

BUREAU OF INDUSTRY AND SECURITY

ANNUAL REPORT

FISCAL YEAR 2002

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



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Donald L. Evans
Secretary of Commerce



Kenneth I. Juster
Under Secretary for Industry and Security



STATEMENT OF THE SECRETARY AND THE UNDER SECRETARY

It is our privilege to present this report on the activities of the Department of Commerce's Bureau of Industry and Security (BIS) during Fiscal Year 2002.

This report is the first submitted under the Bureau's new name. The former name – the Bureau of Export Administration – reflected the Bureau's principal charge when it was created in 1987 to administer the U.S. dual-use export control system that had resided, until that time, in the Department's International Trade Administration. While a core mission of the Bureau continues to be the administration and enforcement of dual-use export controls, the Bureau also discharges a broad range of responsibilities for matters at the intersection of industry and security that do not relate to exports. For example, the Bureau is charged with investigating the effects of certain imports on national security, awarding "priorities" to certain domestic contracts necessary to fulfill national security needs, coordinating with industry on critical infrastructure protection and cyber security activities, monitoring the viability of the nation's defense industrial base, ensuring that U.S. industry complies with the inspection and reporting requirements imposed by the Chemical Weapons Convention, representing industry on issues relating to the Biological Weapons Convention, and coordinating the Commerce Department's homeland security activities. The new name – the Bureau of Industry and Security – more accurately reflects the full scope of these various activities.

Fiscal Year 2002 was a very productive one for the Bureau. In the area of export control policy, the Bureau published several important regulations dealing with export licensing, led certain U.S. Government efforts to strengthen the multilateral export control regimes, conducted extensive outreach to U.S. and foreign companies to heighten awareness and compliance with U.S. export controls, notified exporters of the identities of certain "unverified" foreign entities for which heightened due diligence is required, vigorously engaged China, India, and Russia on bilateral export control and high-technology issues, and developed and launched the Transshipment Country Export Control Initiative – a multi-pronged cooperative initiative to counter diversion of controlled items through the world's major transshipment hubs. While doing all of this, the Bureau also processed nearly 11,000 license applications with an average processing time of 39 days per completed application (one day faster than in Fiscal Year 2001), and, on a daily basis, advised and assisted countless representatives of industry and the public on export control issues.

In the realm of enforcement, BIS conducted a comprehensive new agent training program and closed several important cases that established significant legal precedents and resulted in some of the largest civil penalties ever imposed by BIS. Export enforcement attachés will shortly be placed in Abu Dhabi, United Arab Emirates, and Cairo, Egypt. In addition, BIS established a new internal advisory board to ensure that enforcement cases are processed consistently and in accordance with best legal practices.

BIS also had significant accomplishments with respect to activities not related to export controls. It completed a nine-month investigation into the effect of imports of iron ore and semi-finished steel on U.S. national security, coordinated private sector input to the National Strategy to Secure Cyberspace, assisted U.S. companies in obtaining contracts to supply foreign governments with defense articles valued at nearly \$8 billion, launched a number of significant assessments of sectors of the U.S. defense industrial base, resolved disputes regarding international inspections of U.S. chemical facilities, and required preferential acceptance and performance of contracts concerning items that support the war on terrorism and U.S. homeland security efforts.

In addition, in Fiscal Year 2002 the Bureau published, for the first time ever, a statement of "Guiding Principles." These eight principles represent the Bureau's guiding philosophy in approaching its activities and fulfilling its responsibilities. A copy of the Guiding Principles is included in the Annual Report.

Fiscal Year 2002's major piece of unfinished business is the enactment of a new Export Administration Act. In the absence of an Export Administration Act, the U.S. dual-use export control system continues to be dependent on the President's invocation of emergency powers under the International Emergency Economic Powers Act. As demonstrated by recent events, having a modern, coherent, and effective system of dual-use export controls – to prevent terrorists, rogue states, and proliferators of weapons of mass destruction from accessing sensitive U.S.-origin goods and technology – is now more important than ever. The Administration supports legislation to create a streamlined and strengthened export control system that effectively promotes both U.S. national security and U.S. economic interests. We urge the Congress to enact such legislation early in 2003.

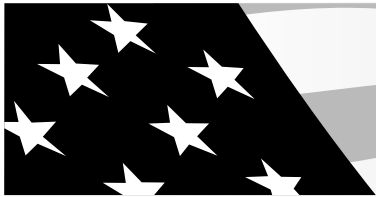
Those who have read previous Bureau annual reports may notice some changes in this year's report. Rather than organizing the report on an office-by-office basis, this report is organized along functional lines – for example, regulations and policy, licensing, industry outreach – often unifying in single chapters activities that might have been undertaken by different Bureau offices. We feel that this structure not only makes the full scope of the Bureau's activities easier to comprehend, it also is consistent with our strong emphasis on unifying and leveraging related initiatives and activities. In addition, the report provides not just statements of accomplishments, but also statements of goals and objectives for the upcoming year. We believe that this information will be of interest to the public.



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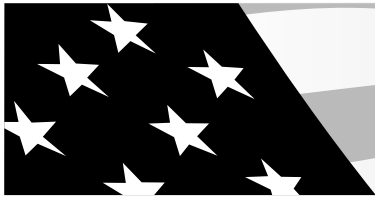
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Executive Summary

This report summarizes the activities of the Department of Commerce's Bureau of Industry and Security (BIS) during Fiscal Year 2002.¹

On April 18, 2002, the Department announced that it had changed the name of the Bureau from the "Bureau of Export Administration" to the "Bureau of Industry and Security." While a core mission of BIS continues to be the administration and enforcement of dual-use export controls, BIS's responsibilities also include a broad range of non-export-related functions arising at the intersection of industry and security. The new name more accurately reflects the full scope of the activities in which BIS is engaged, while also reflecting that, in today's world, industry and security are more closely intertwined than ever before.

Highlights of Fiscal Year 2002

BIS implemented a number of significant export control policies and regulations in Fiscal Year 2002. These included:

- Publication of rules adjusting controls on high performance computers and microprocessors, to reflect recent advancements in these technologies, the mass market and foreign availability of certain products, and changes in multilateral regime controls on these items.
- Publication of a rule implementing an agreement with the Departments of State and Defense resolving jurisdictional issues over several classes of space qualified items.
- Publication of a rule to implement changes in export controls on encryption items that were agreed to by the Wassenaar Arrangement.

In the export licensing area, BIS processed virtually the same number of applications it did in Fiscal Year 2001, but improved the average application processing time. In Fiscal Year 2002, BIS:

- Completed the review of 10,767 license applications, with an average processing time of 39 days, compared to the review of 10,773 license applications with an average processing time of 40 days in Fiscal Year 2001.
- Resolved a significant backlog of deemed export license applications by reallocating resources and personnel and by negotiating agreements with other relevant agencies to expedite the review process.

BIS continued to vigorously enforce U.S. export control laws and further its efforts to ensure compliance with export license conditions. During Fiscal Year 2002, BIS:

- Closed 25 administrative enforcement cases, including a \$2.12 million settlement agreement with McDonnell-Douglas to resolve charges that the company violated export control laws in connection with the diversion of certain machine tools to a military factory in China. This settlement was the second-largest civil penalty ever imposed by BIS.
- Contributed to the work of the FBI's Joint Terrorism Task Forces, bringing BIS's export control enforcement expertise to bear in the nation's fight against terrorism.
- Published a notice establishing the "Unverified List" – a list of companies for which U.S. exporters are required to exercise heightened due diligence because of concerns raised by BIS's inability to perform pre-license checks or post-shipment verifications at these companies.

¹In accordance with the Department's past practice, this report has been prepared and is being submitted to the 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, together with the rest of the EAA, has 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 information included in the report fulfills reporting requirements in statutes other than the EAA.

Executive Summary

- Created an Administrative Case Review Board designed to ensure that export enforcement cases are processed consistently, fairly, and in accordance with best legal practices.

BIS undertook a number of efforts in Fiscal Year 2002 to inform the public of its programs and initiatives and to seek input from the public on those activities, including:

- Conducting educational “outreach” seminars on subjects ranging from the obligations of exporters and others under the Export Administration Regulations, to BIS’s enforcement of the Export Administration Regulations, to the reporting requirements under the Chemical Weapons Convention regulations, to raising awareness of state and local governments and corporate executives regarding the need to work in partnership with the Federal Government to protect the nation’s critical infrastructures from physical and cyber attacks.
- Supporting the Partnership for Critical Infrastructure Security, which brings together the government and private sector owners and operators of critical infrastructures in order to address common infrastructure security issues.

