.</u>	<u>2,681</u>	<u>2,634</u>	<u>2,812</u>	<u>2,697</u>
3/				
Former USSR	59,585	47,061	44,778	47,547
<u>Eastern Europe</u>	<u>54,390</u>	<u>51,571</u>	<u>52,347</u>	<u>40,533</u>
4/				
Middle East	28,766	29,876	29,272	27,516
<u>North Africa</u> <sup>6/</sup>	<u>16,956</u>	<u>18,327</u>	<u>18,639</u>	<u>19,246</u>
Other Africa <sup>7/</sup>	65,606	66,968	67,444	64,556
<u>South Asia</u> <sup>8/</sup>	<u>35,408</u>	<u>36,174</u>	<u>34,788</u>	<u>33,585</u>
Other Asia <sup>9/</sup>	179,226	185,901	188,344	188,771
<u>Oceania</u> <sup>10/</sup>	<u>6,311</u>	<u>6,121</u>	<u>5,457</u>	<u>6,009</u>
ENDING				
STOCKS				
North America	45,275	59,375	58,209	59,514
1/				
<u>Latin America</u> <sup>2/</sup>	<u>4,667</u>	<u>3,568</u>	<u>3,030</u>	<u>3,715</u>
EU	21,941	23,352	19,694	17,940
<u>Other West. Eur.</u>	<u>844</u>	<u>695</u>	<u>659</u>	<u>670</u>
3/				
Former USSR	12,796	4,873	4,008	6,608
<u>Eastern Europe</u>	<u>6,480</u>	<u>3,975</u>	<u>4,751</u>	<u>2,170</u>
4/				
Middle East	4,212	4,024	2,897	2,291
<u>North Africa</u> <sup>6/</sup>	<u>892</u>	<u>1,185</u>	<u>1,118</u>	<u>768</u>
Other Africa <sup>7/</sup>	2,387	3,698	4,570	3,570
<u>South Asia</u> <sup>8/</sup>	<u>720</u>	<u>740</u>	<u>1,020</u>	<u>1,210</u>
Other Asia <sup>9/</sup>	94,416	108,617	108,861	87,288
<u>Oceania</u> <sup>10/</sup>	<u>1,206</u>	<u>865</u>	<u>775</u>	<u>1,223</u>

WORLD CORN TRADE  
OCTOBER/SEPTEMBER YEAR  
THOUSAND METRIC TONS

	1997/98	1998/99	1999/00	2000/01
<b>EXPORTS</b>				
Argentina	12,756	7,848	8,859	12,400
<u>China</u>	<u>6,173</u>	<u>3,340</u>	<u>9,935</u>	<u>7,276</u>
Hungary	1,236	1,829	1,786	725
<u>Romania</u>	<u>874</u>	<u>400</u>	<u>400</u>	<u>100</u>
South Africa	1,041	798	836	1,100
<u>Ukraine</u>	<u>593</u>	<u>365</u>	<u>55</u>	<u>100</u>
EU	382	99	210	200
<u>Others</u>	<u>2,176</u>	<u>2,032</u>	<u>1,771</u>	<u>5,519</u>
Subtotal	25,231	16,711	23,852	27,420
United States	37,697	51,886	49,371	48,180
<u>WORLD TOTAL</u>	<u>62,928</u>	<u>68,597</u>	<u>73,223</u>	<u>75,600</u>
<b>IMPORTS</b>				
Algeria	943	1,171	1,300	1,500
<u>Brazil</u>	<u>1,456</u>	<u>945</u>	<u>1,789</u>	<u>650</u>
Canada	1,418	903	1,084	2,793
<u>Chile</u>	<u>851</u>	<u>1,268</u>	<u>1,260</u>	<u>1,200</u>
China	287	262	71	50
<u>Colombia</u>	<u>1,785</u>	<u>1,570</u>	<u>2,005</u>	<u>1,800</u>
Costa Rica	382	430	550	500
<u>Dominican Republic</u>	<u>671</u>	<u>814</u>	<u>1,000</u>	<u>1,000</u>
Ecuador	279	285	225	200
<u>Egypt</u>	<u>3,245</u>	<u>3,687</u>	<u>4,600</u>	<u>5,400</u>
Guatemala	305	385	500	550

<u>Indonesia</u>	<u>516</u>	<u>455</u>	<u>1,229</u>	<u>1,300</u>
Iran	900	1,072	1,100	1,000
<u>Israel</u>	<u>530</u>	<u>579</u>	<u>800</u>	<u>975</u>
Japan	16,422	16,336	16,117	16,340
<u>Jordan</u>	<u>485</u>	<u>448</u>	<u>450</u>	<u>425</u>
Korea, North	347	200	150	750
<u>Korea, South</u>	<u>7,528</u>	<u>7,517</u>	<u>8,694</u>	<u>8,743</u>
Malaysia	2,202	2,384	2,296	2,450
<u>Mexico</u>	<u>4,376</u>	<u>5,615</u>	<u>4,911</u>	<u>5,600</u>
Morocco	553	729	750	900
<u>Peru</u>	<u>1,228</u>	<u>1,050</u>	<u>862</u>	<u>900</u>
Philippines	455	129	582	300
<u>Poland</u>	<u>384</u>	<u>224</u>	<u>250</u>	<u>200</u>
Russia	85	524	870	150
<u>Saudi Arabia</u>	<u>1,234</u>	<u>1,265</u>	<u>1,500</u>	<u>1,500</u>
South Africa	135	307	350	50
<u>Taiwan</u>	<u>4,474</u>	<u>4,575</u>	<u>5,023</u>	<u>5,000</u>
Thailand	253	150	450	50
<u>Tunisia</u>	<u>368</u>	<u>561</u>	<u>600</u>	<u>800</u>
Turkey	704	887	1,250	700
<u>Venezuela</u>	<u>1,161</u>	<u>1,463</u>	<u>1,300</u>	<u>1,250</u>
Zimbabwe	402	350	50	100
<u>EU</u>	<u>2,055</u>	<u>2,716</u>	<u>2,296</u>	<u>2,500</u>
O.W. Europe	199	254	276	310
<u>United States</u>	<u>126</u>	<u>388</u>	<u>229</u>	<u>114</u>
Subtotal	58,744	61,898	66,769	68,050
Other Countries	4,036	4,050	5,381	6,366
Unaccounted	148	2,649	1,073	1,184
<u>WORLD TOTAL</u>	<u>62,928</u>	<u>68,597</u>	<u>73,223</u>	<u>75,600</u>

## WORLD CORN PRODUCTION, CONSUMPTION AND

STOCKS  
LOCAL MARKETING YEARS  
THOUSAND METRIC TONS

	1997/98	1998/99	1999/00	2000/01
<b>PRODUCTION</b>				
Argentina	19,360	13,500	17,200	15,500
<u>Brazil</u>	<u>30,100</u>	<u>32,393</u>	<u>31,641</u>	<u>41,000</u>
Canada	7,180	8,952	9,161	6,827
<u>China</u>	<u>104,309</u>	<u>132,954</u>	<u>128,086</u>	<u>106,000</u>
Egypt	6,010	5,605	5,678	5,650
<u>Hungary</u>	<u>6,800</u>	<u>6,000</u>	<u>7,000</u>	<u>5,000</u>
India	10,852	10,680	11,470	11,840
<u>Indonesia</u>	<u>5,700</u>	<u>6,500</u>	<u>6,200</u>	<u>5,500</u>
Mexico	16,934	17,788	19,240	17,700
<u>Philippines</u>	<u>3,528</u>	<u>4,894</u>	<u>4,449</u>	<u>4,508</u>
Romania	12,680	8,000	10,500	4,500
<u>South Africa</u>	<u>7,693</u>	<u>7,724</u>	<u>10,563</u>	<u>7,500</u>
Thailand	3,700	4,300	3,900	4,700
<u>Ukraine</u>	<u>5,340</u>	<u>2,301</u>	<u>1,737</u>	<u>3,848</u>
EU	38,522	35,295	37,171	38,291
<u>Others</u>	<u>62,791</u>	<u>60,921</u>	<u>63,435</u>	<u>54,998</u>
Subtotal	341,499	357,807	367,431	333,362
United States	233,864	247,882	239,549	253,208
<u>WORLD TOTAL</u>	<u>575,363</u>	<u>605,689</u>	<u>606,980</u>	<u>586,570</u>
<b>CONSUMPTION</b>				
<u>Brazil</u>	<u>33,455</u>	<u>33,615</u>	<u>33,044</u>	<u>34,550</u>
Canada	8,600	8,918	8,822	9,930
<u>China</u>	<u>113,000</u>	<u>115,500</u>	<u>118,000</u>	<u>120,000</u>
Egypt	9,255	9,292	10,178	11,050
<u>Hungary</u>	<u>5,164</u>	<u>4,921</u>	<u>5,014</u>	<u>4,640</u>
India	10,946	10,853	11,350	12,000

<u>Indonesia</u>	<u>5,707</u>	<u>6,711</u>	<u>7,279</u>	<u>6,950</u>
Japan	15,900	16,436	16,317	16,200
<u>Korea, South</u>	<u>7,975</u>	<u>7,617</u>	<u>8,400</u>	<u>8,900</u>
Malaysia	2,370	2,425	2,353	2,265
<u>Mexico</u>	<u>22,002</u>	<u>23,037</u>	<u>23,657</u>	<u>24,000</u>
Romania	10,493	8,621	9,500	6,175
<u>Russia</u>	<u>2,369</u>	<u>1,711</u>	<u>1,944</u>	<u>2,000</u>
South Africa	7,990	7,475	8,049	6,900
<u>Others</u>	<u>138,216</u>	<u>139,775</u>	<u>148,242</u>	<u>140,488</u>
Subtotal	393,442	396,907	412,149	406,048
United States	185,087	185,879	192,477	199,571
<u>WORLD TOTAL</u>	<u>578,529</u>	<u>582,786</u>	<u>604,626</u>	<u>605,619</u>
E N D I N G				
STOCKS				
Brazil	1,100	1,000	600	1,350
<u>China</u>	<u>87,716</u>	<u>102,092</u>	<u>102,314</u>	<u>81,088</u>
South Africa	817	983	2,130	1,480
<u>EU</u>	<u>4,468</u>	<u>3,658</u>	<u>4,105</u>	<u>4,695</u>
Others	18,900	16,000	18,701	15,587
<u>Subtotal</u>	<u>113,001</u>	<u>123,733</u>	<u>127,850</u>	<u>104,200</u>
United States	33,220	45,391	43,628	48,229
<u>WORLD TOTAL</u>	<u>146,221</u>	<u>169,124</u>	<u>171,478</u>	<u>152,429</u>

REGIONAL CORN IMPORTS, PRODUCTION,  
CONSUMPTION AND STOCKS  
THOUSAND METRIC TONS

	1997/98	1998/99	1999/00	2000/01
IMPORTS				
North America 1/	5,920	6,906	6,224	8,507
<u>Latin America</u> 2/	<u>9,019</u>	<u>9,456</u>	<u>11,198</u>	<u>9,550</u>
EU	2,055	2,716	2,296	2,500
<u>Other Wst. Eur.</u> 3/	<u>199</u>	<u>254</u>	<u>276</u>	<u>310</u>
Former USSR	232	627	1,095	270
<u>Eastern Europe</u> 4/	<u>961</u>	<u>689</u>	<u>843</u>	<u>1,320</u>
Middle East 5/	4,863	5,383	6,475	6,031
<u>North Africa</u> 6/	<u>5,392</u>	<u>6,239</u>	<u>7,525</u>	<u>8,850</u>
Other Africa7/	1,472	1,244	1,025	1,335
<u>South Asia</u> 8/	<u>1</u>	<u>175</u>	<u>260</u>	<u>410</u>
Other Asia 9/	32,635	32,190	34,887	35,288
<u>Oceania</u> 10/	<u>1</u>	<u>13</u>	<u>16</u>	<u>15</u>
PRODUCTION				
North America 1/	257,978	274,622	267,950	277,735
<u>Latin America</u> 2/	<u>58,412</u>	<u>54,369</u>	<u>57,960</u>	<u>65,800</u>
EU	38,522	35,295	37,171	38,291
<u>Other Wst. Eur.</u> 3/	<u>220</u>	<u>185</u>	<u>220</u>	<u>220</u>
Former USSR	10,761	5,370	5,078	7,363
<u>Eastern Europe</u> 4/	<u>32,203</u>	<u>25,263</u>	<u>30,610</u>	<u>17,111</u>
Middle East 5/	3,462	3,742	3,107	2,957
<u>North Africa</u> 6/	<u>6,388</u>	<u>5,908</u>	<u>5,880</u>	<u>5,952</u>
Other Africa7/	32,174	33,894	37,334	31,205
<u>South Asia</u> 8/	<u>13,788</u>	<u>13,782</u>	<u>14,540</u>	<u>14,910</u>
Other Asia 9/	120,893	152,631	146,490	124,381
<u>Oceania</u> 10/	<u>417</u>	<u>483</u>	<u>510</u>	<u>500</u>
CONSUMPTION				