BIS, in coordination with other Federal agencies, participated in a number of international programs during Fiscal Year 2002, including:

- Working to strengthen the various multilateral export control regimes – the Wassenaar Arrangement, the Missile Technology Control Regime, the Nuclear Suppliers Group, and the Australia Group.
- Organizing 53 bilateral or multilateral conferences and workshops to strengthen and support indigenous export control regimes in other countries, including a number of countries formerly part of the Soviet Union and a number of countries that function as key trans-shipment hubs in global commerce.
- Vigorously engaging several countries of strategic importance – including, China, India, and Russia – on a number of high-technology trade and export control issues.

- Hosting eight on-site inspections of U.S. facilities engaged in chemical production activities, which were conducted by the Organization for the Prohibition of Chemical Weapons and carried out in compliance with the requirements of the Chemical Weapons Convention.
- Expanding BIS’s presence overseas by placing export control attachés in Abu Dhabi, United Arab Emirates and Cairo, Egypt, thereby supplementing the existing BIS attachés in Moscow, Russia and Beijing, China.

BIS activities during Fiscal Year 2002 to monitor and support the U.S. defense industrial and technological base included:

- Exercising authority under the Defense Priorities and Allocations System to require preferential acceptance and performance of certain contracts supporting Operation Enduring Freedom and homeland security activities, including contracts for components of Predator unmanned aerial vehicles and contracts for airline passenger baggage screening systems for the Transportation Security Administration.
- Assisting U.S. companies in securing \$7.8 billion in contracts to supply foreign governments with defense articles, including fighter aircraft, naval systems, attack helicopters, and aircraft electro-optical systems.

Highlights of BIS’s activities to protect the Nation’s critical infrastructures included:

- Continued use of the Critical Infrastructure Assurance Office’s Project Matrix™ program to assist other civilian Federal agencies in analyzing their dependence on critical infrastructures. Project Matrix™ is designed to give civilian Federal agencies the information that they need to ensure that the Federal Government continues to deliver services essential to the security, economy, and health and safety of its citizens in the event of deliberate attempts to disrupt such services through physical or cyber attacks.
- Coordinating the development and drafting of the *National Strategy to Secure Cyberspace* and providing assistance to the Office of Homeland Security in developing the *National Strategy for the Physical Protection of Critical Infrastructures and Key Assets*.



Chapter 1: Export Control Policy and Regulations

Mission

The Bureau of Industry and Security (BIS) is charged with the development, implementation, and interpretation of U.S. export control policy for dual-use commodities, software, and technology. Dual-use items subject to BIS regulatory jurisdiction have predominantly commercial uses, but also have military applications. One of BIS's principal objectives is to ensure that exports from the United States and reexports of U.S.-origin items from third countries are consistent with U.S. national security and foreign policy objectives, without imposing unnecessary regulatory burdens on U.S. exporters or impeding the flow of legitimate trade.

In order to accomplish this objective, BIS seeks to promulgate clear, concise, and timely regulations. Principal areas of focus include implementation of changes decided by the four multilateral export control regimes – the Nuclear Suppliers Group (NSG), the Missile Technology Control Regime (MTCR), the Australia Group (AG) (chemical and biological nonproliferation), and the Wassenaar Arrangement (WA) (conventional arms and dual-use goods and technologies).

BIS also seeks to promulgate regulations that further U.S. foreign policy objectives, including sanctions policies, rules that clarify which export licensing agency has jurisdictional authority for a given item, and the rights and obligations of U.S. exporters.

In the development of regulatory policy, BIS consults with industry through its Technical Advisory Committees (TACs). The TACs provide valuable input regarding industry perspectives on trends in technology as well as the practicality and likely impact of export controls. In addition, BIS often publishes significant rules in proposed form to give the exporting community an opportunity to comment before the regulations take effect.

Accomplishments in Fiscal Year 2002

During Fiscal Year 2002, BIS made significant progress in modifying and updating export controls to ensure that U.S. firms compete for international sales on a fair and equal basis with foreign competition while protecting U.S. national security and foreign policy interests.

Advancements in IT Sector

In three specific areas important to U.S. industry – high performance computers (HPCs), microprocessors, and encryption – BIS and its Wassenaar Arrangement partners



Under Secretary Kenneth I. Juster addresses the Bureau of Industry and Security's 7th Annual Symposium for International Export Control Officials, October 2, 2001.

adjusted control levels in Fiscal Year 2002 to reflect advances in technology, mass market availability, and/or foreign availability.

High Performance Computers

In Fiscal Year 2002, BIS made two adjustments to the control threshold for exports of high performance computers (HPCs). The first, announced in January 2002 and effective in March 2002, made HPCs capable of up to 190,000 millions of theoretical operations per second (MTOPS) eligible for export to Tier III countries (including China, Russia, and India) under License Exception CTP. As a result, HPCs with a composite theoretical performance of up to 190,000 MTOPS may be exported to most destinations under License Exception CTP without any advance notification to BIS. There is, however, a post-shipment reporting requirement for such exports. Prior to this change, the control threshold for HPC exports to Tier III countries under License Exception CTP was 28,000 MTOPS.

The second set of changes to HPC export controls in Fiscal Year 2002 was implemented as a result of multilateral agreements reached in the Wassenaar Arrangement in December 2000. In a rule published on March 8, 2002, BIS raised the national security control threshold for HPCs to 28,000 MTOPS from 6,500 MTOPS. Accordingly, exports of HPCs below 28,000 MTOPS may be made without a license to all destinations except Tier IV countries (designated terrorism-supporting countries) and sanctioned persons. Exports of HPCs up to 85,000 MTOPS also are now exempt from the reporting requirements set forth in License Exception CTP.

The Administration is continuing its overall review of HPC export policy, including the metric by which exports of HPCs are controlled. The purpose of this review is to maximize the effectiveness of the controls on HPCs while minimizing the adverse impact of such controls on U.S. economic interests.

Microprocessors

In March 2002, BIS published a regulation adjusting export controls on general purpose microprocessors by

raising the performance level of general purpose microprocessors eligible for export under license exception to 12,000 MTOPS from 6,500 MTOPS. Microprocessors with a CTP up to 12,000 MTOPS may be exported to civil end-users throughout the world, except to terrorism-supporting countries and sanctioned persons, under License Exception CIV.

In addition, after extensive discussions with the Departments of State and Defense and in consultation with the private sector, the U.S. Government agreed with the consensus position of the Wassenaar Arrangement members in Fiscal Year 2002 to remove export controls on general purpose microprocessors. At the same time, the U.S. will focus its controls on general purpose microprocessors destined for military end-users and end-uses. BIS expects that these changes will be fully implemented in the regulations in early 2003. These changes are necessary to ensure that U.S. industry can compete on a level playing field in the burgeoning commercial markets for microprocessors, while protecting vital U.S. national security interests.

Encryption

On June 6, 2002, BIS published a rule in the *Federal Register* updating U.S. encryption export control policy, following extensive industry consultation and inter-agency review. The updated U.S. encryption regulations reflect changes made to the Wassenaar Arrangement list of dual-use items, and ensure that effective multilateral encryption controls with key information technology trading partners, such as the European Union and Japan, are maintained.

These updated regulations allow “mass market” encryption products using symmetric encryption algorithms with key lengths exceeding 64 bits to be exported and reexported (except to designated terrorist countries or sanctioned persons) after a 30-day technical review by BIS and the Encryption Request Coordinator (National Security Agency). There will be no licensing or post-export reporting requirements related to the export or reexport of such “mass market” encryption products upon completion of this review.

As part of the policy review and update process, BIS worked closely with interagency and industry groups, such as the Regulations and Procedures Technical Advisory Committee (RPTAC), the Information Systems Technical Advisory Committee (ISTAC), the Alliance for Network Security (ANS), and the American Electronics Association (AEA).

representatives of BIS and Israel's Ministry of Defense met to discuss how to best ensure the relevancy and suitability of encryption export controls in the post-September 11 global environment. BIS also participated in the United States review of the Organization for Economic Cooperation and Development's information security guidelines.



Deputy Under Secretary Karan K. Bhatia addresses the Bureau of Industry and Security's 7th Annual Symposium for International Export Control Officials, October 2, 2001.

The new U.S. encryption export policy reflects the results of active consultations with other nations, such as members of the Wassenaar Arrangement and the European Union. The United States and its key trading and security partners recognize the importance of encryption controls in securing critical infrastructures, developing new technologies and standards, thwarting cybercrime, and promoting electronic commerce, and at the same time understand the need to restrict the flow of goods that could compromise our common security and foreign policy interests.