North America	215,689	217,834	224,956	233,501
1/				
<u>Latin America</u> 2/	<u>56,177</u>	<u>56,938</u>	<u>56,520</u>	<u>57,350</u>
EU	38,862	38,948	38,682	40,059
<u>Other Wst. Eur.</u>	<u>429</u>	<u>479</u>	<u>496</u>	<u>530</u>
3/				
Former USSR	8,600	6,940	6,433	6,578
<u>Eastern Europe</u>	<u>28,291</u>	<u>25,231</u>	<u>27,790</u>	<u>19,412</u>
4/				
Middle East 5/	8,735	9,114	9,737	9,238
<u>North Africa</u> 6/	<u>11,822</u>	<u>12,146</u>	<u>13,155</u>	<u>14,902</u>
Other Africa7/	33,946	33,730	35,120	32,130
<u>South Asia</u> 8/	<u>13,882</u>	<u>13,955</u>	<u>14,430</u>	<u>15,080</u>
Other Asia 9/	161,321	166,316	170,846	173,091
<u>Oceania</u> 10/	<u>405</u>	<u>457</u>	<u>505</u>	<u>451</u>
ENDING STOCKS				
North America	35,625	48,126	47,516	50,728
1/				
<u>Latin America</u> 2/	<u>3,652</u>	<u>2,572</u>	<u>2,103</u>	<u>2,813</u>
EU	4,468	3,658	4,105	4,695
<u>Other Wst. Eur.</u>	<u>120</u>	<u>80</u>	<u>80</u>	<u>80</u>
3/				
Former USSR	2,731	1,356	1,281	2,214
<u>Eastern Europe</u>	<u>3,851</u>	<u>1,886</u>	<u>2,926</u>	<u>977</u>
4/				
Middle East 5/	890	809	651	394
<u>North Africa</u> 6/	<u>391</u>	<u>391</u>	<u>491</u>	<u>491</u>
Other Africa7/	2,067	2,933	4,255	3,265
<u>South Asia</u> 8/	<u>300</u>	<u>300</u>	<u>670</u>	<u>860</u>
Other Asia 9/	92,115	107,002	107,388	85,900
<u>Oceania</u> 10/	<u>11</u>	<u>11</u>	<u>12</u>	<u>12</u>

WORLD BARLEY TRADE  
OCTOBER/SEPTEMBER YEAR  
THOUSAND METRIC TONS

	1997/98	1998/99	1999/00	2000/01
<b>EXPORTS</b>				
<u>Australia</u>	<u>2,838</u>	<u>4,241</u>	<u>2,870</u>	<u>3,600</u>
Canada	1,897	1,185	1,806	1,956
<u>Russia</u>	<u>1,321</u>	<u>92</u>	<u>393</u>	<u>1,031</u>
Turkey	1,395	743	245	200
<u>Ukraine</u>	<u>539</u>	<u>972</u>	<u>550</u>	<u>1,200</u>
EU	2,990	8,894	10,458	6,800
<u>Eastern Europe</u>	<u>269</u>	<u>475</u>	<u>607</u>	<u>420</u>
Others	506	630	871	625
Subtotal	11,755	17,232	17,800	15,832
United States	1,071	550	839	1,064
<u>WORLD TOTAL</u>	<u>12,826</u>	<u>17,782</u>	<u>18,639</u>	<u>16,896</u>
<b>IMPORTS</b>				
Algeria	383	759	652	500
<u>Brazil</u>	<u>107</u>	<u>115</u>	<u>130</u>	<u>190</u>
China	1,176	1,986	2,111	2,300
<u>Colombia</u>	<u>208</u>	<u>97</u>	<u>100</u>	<u>100</u>
Iran	403	376	1,000	750
<u>Israel</u>	<u>419</u>	<u>464</u>	<u>351</u>	<u>300</u>
Japan	1,435	1,660	1,608	1,498
<u>Jordan</u>	<u>296</u>	<u>454</u>	<u>712</u>	<u>650</u>
Korea, South	65	113	106	85
<u>Libya</u>	<u>291</u>	<u>248</u>	<u>200</u>	<u>200</u>
Mexico	196	155	212	130
<u>Morocco</u>	<u>251</u>	<u>951</u>	<u>747</u>	<u>600</u>
Russia	168	335	737	325
<u>Saudi Arabia</u>	<u>4,026</u>	<u>5,814</u>	<u>5,800</u>	<u>4,500</u>
South Africa	139	84	105	100

<u>Taiwan</u>	<u>211</u>	<u>194</u>	<u>167</u>	<u>200</u>
Tunisia	171	223	239	550
<u>Turkey</u>	<u>147</u>	<u>140</u>	<u>69</u>	<u>40</u>
EU	96	91	70	200
<u>O.W. Europe</u>	<u>405</u>	<u>310</u>	<u>546</u>	<u>455</u>
Eastern Europe	437	544	545	1,070
<u>United States</u>	<u>748</u>	<u>597</u>	<u>627</u>	<u>646</u>
Subtotal	11,778	15,710	16,834	15,389
Other Countries	565	1,282	1,562	1,345
Unaccounted	483	790	243	162
<u>WORLD TOTAL</u>	<u>12,826</u>	<u>17,782</u>	<u>18,639</u>	<u>16,896</u>

WORLD BARLEY PRODUCTION, CONSUMPTION AND STOCKS

LOCAL MARKETING YEARS  
THOUSAND METRIC TONS

	1997/98	1998/99	1999/00	2000/01
PRODUCTION				
Algeria	190	720	510	300
<u>Argentina</u>	<u>920</u>	<u>535</u>	<u>398</u>	<u>450</u>
Australia	6,482	5,987	5,032	7,196
<u>Canada</u>	<u>13,527</u>	<u>12,709</u>	<u>13,196</u>	<u>13,468</u>
China	4,000	2,656	2,970	2,645
<u>Japan</u>	<u>193</u>	<u>144</u>	<u>205</u>	<u>214</u>
Kazakhstan	2,670	1,100	2,250	1,675
<u>Mexico</u>	<u>380</u>	<u>410</u>	<u>450</u>	<u>500</u>
Morocco	1,324	1,970	1,474	467
<u>Russia</u>	<u>20,800</u>	<u>9,800</u>	<u>10,600</u>	<u>14,100</u>
Saudi Arabia	400	400	400	400

<u>Tunisia</u>	<u>200</u>	<u>300</u>	<u>412</u>	<u>200</u>
Turkey	7,300	7,500	6,600	7,400
<u>Ukraine</u>	<u>7,407</u>	<u>5,870</u>	<u>6,425</u>	<u>6,872</u>
EU	52,608	51,907	48,903	51,160
<u>Eastern Europe</u>	<u>11,986</u>	<u>10,696</u>	<u>9,685</u>	<u>7,680</u>
Others	16,269	15,636	12,323	12,342
Subtotal	146,656	128,340	121,833	127,069
United States	7,835	7,667	6,103	6,939
<u>WORLD TOTAL</u>	<u>154,491</u>	<u>136,007</u>	<u>127,936</u>	<u>134,008</u>
CONSUMPTION				
Algeria	571	1,475	1,182	800
<u>Australia</u>	<u>3,041</u>	<u>2,130</u>	<u>2,100</u>	<u>2,579</u>
Canada	11,789	11,336	11,419	11,977
<u>China</u>	<u>5,575</u>	<u>5,209</u>	<u>5,131</u>	<u>4,926</u>
Japan	1,600	1,860	1,819	1,740
<u>Morocco</u>	<u>2,524</u>	<u>2,601</u>	<u>2,345</u>	<u>1,457</u>
Russia	16,494	12,900	11,441	13,007
<u>Saudi Arabia</u>	<u>5,675</u>	<u>6,200</u>	<u>5,750</u>	<u>4,700</u>
Turkey	6,684	6,790	6,699	7,260
<u>EU</u>	<u>43,998</u>	<u>43,237</u>	<u>41,727</u>	<u>45,525</u>
Eastern Europe	11,508	11,151	9,962	8,927
<u>Others</u>	<u>29,699</u>	<u>27,415</u>	<u>27,017</u>	<u>26,858</u>
Subtotal	139,158	132,304	126,592	129,756
United States	6,879	7,208	6,707	6,432
<u>WORLD TOTAL</u>	<u>146,037</u>	<u>139,512</u>	<u>133,299</u>	<u>136,188</u>
ENDING STOCKS				
Australia	835	465	412	844
<u>Canada</u>	<u>2,459</u>	<u>2,737</u>	<u>2,838</u>	<u>2,454</u>
EU	12,621	13,680	10,148	7,985

<u>Others</u>	<u>13,626</u>	<u>8,666</u>	<u>7,447</u>	<u>7,492</u>
Subtotal	29,541	25,548	20,845	18,775
United States	2,596	3,084	2,424	2,314
<u>WORLD TOTAL</u>	<u>32,137</u>	<u>28,632</u>	<u>23,269</u>	<u>21,089</u>

REGIONAL BARLEY IMPORTS, PRODUCTION,  
CONSUMPTION AND STOCKS  
THOUSAND METRIC TONS

	1997/98	1998/99	1999/00	2000/01
IMPORTS				
North America	965	794	879	836
1/				
<u>Latin America</u> 2/	<u>458</u>	<u>379</u>	<u>411</u>	<u>435</u>
EU	96	91	70	200
<u>Other Wst. Eur.</u>	<u>405</u>	<u>310</u>	<u>546</u>	<u>455</u>
3/				
Former USSR	231	552	1,088	520
<u>Eastern Europe</u>	<u>437</u>	<u>544</u>	<u>545</u>	<u>1,070</u>
4/				
Middle East 5/	5,566	8,039	8,857	7,065
<u>North Africa</u> 6/	<u>1,105</u>	<u>2,181</u>	<u>1,838</u>	<u>1,900</u>
Other Africa 7/	152	89	105	100
<u>South Asia</u> 8/	<u>0</u>	<u>0</u>	<u>0</u>	<u>5</u>
Other Asia 9/	2,887	3,953	3,992	4,083
<u>Oceania</u> 10/	<u>41</u>	<u>60</u>	<u>65</u>	<u>65</u>
PRODUCTION				
North America	21,742	20,786	19,749	20,907
1/				
<u>Latin America</u> 2/	<u>1,848</u>	<u>1,392</u>	<u>1,144</u>	<u>1,345</u>

EU	52,608	51,907	48,903	51,160
<u>Other Wst.Eur.</u>	<u>1,126</u>	<u>1,099</u>	<u>1,074</u>	<u>1,074</u>
3/				
Former USSR	36,017	21,080	22,526	26,283
<u>Eastern Europe</u>	<u>11,986</u>	<u>10,696</u>	<u>9,685</u>	<u>7,680</u>
4/				
Middle East 5/	12,087	12,384	9,631	10,006
<u>North Africa6/</u>	<u>1,969</u>	<u>3,245</u>	<u>2,651</u>	<u>1,222</u>
Other Africa7/	1,897	1,687	1,658	1,606
<u>South Asia 8/</u>	<u>1,957</u>	<u>2,229</u>	<u>2,008</u>	<u>1,870</u>
Other Asia 9/	4,452	3,200	3,575	3,259
<u>Oceania 10/</u>	<u>6,882</u>	<u>6,377</u>	<u>5,432</u>	<u>7,596</u>
CONSUMPTION				
North America	19,244	19,129	18,779	19,039
1/				
<u>Latin America2/</u>	<u>2,047</u>	<u>1,746</u>	<u>1,489</u>	<u>1,580</u>
EU	43,998	43,237	41,727	45,525
<u>Other Wst.Eur.</u>	<u>1,593</u>	<u>1,509</u>	<u>1,645</u>	<u>1,525</u>
3/				
Former USSR	29,421	23,939	22,048	23,872
<u>Eastern Europe</u>	<u>11,508</u>	<u>11,151</u>	<u>9,962</u>	<u>8,927</u>
4/				
Middle East 5/	18,626	19,352	17,915	16,901
<u>North Africa6/</u>	<u>4,300</u>	<u>5,129</u>	<u>4,619</u>	<u>3,522</u>
Other Africa7/	1,948	1,702	1,663	1,706
<u>South Asia 8/</u>	<u>1,957</u>	<u>2,229</u>	<u>2,008</u>	<u>1,875</u>
Other Asia 9/	7,710	7,776	7,623	7,351
<u>Oceania 10/</u>	<u>3,384</u>	<u>2,582</u>	<u>2,550</u>	<u>3,029</u>
ENDING STOCKS				
North America	5,130	5,876	5,317	4,823
1/				
<u>Latin America2/</u>	<u>260</u>	<u>135</u>	<u>110</u>	<u>110</u>
EU	12,621	13,680	10,148	7,985
<u>Other Wst.Eur.</u>	<u>579</u>	<u>479</u>	<u>446</u>	<u>450</u>

3/				
Former USSR	5,770	1,895	2,150	3,207
<u>Eastern Europe</u>	<u>1,556</u>	<u>1,166</u>	<u>942</u>	<u>634</u>
4/				
Middle East 5/	3,309	3,202	2,233	1,884
<u>North Africa 6/</u>	<u>461</u>	<u>754</u>	<u>587</u>	<u>237</u>
Other Africa 7/	0	0	0	0
<u>South Asia 8/</u>	<u>20</u>	<u>20</u>	<u>20</u>	<u>20</u>
Other Asia 9/	1,533	910	854	845
<u>Oceania 10/</u>	<u>898</u>	<u>515</u>	<u>462</u>	<u>894</u>