As a result, partners in the Wassenaar Arrangement and other multilateral entities, such as the European Union, continue to track the U.S. position and implement the multilateral agreements. In addition, the United States works closely with its partners on a bilateral and multilateral basis. For example, during Fiscal Year 2002,

Interagency Jurisdiction Issues

Night Vision Equipment

BIS made progress in its ongoing efforts to resolve the issue of jurisdiction over the licensing of night vision equipment. BIS approved over 97 percent of the license applications for night vision cameras that were submitted during Fiscal Year 2002. Working with the interagency community and the industry TACs, BIS developed a better understanding of industry concerns regarding how certain license conditions impact their activities. During Fiscal Year 2003, BIS will continue to work with the interagency community to reach agreement on license conditions for night vision exports as well as export control jurisdiction for

certain of these items.

"Space Qualified" Items

Working with other agencies, BIS resolved longstanding jurisdictional uncertainty regarding controls on "space qualified" goods and technologies. BIS and the Department of State reached agreement on which space-qualified items were to remain under Commerce Department jurisdiction, and which would be transferred to the Department of State's U.S. Munitions List (USML). These changes took effect in regulations published on September 23, 2002. Those space qualified items remaining on the Commerce Control List will be subject to enhanced controls to ensure that important national security and foreign policy objectives are met.

U.S. Munitions List Review

During Fiscal Year 2002, BIS played a critical role in the ongoing interagency efforts to review the scope and contents of the U.S. Munitions List (USML) in light of technological developments and changed market trends. Items that continue to have predominately military uses are on the USML, while those with predominantly civil uses are identified on the Commerce Control List and subject to BIS jurisdiction. Areas of focus for the USML review included propellants and explosives, as well as nuclear and chemical-related commodities and technology.

BIS anticipates that the results of this portion of the USML review will be published in the *Federal Register* by the end of 2002. Specific jurisdictional clarifications will be beneficial to the exporting community as well as to all of the agencies involved in the export control review process.

Export Authorizations for Cuba

BIS continued to implement the U.S. Government's export sanctions against Cuba and reviewed requests for proposed exports of items that may be licensed under current law.

In July 2001, BIS created a hybrid license exception to permit the expedited processing of proposed exports of agricultural commodities to Cuba, in compliance with the requirements of the Trade Sanctions Reform and Export Enhancement Act of 2000 (TSRA) (Title IX of Pub. L. 106-387), as amended. Under new License Exception AGR, applicants submit notifications to BIS for proposed exports. Notifications are reviewed by the interagency community and, if there are no objections, BIS authorizes the applicant to use License Exception AGR.

There was significant interest in exporting agricultural commodities to Cuba during Fiscal Year 2002, largely driven by two events: Hurricane Michelle, which caused extensive damage to Cuban crops and grain stores in November 2001, and a U.S. food exposition that was held in Havana on September 26-30, 2002, and was the largest U.S. trade show in Cuba since the imposition of the Cuban embargo more than 40 years ago.

Based on the creation of the new expedited procedures for agricultural exports and these two events, the number of applications and notifications submitted to BIS rose significantly during Fiscal Year 2002, almost tripling the number of cases processed during Fiscal Year 2001. Because of the complexities of trade with Cuba – the nation most stringently embargoed by the United States – and the TSRA changes implemented last year, BIS also had a significant increase in queries regarding such trade.

Policy Toward Individual Countries

During Fiscal Year 2002, geopolitical and security considerations had a major impact on BIS's export control policies. Concerns regarding the proliferation of weapons of mass destruction, the transfer of critical enabling technologies for advanced conventional weapons, and the need to develop international cooperation in the war against terrorism, have played a major role in focusing BIS's policies toward individual countries. The principal highlights are set forth below.

India/Pakistan Sanctions

As a result of the May 1998 nuclear tests conducted separately by both India and Pakistan, the U.S. imposed export control sanctions that greatly restricted the flow of trade between the United States and these two countries. In light of the changing world situation and the focus on the war on terrorism, President Bush waived certain sanctions against India and Pakistan on September 22, 2001. On October 1, 2001, BIS published a rule that implemented the waiver of sanctions against India and Pakistan by lifting the policy of denial for the export of all nuclear and missile technology-controlled items (replacing it with a case-by-case review) and further reducing the number of entities on the Entity List. The current Entity List is focused on end-users with direct involvement in weapons of mass destruction and missile development and testing programs. The waiver of sanctions and the reduction of the Entity List, combined with the recognition of India's and Pakistan's role in the war against terrorism, has led to a more favorable exporting environment with these two countries. Overall, the United States is seeking to expand trade relations with these countries within the context of our non-proliferation policy.

People's Republic China

China remains a country with great promise for expanded bilateral trade, but is a country that also poses certain concerns related to U.S. national security objectives.

During Fiscal Year 2002, BIS vigorously engaged China on bilateral export control issues, including the issue of end-use checks. In June 2002, BIS notified exporters,

Russia

BIS seeks to develop an increasingly cooperative relationship with Russia, particularly in connection with efforts to ensure that Russia's prodigious technological and military capabilities are not transferred to countries of concern or to terrorist entities. During Fiscal Year 2002, BIS engaged Russia on efforts to strengthen controls on dual-use exports under the Wassenaar Arrangement.



Assistant Secretary for Export Administration James J. Jochum addresses the Bureau of Industry and Security's 7th Annual Symposium for International Export Control Officials, October 2, 2001.

through the publication of an Unverified List, of the names of nine Chinese entities for which BIS had been unable to conduct pre-license checks or post-shipment verifications. Exports to entities on the Unverified List automatically raise "red flags" for exporters and require exporters to exercise greater due diligence to ensure compliance with the Export Administration Regulations.

The export to China of any item controlled for missile technology reasons, other than those for safety of flight, requires specific review and certification by the President, as mandated by Section 1512 of the National Defense Authorization Act. No certifications were made in Fiscal Year 2002, and thus no exports of missile technology-controlled items (other than those for safety of flight purposes) to China were authorized.

In addition, in conjunction with the Department of Energy's National Nuclear Security Administration, BIS plays an active role in the Nuclear Cities Initiative (NCI). The NCI is an effort to employ nuclear weapons scientists and technical personnel from the former Soviet Union in civilian endeavors. One such endeavor is the redevelopment activity of the Russian Federal Nuclear Center in Sarov, Russia. Development of a commercial building products manufacturing capability and the establishment of production lines for medical technologies are two initiatives planned for the Sarov Techno-

park known as Avangard. The objective is to help scientists in nuclear weapons enterprises find employment in the private sector.

BIS also facilitates the export of items needed to ensure the safety and security of Russian nuclear materials and weapons through Special Comprehensive Licenses.

Nonproliferation and Export Control Cooperation

BIS's Nonproliferation and Export Control (NEC) Cooperation program is designed to assist key countries to develop and strengthen their national export control systems.

During Fiscal Year 2002, NEC, with assistance from other parts of BIS, organized or coordinated 53 bilateral technical exchange workshops and multilateral conferences. The exchange activities undertaken during Fiscal Year 2002 included cooperative bilateral workshops with Armenia, Azerbaijan, Bulgaria, the Czech Republic, Georgia, Hungary, India, Kazakhstan, the Kyrgyz Republic, Moldova, Poland, Romania, Russia, Slovakia, Slovenia, Turkey, Ukraine, and Uzbekistan. Chapter 5 of this report includes detailed information on these activities.

Anti-Terrorism Efforts

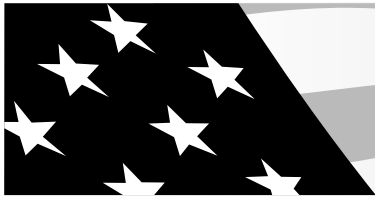
In concert with the overall U.S. response to the threat of terrorism, BIS has sought to broaden the focus of the multilateral export control regimes. Heretofore, these regimes focused primarily on the need to control exports to state-sponsored military and weapons of mass destruction programs. The growing terrorist threat argues for an expansion of the regimes' focuses to include items that could be useful for more limited terrorist applications. In this regard, BIS has taken a leadership role in advocating greater international consensus on common implementation procedures and a broader list of items subject to control (e.g., "catch-all" controls). Specific initiatives in each of the four regions are set forth in Chapter 5 of this report.

Export Administration Act

BIS, working with other agencies and congressional staff, spent considerable time in Fiscal Year 2002 in support of the passage of a new Export Administration Act (EAA). Though EAA legislation was not enacted in 2002, BIS is looking forward to enactment of an EAA in 2003 that reflects post-cold war export control realities, provides appropriate penalties, and ensures the protection of confidential information submitted to BIS by U.S. companies. The continued protection of such information is currently the subject of litigation in the U.S. Court of Appeals for the District of Columbia Circuit.