WORLD SORGHUM TRADE  
OCTOBER/SEPTEMBER YEAR  
THOUSAND METRIC TONS

	1997/98	1998/99	1999/00	2000/01
EXPORTS				
Argentina	1,373	519	671	650
<u>Australia</u>	<u>222</u>	<u>355</u>	<u>761</u>	<u>892</u>
China	30	17	18	19
<u>Sudan</u>	<u>0</u>	<u>167</u>	<u>150</u>	<u>10</u>
Others	31	125	103	175
Subtotal	1,656	1,183	1,703	1,746
United States	5,164	5,198	6,296	5,930
<u>WORLD TOTAL</u>	<u>6,820</u>	<u>6,381</u>	<u>7,999</u>	<u>7,676</u>

IMPORTS

Colombia	80	9	5	5
<u>Israel</u>	<u>83</u>	<u>92</u>	<u>180</u>	<u>83</u>
Japan	2,769	2,453	2,206	1,983
<u>Korea, South</u>	<u>1</u>	<u>1</u>	<u>4</u>	<u>1</u>
Mexico	3,340	3,295	4,773	4,960
<u>Morocco</u>	<u>0</u>	<u>112</u>	<u>0</u>	<u>0</u>
Sudan	0	0	0	10
<u>Taiwan</u>	<u>72</u>	<u>29</u>	<u>41</u>	<u>38</u>
Turkey	0	0	0	0
<u>EU</u>	<u>249</u>	<u>299</u>	<u>300</u>	<u>300</u>
Subtotal	6,594	6,290	7,509	7,380
Other Countries	151	89	434	294
Unaccounted	75	2	56	2
<u>WORLD TOTAL</u>	<u>6,820</u>	<u>6,381</u>	<u>7,999</u>	<u>7,676</u>

WORLD SORGHUM PRODUCTION, CONSUMPTION AND STOCKS

LOCAL MARKETING YEARS  
THOUSAND METRIC TONS

	1997/98	1998/99	1999/00	2000/01
PRODUCTION				
Argentina	3,770	3,222	3,350	3,100
<u>Australia</u>	<u>1,081</u>	<u>1,891</u>	<u>2,116</u>	<u>2,109</u>
Burkina	940	1,300	1,400	1,400
<u>China</u>	<u>3,640</u>	<u>4,087</u>	<u>3,242</u>	<u>2,582</u>
Colombia	180	175	165	170
<u>Egypt</u>	<u>764</u>	<u>765</u>	<u>750</u>	<u>750</u>
Ethiopia	2,000	1,200	1,450	1,450
<u>India</u>	<u>7,982</u>	<u>8,710</u>	<u>8,860</u>	<u>7,410</u>
Mexico	5,700	6,400	6,394	5,700

<u>Nigeria</u>	<u>6,930</u>	<u>7,300</u>	<u>7,500</u>	<u>7,800</u>
Sudan	3,200	4,500	2,350	2,500
<u>Tanzania:</u>	<u>500</u>	<u>425</u>	<u>400</u>	<u>400</u>
<u>United Republic</u>				
<u>of</u>				
Venezuela	380	370	460	390
<u>EU</u>	<u>761</u>	<u>663</u>	<u>600</u>	<u>675</u>
Others	5,026	5,182	4,928	5,010
Subtotal	42,854	46,190	43,965	41,446
United States	16,093	13,207	15,118	11,940
<u>WORLD TOTAL</u>	<u>58,947</u>	<u>59,397</u>	<u>59,083</u>	<u>53,386</u>
CONSUMPTION				
Argentina	2,070	2,550	2,500	2,700
<u>Australia</u>	<u>897</u>	<u>1,381</u>	<u>1,326</u>	<u>1,350</u>
Burkina	940	1,300	1,400	1,400
<u>China</u>	<u>3,650</u>	<u>4,134</u>	<u>3,319</u>	<u>2,561</u>
Ethiopia	2,088	1,200	1,500	1,474
<u>India</u>	<u>8,182</u>	<u>8,690</u>	<u>8,850</u>	<u>7,410</u>
Japan	2,800	2,500	2,200	2,083
<u>Mexico</u>	<u>8,940</u>	<u>9,750</u>	<u>11,100</u>	<u>11,060</u>
Nigeria	6,930	7,318	7,500	7,800
<u>Sudan</u>	<u>3,550</u>	<u>3,888</u>	<u>2,650</u>	<u>2,510</u>
Venezuela	982	872	857	900
<u>Others</u>	<u>7,340</u>	<u>7,135</u>	<u>7,853</u>	<u>6,722</u>
Subtotal	48,369	50,718	51,055	47,970
United States	10,670	7,803	8,615	6,470
<u>WORLD TOTAL</u>	<u>59,039</u>	<u>58,521</u>	<u>59,670</u>	<u>54,440</u>
ENDING STOCKS				
Argentina	620	728	659	659

<u>China</u>	<u>285</u>	<u>221</u>	<u>126</u>	<u>153</u>
Mexico	1,269	1,214	1,281	881
<u>Others</u>	<u>1,086</u>	<u>1,560</u>	<u>1,064</u>	<u>983</u>
Subtotal	3,260	3,723	3,130	2,676
United States	1,242	1,655	1,661	1,061
<u>WORLD TOTAL</u>	<u>4,502</u>	<u>5,378</u>	<u>4,791</u>	<u>3,737</u>

REGIONAL SORGHUM IMPORTS, PRODUCTION,  
CONSUMPTION AND STOCKS  
THOUSAND METRIC TONS

	1997/98	1998/99	1999/00	2000/01
IMPORTS				
North America	3,340	3,295	4,773	4,960
1/				
<u>Latin America</u> 2/	<u>92</u>	<u>56</u>	<u>300</u>	<u>210</u>
EU	249	299	300	300
<u>Other Wst. Eur.</u>	<u>48</u>	<u>23</u>	<u>50</u>	<u>40</u>
3/				
Former USSR	0	0	0	0
<u>Eastern Europe</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
4/				
Middle East 5/	83	92	180	83
<u>North Africa</u> 6/	<u>0</u>	<u>112</u>	<u>0</u>	<u>0</u>
Other Africa 7/	89	18	88	34
<u>South Asia</u> 8/	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
Other Asia 9/	2,844	2,484	2,252	2,047
<u>Oceania</u> 10/	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
PRODUCTION				
North America	21,793	19,607	21,512	17,640
1/				

<u>Latin America</u> <sup>2/</sup>	<u>5,503</u>	<u>4,928</u>	<u>4,855</u>	<u>4,804</u>
EU	761	663	600	675
<u>Other Wst. Eur.</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
<u>3/</u>				
Former USSR	0	0	0	0
<u>Eastern Europe</u>	<u>5</u>	<u>5</u>	<u>5</u>	<u>5</u>
<u>4/</u>				
Middle East <sup>5/</sup>	584	600	585	585
<u>North Africa</u> <sup>6/</sup>	<u>779</u>	<u>780</u>	<u>765</u>	<u>765</u>
Other Africa <sup>7/</sup>	16,196	17,506	15,931	16,190
<u>South Asia</u> <sup>8/</sup>	<u>8,213</u>	<u>8,938</u>	<u>9,090</u>	<u>7,640</u>
Other Asia <sup>9/</sup>	3,902	4,349	3,504	2,843
<u>Oceania</u> <sup>10/</sup>	<u>1,081</u>	<u>1,891</u>	<u>2,116</u>	<u>2,109</u>
CONSUMPTION				
North America	19,610	17,553	19,715	17,530
<u>1/</u>				
<u>Latin America</u> <sup>2/</sup>	<u>3,873</u>	<u>4,286</u>	<u>4,020</u>	<u>4,844</u>
EU	982	872	857	900
<u>Other Wst. Eur.</u>	<u>48</u>	<u>23</u>	<u>50</u>	<u>40</u>
<u>3/</u>				
Former USSR	0	0	0	0
<u>Eastern Europe</u>	<u>5</u>	<u>5</u>	<u>5</u>	<u>5</u>
<u>4/</u>				
Middle East <sup>5/</sup>	667	692	765	668
<u>North Africa</u> <sup>6/</sup>	<u>784</u>	<u>892</u>	<u>765</u>	<u>765</u>
Other Africa <sup>7/</sup>	16,634	16,929	16,280	16,174
<u>South Asia</u> <sup>8/</sup>	<u>8,413</u>	<u>8,918</u>	<u>9,080</u>	<u>7,640</u>
Other Asia <sup>9/</sup>	6,787	6,927	5,827	4,944
<u>Oceania</u> <sup>10/</sup>	<u>897</u>	<u>1,381</u>	<u>1,326</u>	<u>1,350</u>
ENDING STOCKS				
North America	2,511	2,869	2,942	1,942
<u>1/</u>				
<u>Latin America</u> <sup>2/</sup>	<u>680</u>	<u>788</u>	<u>724</u>	<u>719</u>

EU	50	46	39	64
<u>Other Wst.Eur.</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
3/ Former USSR	0	0	0	0
<u>Eastern Europe</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
4/ Middle East 5/ North Africa 6/ Other Africa 7/ South Asia 8/ Other Asia 9/ Oceania 10/	13 <u>40</u> 320 <u>100</u> 688 <u>100</u>	13 <u>40</u> 765 <u>120</u> 577 <u>160</u>	13 <u>40</u> 315 <u>130</u> 488 <u>100</u>	13 <u>40</u> 305 <u>130</u> 415 <u>109</u>

WORLD OATS TRADE  
OCTOBER/SEPTEMBER YEAR  
THOUSAND METRIC TONS

	1997/98	1998/99	1999/00	2000/01
EXPORTS				
Argentina	0	0	0	20
<u>Australia</u>	<u>161</u>	<u>241</u>	<u>158</u>	<u>86</u>
Canada	1,309	1,155	1,383	1,402
EU	<u>737</u>	<u>511</u>	<u>481</u>	<u>800</u>
Eastern Europe	50	25	0	15
<u>Others</u>	<u>21</u>	<u>21</u>	<u>20</u>	<u>10</u>
<u>Subtotal</u>	<u>2,278</u>	<u>1,953</u>	<u>2,042</u>	<u>2,333</u>
United States	31	24	20	33

<u>WORLD TOTAL</u>	<u>2,309</u>	<u>1,977</u>	<u>2,062</u>	<u>2,366</u>
IMPORTS				
Canada	2	2	4	5
Colombia	3	10	2	10
<u>Ecuador</u>	<u>17</u>	<u>20</u>	<u>20</u>	<u>20</u>
Japan	89	82	86	78
<u>Mexico</u>	<u>68</u>	<u>30</u>	<u>43</u>	<u>75</u>
Russia	20	20	25	25
EU	2	9	33	10
O.W. Europe	58	46	55	55
<u>Eastern Europe</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>27</u>
United States	1,942	1,599	1,675	1,825
Subtotal	2,201	1,818	1,943	2,130
Other Countries	5	37	0	57
Unaccounted	103	122	119	179
<u>WORLD TOTAL</u>	<u>2,309</u>	<u>1,977</u>	<u>2,062</u>	<u>2,366</u>

WORLD OATS PRODUCTION, CONSUMPTION AND STOCKS

LOCAL MARKETING YEARS  
THOUSAND METRIC TONS

	1997/98	1998/99	1999/00	2000/01
PRODUCTION				
Algeria	20	100	70	20
<u>Argentina</u>	<u>517</u>	<u>383</u>	<u>395</u>	<u>375</u>
Australia	1,634	1,798	1,118	1,131
<u>Brazil</u>	<u>286</u>	<u>250</u>	<u>250</u>	<u>250</u>

Belarus	822	501	368	520
<u>Canada</u>	<u>3,485</u>	<u>3,958</u>	<u>3,641</u>	<u>3,389</u>
China	400	650	600	600
<u>Kazakhstan</u>	<u>50</u>	<u>75</u>	<u>200</u>	<u>80</u>
Mexico	100	100	100	100
<u>Morocco</u>	<u>30</u>	<u>30</u>	<u>30</u>	<u>30</u>
Poland	1,630	1,460	1,446	1,070
<u>Romania</u>	<u>330</u>	<u>350</u>	<u>375</u>	<u>350</u>
Russia	9,400	4,600	4,400	6,000
<u>Turkey</u>	<u>280</u>	<u>310</u>	<u>250</u>	<u>250</u>
Ukraine	1,062	778	760	881
<u>EU</u>	<u>6,665</u>	<u>6,147</u>	<u>6,111</u>	<u>6,808</u>
O.W. Europe	405	431	447	447
<u>Others</u>	<u>1,499</u>	<u>1,380</u>	<u>1,319</u>	<u>1,221</u>
Subtotal	28,615	23,301	21,880	23,522
United States	2,428	2,409	2,122	2,171
<u>WORLD TOTAL</u>	<u>31043</u>	<u>25710</u>	<u>24002</u>	<u>25693</u>
CONSUMPTION				
Algeria	20	100	70	22
Australia	1,495	1,571	946	1,049
<u>Brazil</u>	<u>286</u>	<u>250</u>	<u>250</u>	<u>270</u>
Canada	2,287	2,553	2,263	2,172
<u>China</u>	<u>400</u>	<u>600</u>	<u>600</u>	<u>600</u>
Hungary	125	132	175	85
<u>Kazakhstan</u>	<u>30</u>	<u>55</u>	<u>180</u>	<u>70</u>
Mexico	168	130	143	175
<u>Poland</u>	<u>1,580</u>	<u>1,435</u>	<u>1,446</u>	<u>1,077</u>
Romania	330	350	375	350
<u>Russia</u>	<u>7,720</u>	<u>5,570</u>	<u>5,378</u>	<u>5,525</u>
Ukraine	1,062	890	728	881
<u>EU</u>	<u>5,958</u>	<u>5,676</u>	<u>5,592</u>	<u>6,180</u>
O.W. Europe	483	486	505	495
<u>Others</u>	<u>3,307</u>	<u>2,690</u>	<u>2,373</u>	<u>2,588</u>
Subtotal	25,251	22,488	21,024	21,539