Goals for Fiscal Year 2003

In Fiscal Year 2003, BIS intends to work closely with Congress in seeking to pass a new EAA. In addition, BIS will continue to work with the Departments of State, Defense, and Energy on strengthening the effectiveness of and expanding adherence to the four major multilateral export control regimes. BIS also will continue to work to improve the effectiveness, efficiency, and transparency of the license application review process and procedures. In particular, BIS will seek to clarify and expedite the review process for commodities – such as night vision equipment – that currently undergo extensive interagency review. Finally, BIS will work to shorten the time needed to publish revisions to the EAR and process commodity classifications.



Chapter 2: Export Licensing

Mission

A primary mission of the Bureau of Industry and Security (BIS) is the accurate, consistent, and timely evaluation and processing of licenses for proposed exports of goods and technology from the United States. BIS's objective is to protect U.S. national security, foreign policy, and economic interests without imposing undue regulatory burdens on legitimate international trade. Consistent with that obligation, BIS attempts to minimize the length of time necessary to analyze proposed export transactions while fully consulting with the interagency community on the disposition of such transactions.

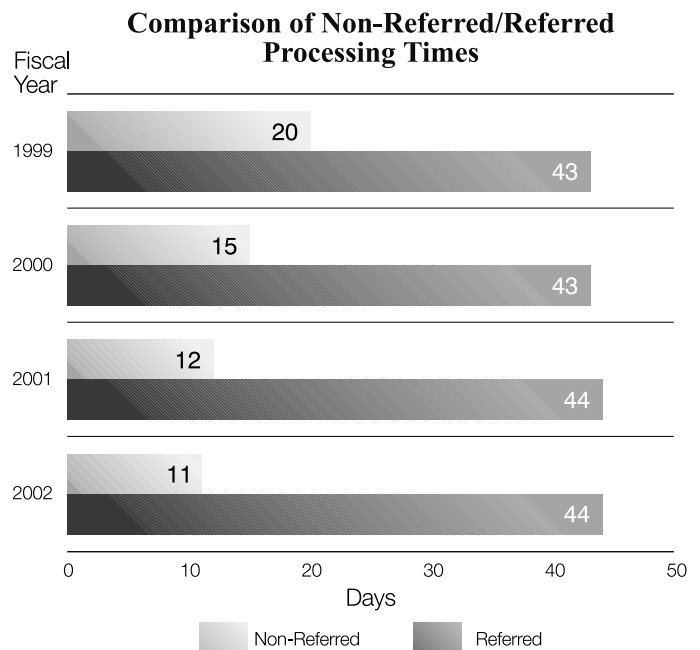
Accomplishments in Fiscal Year 2002

Export License Processing

BIS reviewed 10,767 license applications with a total value of \$16.8 billion during Fiscal Year 2002. The greatest number of license approvals in Fiscal Year 2002 under one commodity classification was for thermal imaging and light intensifying cameras, with 1,344 approvals. Overall, BIS approved 8,735 license applications, returned 1,826 applications without action, and denied 206 applications during Fiscal Year 2002.

The People's Republic of China (PRC) was the destination for the largest number of approved licenses in Fiscal Year 2002. BIS evaluated and approved 777 licenses for exports to the PRC; 40 percent of these license approvals were for so-called "deemed exports." (Under the current deemed export rule, set forth in Part 734 of the Export Administration Regulations (EAR), the transfer of technology within the United States to foreign nationals who do not have permanent resident or asylum status requires a license if the direct transfer of the technology to the foreign national's home country would require a license.)

The average processing time during Fiscal Year 2002 for all completed license applications was 39 days, down from 40 days in Fiscal Year 2001. This slight decrease was due to the continued decline in the processing time for applications that are not referred to other agencies for review. In Fiscal Year 2001, non-referred applications were processed with an average time of 12 days. In Fiscal Year 2002, BIS reduced the time for processing non-referred applications to an average of 11 days. The challenge remains to reduce the average processing time for applications that are referred for interagency review. In Fiscal Year 2002, 86 percent of all license applications were referred to other agencies for review, with an average processing time of 44 days.



Deemed Exports

BIS processed 1,016 deemed export cases in Fiscal Year 2002, slightly less than the 1,026 cases processed during Fiscal Year 2001. This small reduction is likely due to economic conditions that resulted in the hiring of fewer foreign nationals in industries involved with controlled technologies. Most deemed export cases involve the transfer of technology that is controlled only for national security reasons (e.g. semiconductor manufacturing, telecommunications, and computers). Accordingly, the deemed export program was transferred within BIS from the Office of Nonproliferation Controls and Treaty Compliance to the Office of Strategic Trade and Foreign Policy Controls, which is responsible for administering national security controls.

Short Supply Controls

Sections 3(2)(c) and 7 of the Export Administration Act of 1979, as amended (EAA), authorize 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.” Section 7 of the EAA also authorizes the President to monitor exports of certain goods to determine the impact of such exports on domestic supply and to evaluate whether this impact has an adverse effect on the U.S. economy.

(BIS also administers export controls under the Energy Policy and Conservation Act, the Mineral Leasing Act, the Naval Petroleum Reserves Production Act, the Outer Continental Shelf Lands Act, and the Forest Resources Conservation and Shortage Relief Act, as amended.)

During Fiscal Year 2002, BIS controlled the export of domestically produced crude oil and certain unprocessed timber harvested from Federal and state lands. BIS approved 14 licenses for the export of crude oil amounting to 38.1 million barrels. No licenses were approved during Fiscal Year 2002 for the export of unprocessed timber.

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. Therefore,

information from the U.S. Department of Agriculture on its monitoring activities during Fiscal Year 2002 is included in Appendix H of this report.

Special Comprehensive Licenses

In Fiscal Year 2002, BIS completed nine system reviews of Special Comprehensive Licenses (SCLs) consistent with a new audit strategy designed to ensure that SCL holders and consignees are in compliance with the Export Administration Regulations (EAR). The SCL is a special license that is extended to experienced and knowledgeable exporters and consignees. The SCL is used in place of individual export licenses for shipments by exporters who routinely participate in export and/or reexport transactions to multiple destinations. Parties to the SCL must have mechanisms in place to ensure that each export and reexport meets all the terms and conditions of the SCL and is in accordance with applicable provisions of the EAR.



Assistant Secretary James J. Jochum addresses the Bureau of Industry and Security's 15th Annual Update Conference, October 10, 2002.

Under a new procedure implemented in Fiscal Year 2002, BIS audited the internal control systems of SCL holders by 1) reviewing the license holder site; 2) reviewing the consignee site; and 3) conducting a desk review of a second consignee through a spot check. Under this new system, BIS will not review the companies or their associated consignees again for three years. However, during the

three year moratorium on BIS audits, SCL holders are still required to conduct internal audits that will be subject to BIS spot checks.

Technical Reviews of Encryption Exports

In Fiscal Year 2002, BIS received nearly 1,200 technical review requests for over 2,000 controlled encryption products, components, toolkits, and source code items. Under current encryption export control policy, most encryption products require a one-time technical review prior to export. While many encryption products may be exported under a license exception to most destinations, there has been no change to the stringent license requirements and licensing policy for exports of such products to designated terrorist countries and sanctioned persons.

Of the 1,534 encryption products reviewed during Fiscal Year 2002, 76 percent were classified as “retail” or “mass market” encryption items, making them eligible for export without a license to government and non-government end-users in most countries. In addition, during Fiscal Year 2002 BIS approved 391 license applications for “non-retail” encryption items (such as high-end routers and other network infrastructure equipment) and technology valued at \$28.2 million.

The Simplified Network Application Process System

The Simplified Network Application Process (SNAP) system permits exporters to transmit submissions directly to BIS through a secure environment via the Internet. From a single secure web site, exporters can certify and submit license applications, reexport authorizations, and commodity classification requests.

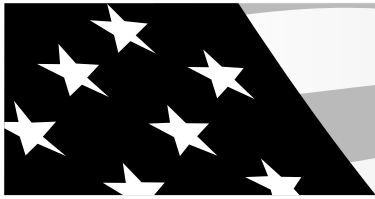
During Fiscal Year 2002, 10,077 export and reexport license applications, commodity classification requests, and other submissions were submitted electronically to BIS through the SNAP system – a substantial increase from the 7,622 submissions received in Fiscal Year 2001. The majority of the Fiscal Year 2002 requests were license applications (7,351); the number of commodity classification requests submitted under SNAP was 2,611.