United States	3,987	4,133	3,876	4,021
<u>WORLD TOTAL</u>	<u>29238</u>	<u>26621</u>	<u>24900</u>	<u>25560</u>
ENDING STOCKS				
Australia	197	179	201	208
Canada	846	1,088	1,122	840
EU	932	725	759	731
Others	2,514	1,479	568	1,052
<u>Subtotal</u>	<u>4,489</u>	<u>3,471</u>	<u>2,650</u>	<u>2,831</u>
<u>United States</u>	<u>1,074</u>	<u>1,181</u>	<u>1,104</u>	<u>1,056</u>
<u>WORLD TOTAL</u>	<u>5563</u>	<u>4652</u>	<u>3754</u>	<u>3887</u>

REGIONAL OAT IMPORTS, PRODUCTION, CONSUMPTION  
AND STOCKS  
THOUSAND METRIC TONS

	1997/98	1998/99	1999/00	2000/01
IMPORTS				
North America 1/	2,012	1,631	1,722	1,905
<u>Latin America</u> <sup>2/</sup>	<u>21</u>	<u>35</u>	<u>22</u>	<u>50</u>
EU	2	9	33	10
<u>Other Wst. Eur.</u> 3/	<u>58</u>	<u>46</u>	<u>55</u>	<u>55</u>
Former USSR	20	20	25	25
<u>Eastern Europe</u> 4/	<u>0</u>	<u>0</u>	<u>0</u>	<u>27</u>
Middle East 5/	0	0	0	0

<u>North Africa</u> 6/	<u>0</u>	<u>30</u>	<u>0</u>	<u>7</u>
Other Africa7/	0	0	0	30
<u>South Asia</u> 8/	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
Other Asia 9/	91	82	86	78
<u>Oceania</u> 10/	<u>2</u>	<u>2</u>	<u>0</u>	<u>0</u>

## PRODUCTION

North America	6,013	6,467	5,863	5,660
1/				
<u>Latin America</u> 2/	<u>1,088</u>	<u>869</u>	<u>900</u>	<u>880</u>
EU	6,665	6,147	6,111	6,808
<u>Other Wst.Eur.</u>	<u>405</u>	<u>431</u>	<u>447</u>	<u>447</u>
3/				
Former USSR	11,700	6,289	5,956	7,773
<u>Eastern Europe</u>	<u>2,686</u>	<u>2,497</u>	<u>2,535</u>	<u>1,972</u>
4/				
Middle East 5/	280	310	250	250
<u>North Africa</u> 6/	<u>50</u>	<u>130</u>	<u>100</u>	<u>50</u>
Other Africa7/	45	45	45	45
<u>South Asia</u> 8/	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
Other Asia 9/	402	652	602	602
<u>Oceania</u> 10/	<u>1,709</u>	<u>1,873</u>	<u>1,193</u>	<u>1,206</u>

## CONSUMPTION

North America	6,442	6,816	6,282	6,368
1/				
<u>Latin America</u> 2/	<u>1,071</u>	<u>905</u>	<u>902</u>	<u>930</u>
EU	5,958	5,676	5,592	6,180
<u>Other Wst.Eur.</u>	<u>483</u>	<u>486</u>	<u>505</u>	<u>495</u>
3/				
Former USSR	10,000	7,351	6,882	7,288
<u>Eastern Europe</u>	<u>2,629</u>	<u>2,482</u>	<u>2,545</u>	<u>1,983</u>
4/				
Middle East 5/	280	310	250	250
<u>North Africa</u> 6/	<u>50</u>	<u>160</u>	<u>100</u>	<u>57</u>
Other Africa7/	45	45	45	75
<u>South Asia</u> 8/	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>

Other Asia 9/	492	686	685	683
<u>Oceania 10/</u>	<u>1,570</u>	<u>1,646</u>	<u>1,021</u>	<u>1,124</u>
ENDING STOCKS				
North America	1,927	2,276	2,233	1,903
1/				
<u>Latin America 2/</u>	<u>75</u>	<u>73</u>	<u>93</u>	<u>73</u>
EU	932	725	759	731
<u>Other Wst. Eur. 3/</u>	<u>145</u>	<u>136</u>	<u>133</u>	<u>140</u>
Former USSR	2,160	1,098	177	677
<u>Eastern Europe 4/</u>	<u>67</u>	<u>57</u>	<u>47</u>	<u>47</u>
Middle East 5/	0	0	0	0
<u>North Africa 6/</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
Other Africa 7/	0	0	0	0
<u>South Asia 8/</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
Other Asia 9/	60	108	111	108
<u>Oceania 10/</u>	<u>197</u>	<u>179</u>	<u>201</u>	<u>208</u>

WORLD RYE TRADE  
OCTOBER/SEPTEMBER YEAR  
THOUSAND METRIC TONS

	1997/98	1998/99	1999/00	2000/01
EXPORTS				
Canada	91	77	78	87
<u>Russia</u>	<u>1</u>	<u>0</u>	<u>50</u>	<u>50</u>
Turkey	0	53	0	0
<u>EU</u>	<u>549</u>	<u>1,153</u>	<u>2,144</u>	<u>1,100</u>
Eastern Europe	10	104	25	25

<u>Others</u>	<u>9</u>	<u>278</u>	<u>73</u>	<u>100</u>
Subtotal	660	1,665	2,370	1,362
United States	2	2	10	8
<u>WORLD TOTAL</u>	<u>662</u>	<u>1,667</u>	<u>2,380</u>	<u>1,370</u>
IMPORTS				
China	126	367	25	25
<u>Japan</u>	<u>323</u>	<u>391</u>	<u>397</u>	<u>350</u>
Korea, South	4	175	476	57
<u>Russia</u>	<u>2</u>	<u>306</u>	<u>416</u>	<u>50</u>
EU	1	2	0	0
<u>O.W. Europe</u>	<u>27</u>	<u>33</u>	<u>30</u>	<u>21</u>
Eastern Europe	40	7	320	450
<u>United States</u>	<u>118</u>	<u>75</u>	<u>76</u>	<u>81</u>
Subtotal	641	1,356	1,740	1,034
Other Countries	12	105	448	167
Unaccounted	9	206	192	169
<u>WORLD TOTAL</u>	<u>662</u>	<u>1,667</u>	<u>2,380</u>	<u>1,370</u>