Goals for Fiscal Year 2003

BIS will continue to work with other agencies to negotiate delegations of authority to increase the number of applications that BIS may review without referral. Another key initiative for BIS in Fiscal Year 2003 will be the development of standard license conditions for specific categories of cases (e.g., deemed exports, night vision equipment) that are acceptable to all agencies. Because more than 99 percent of all approved applications include license conditions, the use of pre-approved conditions could significantly reduce application processing times by reducing the time spent on the interagency review of license applications.

BIS is finalizing new capabilities for SNAP, including electronic submission of supporting documentation, tracking of interagency information requests, and elimination of additional paper-based forms. BIS plans to deploy these new capabilities to a limited set of exporters in early 2003.

BIS’s Export Control Automated Support System (ECASS) is used to request recommendations and input and issue export licenses, and to investigate export violators. An investigative tracking module will be deployed in early 2003 to all criminal investigators. BIS also will complete the development of requirements for the commodity classification module that will be utilized by BIS licensing officers.



Chapter 3: Enforcement

Mission

The mission of the Bureau of Industry and Security's (BIS) Export Enforcement division is to protect U.S. national security and foreign policy interests by enforcing the export control and antiboycott provisions of the Export Administration Regulations (EAR).

Export Enforcement accomplishes this mission by identifying and apprehending violators and by pursuing criminal and administrative sanctions against them. Export Enforcement works with the Department of Justice to impose criminal sanctions for violations, including fines and incarceration, and with the Department of Commerce's Office of Chief Counsel for Industry and Security to impose civil penalties for violations, including fines and denials of export privileges.

At the core of Export Enforcement's mission is the prevention of violations before they occur. As part of its preventive enforcement program, Export Enforcement conducts outreach visits to train U.S. exporters to identify illegal export transactions and to avoid participation in unsanctioned foreign boycotts.

Office of Export Enforcement

BIS conducts investigations of potential violations through its Office of Export Enforcement (OEE). OEE investigators are located in eight field offices that serve the major metropolitan areas of Los Angeles, San Jose, New York, Washington, Boston, Miami, Dallas, and Chicago. At the end of Fiscal Year 2002, OEE planned to establish additional field offices in Seattle and Houston contingent on the availability of requested funding. OEE special agents

have traditional police powers, including the authority to make arrests and execute warrants. In addition, agents may issue administrative subpoenas and detain and seize goods about to be illegally exported.



Assistant Secretary for Export Enforcement Michael J. Garcia and Chief Counsel for Industry and Security Jon A. Dyck address the Bureau of Industry and Security's 15th Annual Update Conference, October 10, 2002.

The OEE field offices are supported by the Intelligence and Field Support Division (IFSD), based in OEE's Washington, D.C. headquarters. IFSD reviews information relating to potential export control violations and generates leads for investigations conducted in the field. Officers assigned to IFSD also coordinate resources among the field offices and provide administrative support to those offices. OEE's headquarters operation also houses a national coordinator for agents trained in recovering evidence from seized computers. OEE has specially trained agents in each field office who support investigations by seizing and analyzing data that is stored electronically.

Chapter 3: Enforcement

Enforcement of U.S. export control laws necessarily involves communication and coordination with the international community. Through Export Enforcement's attaché program, OEE assigns special agents to posts abroad to provide an overseas export control resource for BIS as well as industry, foreign governments, and the U.S. Embassy in country. Export Enforcement attachés conduct end-use checks to uncover illegal export transactions, work with the host governments to develop effective enforcement systems, and educate the local business community about U.S. export control laws and regulations. During Fiscal Year 2002, Export Enforcement had attachés in Beijing, China and Moscow, Russia. At end of Fiscal Year 2002, Export Enforcement was in the process of posting attachés to Abu Dhabi, United Arab Emirates and Cairo, Egypt. Export Enforcement also plans to post attachés in Singapore; New Delhi, India; and Shanghai, China during Fiscal Year 2003.

Office of Enforcement Analysis

OEE's investigative work is supported by analysts in Export Enforcement's Office of Enforcement Analysis (OEA). OEA's analysts review export license data for enforcement concerns and communicate those concerns to OEE's investigators. OEA analyzes intelligence information to determine the need for pre-license checks and post-shipment verifications. OEA reviews Shipper's Export Declarations to detect violations of export control requirements and to uncover patterns of illegal procurement, particularly with respect to sensitive items of proliferation concern. OEA also reviews visa applications submitted by those seeking to travel to the United States to prevent illegal technology transfers to visiting foreign nationals in violation of the "deemed export" rule, and, where necessary, forwards the information to OEE field offices for investigation.

Office of Antiboycott Compliance

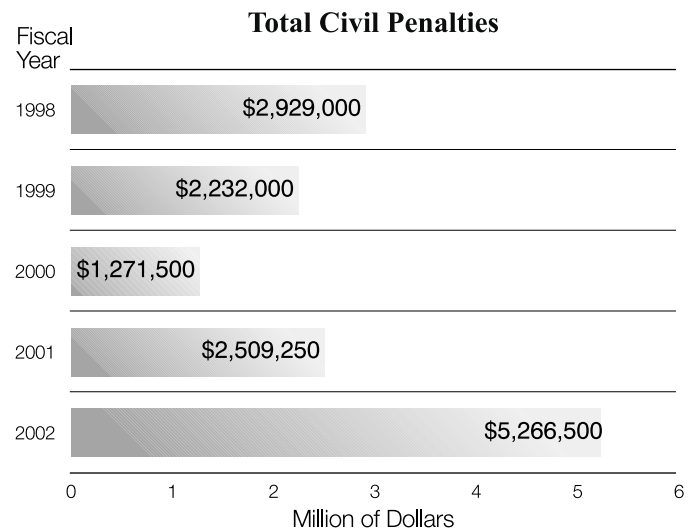
The Office of Antiboycott Compliance (OAC) investigates violations of the antiboycott provisions of the EAR, such as furnishing boycott-related information, refusing to deal with blacklisted businesses, and religious discrimination. OAC also pursues administrative and criminal sanctions for violations of U.S. antiboycott laws. OAC provides

support to the State Department in connection with the U.S. Government's efforts to persuade Arab governments to end their boycott of Israel. OAC also educates the public on the antiboycott regulations and the importance of compliance with such laws and regulations.

Accomplishments in Fiscal Year 2002

Significant Cases

A summary of significant export control cases closed in Fiscal Year 2002 is included in this report (see Appendix D for details). Of particular significance: BIS concluded a complex six-year investigation involving false statements made by McDonnell Douglas Corporation on a license application for the export of machine tools to China. A \$2.12 million penalty was imposed.



In a noteworthy application of the antiboycott laws, a \$10,000 civil penalty was imposed on Johns Hopkins Health System Corporation to settle allegations that the company discriminated against a U.S. person because she was Jewish.

In addition to traditional areas of concern, Fiscal Year 2002 saw Export Enforcement expand its partnership with the FBI's Joint Terrorism Task Forces (JTTF) located throughout the country. The goal of the JTTFs is to bring all areas of law enforcement expertise to bear on the challenge of preventing international terrorism. Export

Enforcement made significant contributions to the JTTFs. In one case, a special agent from the New York Field Office contributed to the investigation of the kidnaping and murder of Wall Street Journal reporter, Daniel Pearl, by developing a time-line and link analysis and working with the task force in Karachi, Pakistan.

Unverified List

In an effort to share information with industry to assist it in evaluating export transactions, BIS published the “Unverified List” in June 2002. This list contains names of selected entities for which BIS was unable to perform either a pre-license check or post-shipment verification. The inability to verify the end-use of a sensitive commodity or the suitability of an end-user or consignee involved in an export transaction raises concerns about the suitability of these firms to participate in future transactions subject to the EAR.

BIS considers the involvement of any firm identified on the Unverified List in a transaction as a “red flag” for purposes of the “Know Your Customer” guidance set forth in Supplement No. 3 to Part 732 of the EAR. Such a “red flag” imposes an affirmative duty on an exporter to inquire further into facts surrounding the proposed transaction. By sharing the identity of these unverified firms, BIS assists in keeping industry informed of export control information for the benefit of both legitimate trade and U.S. national security interests.

Antiboycott Activity

During Fiscal Year 2002, BIS continued its commitment to oppose unsanctioned foreign boycotts of friendly countries. During Fiscal Year 2002, six companies agreed to pay civil penalties totaling \$68,000 to settle allegations that the companies violated U.S. antiboycott regulations contained in the EAR. In these cases, BIS alleged that the companies made boycott-based agreements to refuse to do business, furnished business information for boycott reasons, engaged in discrimination based on religion, or failed to report receipt of boycott requests as required by U.S. antiboycott regulations. The six companies sanctioned included three foreign subsidiaries of U.S. companies. These cases demonstrate that U.S. companies, wherever located, must comply with the antiboycott provisions of the EAR.

A key component of the OAC mission is to educate the public on the antiboycott regulations. During Fiscal Year 2002, OAC compliance officers provided guidance on antiboycott compliance issues to 1,138 callers on the OAC telephone advice line. During the same period, OAC officials made 15 public presentations on the antiboycott regulations. These presentations were attended by exporters, manufacturers, financial services institutions, freight forwarders, and attorneys with expertise in international trade matters. In addition, OAC provided extensive counseling to several companies with specific boycott-related problems.

OAC supports other Federal agencies in antiboycott efforts. OAC provided information to the State Department regarding boycott requests imposed on U.S. companies during Fiscal Year 2002. The State Department uses this information in its discussions with boycotting countries about the boycott of Israel. OAC also continues to share information with the International Trade Administration’s Office of the Middle East for use in advising industry on how to participate in trade opportunities in that region without violating U.S. antiboycott laws.

Law Enforcement Training

Training in export control laws and in modern investigatory techniques is crucial to the development of Export Enforcement’s special agents. To meet the demands of a changing legal framework and advances in investigatory techniques, Export Enforcement held training sessions for its special agents. While the focus of the training was investigative techniques and case prosecution for export control cases, special attention was placed on Export Enforcement’s role in terrorism investigations. The training sessions not only provided agents with the opportunity to learn from a variety of visiting instructors, but also provided a forum to share their own experiences and raise questions concerning specific investigations or legal issues. The training included one three-day basic course for new agents and a week-long advanced course attended by all Export Enforcement agents. Both courses featured instructors from Export Enforcement management and OEE’s own senior special agents, as well as experienced attorneys from the Department’s Office of

Chief Counsel for Industry and Security, prosecutors from the Department of Justice, and investigators from other law enforcement agencies.

Goals for Fiscal Year 2003

In coordination with other agencies and with BIS licensing officers, Export Enforcement will develop a targeted approach to the enforcement of export license conditions. This approach will promote the imposition of conditions that can be enforced effectively and will provide for the monitoring of compliance with conditions after they are imposed.

Export Enforcement is working with the Office of Chief Counsel for Industry and Security to facilitate the processing of administrative enforcement cases by developing a protocol for accelerated case processing. Early in 2003, the Office of Export Enforcement expects to implement a case management system that will enable OEE to track information related to commodities, persons, and organizations in its enforcement cases. The system will also enable special agents to uncover links among investigations being conducted by the various field offices that might not otherwise appear. Due to the increase in storage capacity of the new system, special agents will be able to maintain an electronic case file that will contain all the principal investigative material in addition to the report itself. Under proper controls, the information will be available to OEE agents in each field office. The availability of this information will improve investiga-

tions, prevent duplication of efforts, and provide a tool for managing the caseloads of the field agents.

OEE will improve coordination with the Office of Chief Counsel to accelerate the administrative case process. OEE will seek new ways to target the most sensitive commodities and the most risky end users in an effort to maximize enforcement resources. A primary goal is to ensure consistency among the field offices in their approaches to cases, whether they be administrative or criminal.

OEA will work with both the Immigration and Naturalization Service and the State Department to enhance OEA's ability to detect violations of the deemed export provisions of the EAR, and to identify situations that might lead to unauthorized access to technology by foreign nationals working in the United States. OEA will arrange its resources along geographic lines to improve its ability to identify patterns of illegal procurement and to provide regional expertise to investigators in the field.

OAC will work with industry to further increase awareness of the impact of the boycott of Israel on U.S. companies. OAC will provide increased counseling to companies that do business in the Middle East. To accomplish this goal, OAC will develop a program for educating employees of other government agencies on the antiboycott regulatory scheme so that they, in turn, can guide companies seeking business opportunities in regions of the world where antiboycott issues traditionally arise.



Chapter 4: Industry Outreach Activities

Mission

An integral part of the Bureau of Industry and Security's (BIS) mission is keep U.S. firms informed of export control regulations through an aggressive outreach program. BIS is dedicated to providing current information to U.S. industry regarding the liberalization of export controls, new regulations in support of the nonproliferation and anti-terrorism goals in the post September 11 environment, critical infrastructure assurance and cyber security issues, and compliance with the Export Administration Regulations (EAR).

Accomplishments in Fiscal Year 2002

BIS worked closely with U.S. industry in Fiscal Year 2002 through meetings, conferences, seminars, and increased public-private partnerships to facilitate compliance with U.S. export controls and the protection of critical infrastructures and cyber assets.



Under Secretary Kenneth I. Juster addresses the Bureau of Industry and Security's 15th Annual Update Conference, October 10, 2002.

Exporter Services Outreach Initiatives

Seminars and Conferences

BIS provides guidance to new and established exporters regarding the EAR and changes in export control policy and licensing procedures through educational seminars and workshops offered at various locations throughout the United States. Through its Office of Exporter Services, BIS offers a one-day seminar program that covers the major elements of the U.S. dual-use export control system. BIS also offers an intensive two-day program for exporters who need a more comprehensive understanding of their obligations under the EAR, including workshops on topics of specialized interest (e.g., commercial encryption licensing, freight forwarder obligations, implementation of export management systems, and control of technology transfers to foreign nationals).



Chapter 4: Industry Outreach Activities

In addition to the regular seminar program, BIS conducts Chemical Weapons Convention (CWC) seminars. This industry-specific seminar program is specially tailored for companies subject to the reporting and on-site verifications requirements under the CWC Regulations. In Fiscal Year 2002, BIS conducted 37 such seminars in 16 states, which were attended by 2,273 participants.



The Bureau of Industry and Security's two Update Conferences during Fiscal Year 2002 attracted over 1,000 exporters.

BIS also partnered with a number of public and private sector organizations in an effort to introduce the mission and services of BIS to audiences in specific business or technology sectors. Such partnerships also provide BIS with greater insight into technology and market developments in key sectors of the economy. BIS supported 100 of these programs, which reached over 4,000 people through company visits and formal presentations at conferences.

In addition, BIS Update conferences brought high-level government officials and industry representatives together to discuss new U.S. export control policies, regulations, and procedures. The two annual Update events, held this year in Washington, D.C. and Pasadena, California, attracted over 1,000 exporters.

Counseling

In Fiscal Year 2002, BIS regulatory specialists assisted over 50,000 people through phone calls and e-mails to

BIS's Export Counseling Division and in one-on-one counseling sessions. These sessions are dedicated to providing guidance on regulations, policies, or practices that affect a particular company or exporter. This high level of contact with the exporting community is intended to increase the level of compliance with U.S. export control regulations.

Seeking Industry's Input on Export Control Policy and Regulations

BIS continued to seek input from U.S. industry on export control policy issues through six Technical Advisory Committees (TACs). The TACs are composed of individuals from industry representing diverse points of view regarding the concerns of the exporting community. Industry representatives are selected from firms producing a broad range of goods, technologies, and software, and

membership in the TACs is distributed evenly between large and small companies.

Export Enforcement Outreach Initiatives

Project Outreach

The Office of Export Enforcement (OEE) is committed to maintaining a constructive and cooperative relationship with the business community through enforcement outreach programs. In Fiscal Year 2002, OEE launched Project Outreach, a program designed to educate companies on their responsibilities under the EAR, as well as to advise exporters and freight forwarders on how to recognize warning signs of potential illegal transactions. Through Project Outreach, OEE held eight Business Executives Enforcement Team (BEET) meetings around the country, bringing business executives and law enforcement personnel together to discuss cooperation in an effort to ensure compliance with U.S. export controls and protect U.S. national security and foreign policy interests. Many of these meetings were co-sponsored

with local business groups. Four BEET meetings were held in conjunction with licensing seminars sponsored by the Office of Exporter Services.

During Fiscal Year 2002, OEE Special Agents spoke at numerous conferences, seminars, and meetings. OEE Special Agents also visited 926 companies to brief small groups of employees on how to identify suspicious transactions and how to contact law enforcement officials for prompt assistance. Through these types of direct contact with U.S. industry, OEE Special Agents gained critical feedback from exporters and freight forwarders with respect to the impact of export regulations and the realities of foreign competition. By increasing its understanding of the conduct of international business, OEE is better prepared to detect possible illegal transactions and take appropriate preventive measures.