WORLD RYE PRODUCTION, CONSUMPTION AND STOCKS  
LOCAL MARKETING YEARS  
THOUSAND METRIC TONS

	1997/98	1998/99	1999/00	2000/01
PRODUCTION				
Argentina	62	66	64	56
<u>Australia</u>	<u>20</u>	<u>20</u>	<u>20</u>	<u>20</u>

Belarus	1,788	1,384	929	1,450
<u>Canada</u>	<u>320</u>	<u>398</u>	<u>387</u>	<u>260</u>
Hungary	140	129	80	80
<u>Kazakhstan</u>	<u>60</u>	<u>20</u>	<u>20</u>	<u>50</u>
Poland	5,300	5,664	5,181	4,003
<u>Romania</u>	<u>50</u>	<u>45</u>	<u>50</u>	<u>50</u>
Russia	7,500	3,300	4,800	5,450
<u>Turkey</u>	<u>235</u>	<u>237</u>	<u>250</u>	<u>250</u>
Ukraine	1,348	1,140	919	966
<u>EU</u>	<u>6,021</u>	<u>6,345</u>	<u>5,517</u>	<u>5,408</u>
O.W. Europe	93	70	44	135
<u>Others</u>	<u>987</u>	<u>949</u>	<u>745</u>	<u>594</u>
Subtotal	23,924	19,767	19,006	18,772
United States	207	309	280	213
<u>WORLD TOTAL</u>	<u>24,131</u>	<u>20,076</u>	<u>19,286</u>	<u>18,985</u>
CONSUMPTION				
Argentina	62	66	64	56
<u>Australia</u>	<u>20</u>	<u>20</u>	<u>20</u>	<u>20</u>
Belarus	1,788	1,477	1,149	1,550
<u>Hungary</u>	<u>132</u>	<u>126</u>	<u>80</u>	<u>80</u>
Japan	323	391	397	350
<u>Kazakhstan</u>	<u>55</u>	<u>20</u>	<u>20</u>	<u>50</u>
Japan	323	391	397	350
<u>Poland</u>	<u>5,285</u>	<u>5,704</u>	<u>5,486</u>	<u>4,603</u>
Romania	50	45	50	50
<u>Russia</u>	<u>6,451</u>	<u>5,006</u>	<u>5,214</u>	<u>5,350</u>
Turkey	235	184	396	250
<u>Ukraine</u>	<u>1,196</u>	<u>1,062</u>	<u>852</u>	<u>850</u>
EU	3,215	4,094	4,062	4,497
<u>O.W. Europe</u>	<u>86</u>	<u>69</u>	<u>61</u>	<u>52</u>
<u>Others</u>	<u>1,048</u>	<u>1,299</u>	<u>1,437</u>	<u>957</u>
Subtotal	20,269	19,954	19,685	19,065

United States	346	349	382	295
<u>WORLD TOTAL</u>	<u>20,615</u>	<u>20,303</u>	<u>20,067</u>	<u>19,360</u>
ENDING STOCKS				
Canada	63	166	161	88
<u>Russia</u>	<u>1,600</u>	<u>200</u>	<u>200</u>	<u>300</u>
EU	3,865	5,243	4,643	4,465
<u>Others</u>	<u>1,161</u>	<u>810</u>	<u>656</u>	<u>442</u>
Subtotal	6,689	6,419	5,660	5,295
United States	19	62	40	30
<u>WORLD TOTAL</u>	<u>6,708</u>	<u>6,481</u>	<u>5,700</u>	<u>5,325</u>

REGIONAL RYE IMPORTS, PRODUCTION, CONSUMPTION  
AND STOCKS  
THOUSAND METRIC TONS

	1997/98	1998/99	1999/00	2000/01
IMPORTS				
North America	118	76	81	86
1/				
<u>Latin America</u> <sup>2/</sup>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
EU	1	2	0	0
<u>Other Wst. Eur.</u>	<u>27</u>	<u>33</u>	<u>30</u>	<u>21</u>
3/				
Former USSR	10	407	713	210
<u>Eastern Europe</u>	<u>40</u>	<u>7</u>	<u>320</u>	<u>450</u>
4/				
Middle East <sup>5/</sup>	0	0	142	0
<u>North Africa</u> <sup>6/</sup>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
Other Africa <sup>7/</sup>	0	0	0	0

<u>South Asia 8/</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
Other Asia 9/	453	933	898	432
<u>Oceania 10/</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
PRODUCTION				
North America 1/	527	707	667	473
<u>Latin America 2/</u>	<u>84</u>	<u>88</u>	<u>86</u>	<u>78</u>
EU	6,021	6,345	5,517	5,408
<u>Other Wst. Eur. 3/</u>	<u>93</u>	<u>70</u>	<u>44</u>	<u>135</u>
Former USSR	11,254	6,373	7,067	8,313
<u>Eastern Europe 4/</u>	<u>5,870</u>	<u>6,216</u>	<u>5,606</u>	<u>4,372</u>
Middle East 5/	235	237	250	250
<u>North Africa 6/</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
Other Africa 7/	3	3	3	3
<u>South Asia 8/</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
Other Asia 9/	0	0	0	0
<u>Oceania 10/</u>	<u>20</u>	<u>20</u>	<u>20</u>	<u>20</u>
CONSUMPTION				
North America 1/	530	577	692	554
<u>Latin America 2/</u>	<u>84</u>	<u>88</u>	<u>86</u>	<u>78</u>
EU	3,215	4,094	4,062	4,497
<u>Other Wst. Eur. 3/</u>	<u>86</u>	<u>69</u>	<u>61</u>	<u>52</u>
Former USSR	10,044	8,113	7,720	8,263
<u>Eastern Europe 4/</u>	<u>5,898</u>	<u>6,259</u>	<u>5,931</u>	<u>5,022</u>
Middle East 5/	235	184	396	250
<u>North Africa 6/</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
Other Africa 7/	3	3	3	3
<u>South Asia 8/</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
Other Asia 9/	453	933	898	432

<u>Oceania 10/</u>	<u>20</u>	<u>20</u>	<u>20</u>	<u>20</u>
ENDING STOCKS				
North America 1/	82	228	201	118
<u>Latin America 2/</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
EU	3,865	5,243	4,643	4,465
<u>Other Wst. Eur. 3/</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
For mer USSR	2,135	524	400	510
<u>Eastern Europe 4/</u>	<u>606</u>	<u>466</u>	<u>436</u>	<u>212</u>
Middle East 5/	0	0	0	0
<u>North Africa 6/</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
Other Africa 7/	0	0	0	0
<u>South Asia 8/</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
Other Asia 9/	20	20	20	20
<u>Oceania 10/</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>