International Outreach

OEE maintains export control attaché positions in Moscow, Russia and Beijing, China. During Fiscal Year 2002, OEE worked on posting attachés in Abu Dhabi, United Arab Emirates and Cairo, Egypt. The principal mission of the export control attaché at these locations is to implement BIS programs overseas, including those relating to dual-use export controls, and to coordinate U.S. export control assistance with the host government. In addition to conducting selective end-use checks, the attachés work closely with local businesses to ensure that they understand and comply with the requirements of U.S. export controls.

Compliance with Antiboycott Regulations

During Fiscal Year 2002, the Office of Antiboycott Compliance (OAC) responded to 1,138 requests from companies for guidance on compliance with the antiboycott regulations. During the same period, OAC officials made 15 public presentations on the antiboycott regulations. These presentations were made to exporters, manufacturers, financial services institutions, freight forwarders, and attorneys with expertise in international trade matters. Additionally, OAC provided extensive counseling to several companies with specific contract and other boycott problems.

Critical Infrastructure Assurance and Cyber Security Outreach

One of the main functions of BIS's Critical Infrastructure Assurance Office (CIAO) is to engage in outreach and raise awareness of the issues surrounding the protection of our nation's critical infrastructures. The CIAO's outreach programs are designed to reach key stakeholders in major critical infrastructure sectors. The main target audiences are: owners and operators of critical infrastructure sectors (agriculture, food, water supply, public health, emergency services, government services, defense industrial base, information and telecommunications, energy, banking and finance, transportation, chemical industry, and postal and shipping); the business community – in particular senior management and those that influence executive decisions; the insurance and auditing industries; state and local government officials; and the general public.

The challenge of a national critical infrastructure assurance awareness and outreach effort is to present a compelling case for action among the different audiences to secure assets, systems, and networks against deliberate physical and cyber attacks. Forging a broad-based partnership between industry and government to address these issues lies at the heart of the CIAO's mission.

Partnership for Critical Infrastructure Security

The CIAO supports the Partnership for Critical Infrastructure Security (PCIS), which provides a unique forum for government and private sector owners and operators of critical infrastructures to address issues of cross-sector information sharing and cooperation. (See Chapter 7 for additional details.) During Fiscal Year 2002, the CIAO helped PCIS develop a "members only" web site to allow the working groups within PCIS to communicate with members and hold virtual meetings.

Information Sharing and Analysis Centers

Information Sharing and Analysis Centers (ISACs) provide a mechanism that enables participant companies to share information about vulnerabilities, threats, and incidents, and to analyze such information for trends. Each ISAC is uniquely tailored to the business model of its

Chapter 4: Industry Outreach Activities

sector. Most of the ISACs coordinate and analyze information among member companies, as well as share this information with other ISACs and the FBI's National Infrastructure Protection Center. During Fiscal Year 2002, the CIAO has helped facilitate the creation of ISACs in many of the newly identified critical infrastructure sectors, including the healthcare, insurance, and chemical sectors. The CIAO continues to support mature ISACs to identify emerging needs.

In Fiscal Year 2002, the CIAO helped to convene a meeting of the ISACs in critical infrastructure sectors. This meeting included updates on the current status of ISAC formulation and information sharing across sectors. This ISAC meeting also provided a forum for discussion of how ISACs are working, what barriers to information sharing can be removed, and how mature ISACs can help newly-formed ISACs develop.

Outreach to the Business Community

In addition to infrastructure owners and operators, the CIAO's awareness and outreach efforts target other influential stakeholders in the economy. The CIAO has



Under Secretary Kenneth I. Juster addresses the Bureau of Industry and Security's 15th Annual Update Conference, October 10, 2002.

developed and implemented a nationwide industry outreach program targeting senior corporate leadership responsible for setting company policy and allocating company resources.

CIAO-sponsored conferences and seminars are the primary vehicle for raising awareness and educating senior management about the need to manage business and operational risks posed by the growing threat of deliberate cyber and physical attacks on critical networks and information systems. These conferences and seminars target two specific groups of stakeholders: 1) senior executives and Chief Executive Officers (CEOs) of critical infrastructure companies and 2) professional risk managers, such as the auditing community.

During Fiscal Year 2002, the CIAO entered into several partnerships with organizations that support CEOs. The CIAO partnerships with the American Business Conference and the Business Roundtable focused on CEO education seminars, while the partnership with the Conference Board will produce a white paper and two conferences focused on the issue of the economic impact of terrorist threats.

The CIAO also continued to sponsor executive forums, in cooperation with one of its partners – CXO Media, Inc., the publishers of *CIO Magazine* and *Darwin Magazine*. The CXO Executive Forums educate Chief Information Officers on critical infrastructure assurance and information security issues. All of the Executive Forums were webcasted and archived by CXO Media for long-term viewing.

Professional Risk Managers

The CIAO meets regularly with the risk management community, including audit and insurance professionals. This community is particularly effective in raising with boards and senior management issues of corporate governance, accountability, and information security practices that affect shareholder value. Corporate auditors represent trusted channels of communication to senior officers within their institutions and help to create a business case for action in a language that senior officers can understand.

During Fiscal Year 2002, the CIAO presented over 40 nationwide seminars in conjunction with a consortium of risk management leaders, including the Institute of Internal Auditors, the National Association of Corporate

Directors, the American Institute of Certified Public Accountants, the Information Security Audit and Control Association, the Industry Advisory Council Executive Roundtable, and the Business Roundtable.

These seminars educated and provided guidance to auditors on managing operational and business risk arising from the increased reliance on information technology, as well as the physical security lessons learned from September 11. A number of educational materials and resources were distributed at these seminars, including *Information Security Governance: What Directors Need to Know*, and *Information Security Oversight: Essential Board Practices* developed by the CIAO and members of the audit consortium.

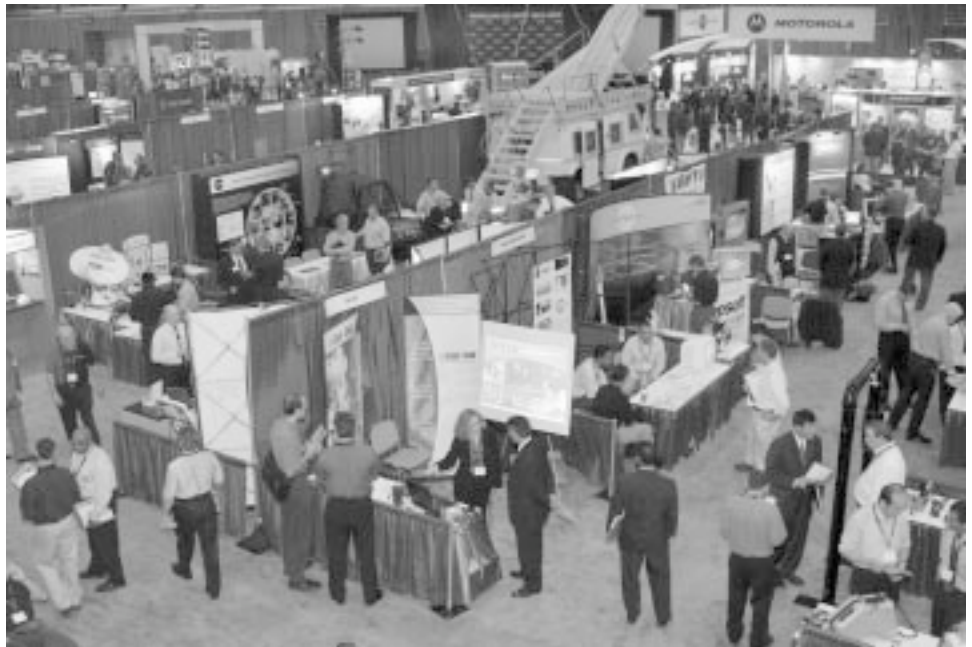
Outreach to State and Local Government

The CIAO has developed an outreach and awareness program for state and local governments to discuss their role as owners and operators of critical infrastructures.

The CIAO has worked with organizations such as the National Governors Association, the National Association of State Chief Information Officers, the National Association of Counties, the National League of Cities, the National Emergency Management Association, the National Association of County Treasurers and Finance Officers, and Public Technology, Inc. These organizations play an important catalytic role for public-private partnerships on critical infrastructure assurance issues at the community level.

In February 2002, the CIAO launched a series of state conferences entitled *Critical Infrastructures: Working Together in a New World*. These conferences brought select critical infrastructure companies and state and local government officials together to discuss how the events of September 11 changed the way infrastructure owners and operators perceive and manage business and

operational risk. The first two conferences were held on February 12-13, 2002 in Austin, Texas and on April 23-24, 2002 in Princeton, New Jersey. Two additional conferences are planned for Fiscal Year 2003.



The Commerce Department hosted a Homeland Security Tech Expo that brought together Federal Government and private sector representatives to explore technologies that will enhance our nation's homeland security, September 19, 2002.

Through this conference series, the CIAO – in conjunction with state and local associations, academia, and other stakeholders – is facilitating the formation of an informational tool that communities can use to assure their own critical infrastructures. An electronic compendium of *Effective Critical Infrastructure Assurance Practices*, resulting from the Effective Practices Working Groups identified in the CIAO's four state conferences, will aid communities across the United States. The main thrust will be "lessons learned" from the events of September 11 and effective practices across the sectors to ensure the security of critical infrastructure services (i.e., mutual aid agreements, response and recovery planning, annual disaster drills and exercises, training tools/forums, and the like).

In conjunction with these state conferences and the CXO Executive Forums, CIAO and CXO Media hosted policy forums. These Policy Forums were highly visible, expertly produced, and copyrighted public dialogues conducted by

well recognized public figures on key discussion topics related to critical infrastructure security and leadership. Like the executive forums, these Policy Forums were webcasted and archived by CXO Media.

Outreach to the General Public

During Fiscal Year 2002, the CIAO helped form the National Cyber Security Alliance (the Alliance), which is comprised of both business and government organizations. The Alliance works to foster awareness of cyber security issues through educational outreach and publicity campaigns. As part of this program, computer security professionals discuss different elements of online computer security and regularly release information on a website accessible to the public (www.staysafeonline.info).

The CIAO also participated in and helped coordinate town hall meetings in three cities organized by the President's Critical Infrastructure Protection Board. These meetings addressed community concerns regarding cyberspace security and promoted an open dialogue between the President's Critical Infrastructure Protection Board and community leaders.

In addition, the CIAO partners with the U.S. Secret Service Electronic Crimes Task Forces to support the Task Force's community-based outreach programs and to incorporate its expertise in cyber security and threat management into Task Force awareness efforts.

Goals for Fiscal Year 2003

BIS intends to continue the important work of outreach to the business community and the general public regarding export control and critical infrastructure assurance issues. Specifically, BIS plans to develop a training package that Export Management Services (EMS) Workshop participants can use to train export and overseas personnel, including a video training tape, EMS Workbook, and slides. The package will be offered to seminar participants and as a downloadable tool from the EMS Web Page.

BIS also plans to offer full-day programs on export compliance for freight forwarders with presentations by BIS, the Census Bureau, and the U.S. Customs Service. The addition of two export control attachés in the Middle East will help enhance awareness of the U.S. export control system in a critical region of the world. Under the new Department of Homeland Security, the CIAO will continue its outreach programs to the business community, state and local governments, and the general public concerning critical infrastructure protection.



Chapter 5: International Programs

Mission

One of the Bureau of Industry and Security's (BIS) principal missions is to promote the effective international implementation of export controls and treaty obligations.

In this regard, BIS plays a major role in the development, interpretation, and refining of control lists and operational guidelines for three major nonproliferation regimes – the Australia Group (AG), the Missile Technology Control Regime (MTCR), and the Nuclear Suppliers Group (NSG). BIS also has a similar leadership role in a fourth multilateral export control regime, the Wassenaar Arrangement, which is the successor organization to the Coordinating Committee for Multilateral Export Controls (COCOM) and focuses on controls on conventional arms and dual-use exports.

In addition to the multilateral regimes, BIS administers the industry compliance program for the Chemical Weapons Convention (CWC), an international treaty that bans the development, production, stockpiling, and use of chemical weapons among its signatories and provides for an extensive verification regime to ensure adherence to its terms. BIS also actively engages other CWC State Parties and the Technical Secretariat of the Organization for the Prohibition of Chemical Weapons (OPCW) to ensure that the provisions of the CWC are being implemented in a rigorous, analytically sound, and equitable manner among all State Parties.

BIS also conducts an active program of international collaboration with countries needing assistance in the development of effective export control regimes. Through bilateral and regional cooperative activities with more than 20 countries, BIS helps cooperating nations create the infrastructure for an effective export control system that meets international standards, including:

1) building a legal framework, procedures, and requirements necessary to regulate the transfers of sensitive items; 2) enhancing enforcement capabilities to match this framework; and 3) developing an appropriate partnership between government and industry on export controls.

BIS also keeps the public and private sectors in many countries informed about U.S. export controls through its licensing and enforcement outreach programs and other initiatives.

Accomplishments in Fiscal Year 2002

In light of the events of September 11 and the significant changes in the international security environment during Fiscal Year 2002, BIS increased its emphasis on strengthening international cooperation in the area of export controls and nonproliferation. To that end, BIS has worked closely with the Departments of State and Defense, the U.S. Customs Service, and the Department of Energy in identifying a new set of high-priority target countries for its international programs: China, India, and Russia. In Fiscal Year 2002, BIS focused on initiating and further developing BIS's international cooperative activities in those countries and other regions.

During Fiscal Year 2002, BIS increased the internal coordination of its international activities by adopting a system of pre-activity proposals and post-activity reports for international events that permits senior management to better coordinate the Bureau's activities and to measure progress while also creating a sound record of goals, actions, and outcomes associated with BIS international activities.

Chapter 5: International Programs

During Fiscal Year 2002, BIS also increased its activity in bilateral and multilateral initiatives designed to strengthen the national export control systems of key countries; worked closely with the Departments of State and Defense to develop proposals to strengthen the effectiveness of the multilateral export control regimes (the Australia Group, the Missile Technology Control Regime, the Nuclear Suppliers Group, and the Wassenaar Arrangement); and strengthened its international export enforcement initiatives through the Safeguards Verification Program and by maintaining Export Enforcement attachés at the U.S. Embassies in Moscow, Russia and Beijing, China.

To intensify, integrate, and broaden its international activities with a number of key transshipment countries, BIS launched the Transshipment Country Export Control Initiative (TECI) during Fiscal Year 2002. The TECI addresses the problem of illegal diversions of sensitive items through major transshipment hubs by seeking to enhance cooperation with relevant transshipment country government authorities and strengthen partnerships between government and industries involved in trade facilitation at transshipment hubs.

International Regimes

Australia Group

The formation of the Australia Group (AG) in 1985 was prompted by Iraq's use of chemical weapons during the Iran-Iraq war (1980-1988). Australia, concerned with Iraq's development of chemical weapons, recommended harmonization of international export controls on chemical weapons precursor chemicals. As the AG membership grew, it expanded its focus to include chemical production equipment and technologies and measures to prevent the proliferation of biological weapons. Today the AG is composed of 34 member countries.

During Fiscal Year 2002, the AG adopted several U.S. proposals to strengthen the regime and focus its efforts on the prevention of terrorism. At the October 2001 Plenary meeting, the AG agreed to a number of U.S. proposals aimed at strengthening the regime. AG participants agreed to broaden controls on key components of chemical production equipment and to expand controls on genetically modified organisms. In order to focus the



Under Secretary Kenneth I. Juster meets with a delegation of Ukrainian export control officials, November 16, 2001.

regime controls on critical items and provide logical and practical exemptions that facilitate legitimate trade, the AG also agreed to a U.S. proposal to refine the definition of medical diagnostic test kits containing limited amounts of controlled chemicals/biologicals.

Upon the recommendation of BIS, the United States proposed, and the AG accepted, a common export control approach toward intangible technology controls. At the June 2002 Plenary, the AG also became the first multilateral regime to agree to include a "catch-all" provision, similar to the U.S. export control provision, in its guidelines. In addition, several U.S. proposals developed by BIS to impose additional controls on biological technology transfers, including adding eight more biological agents to the AG control list and strengthening controls on exports of biological production equipment (i.e., fermenters), were adopted.

Furthermore, a consensus was reached during Fiscal Year 2002 on a U.S. proposal regarding revisions to licensing guidelines that include the prevention of chemical and biological terrorism as an explicit focus of the regime. A resolution was also reached at this Plenary on the universal licensing of exports of biological agents to non-AG members and AG members alike, with the exception of intra-European Union trade. These unprecedented measures were taken to collectively strengthen the AG and broaden its nonproliferation focus to include the threat of terrorism.

Chemical Weapons Convention

On April 25, 1997, the United States ratified the Convention on the Prohibition of the Development, Production, Stockpiling, and Use of Chemical Weapons and their Destruction (known as the Chemical Weapons Convention or CWC). Four days later, the CWC entered into force with ratification by 87 of the 165 signatories. Thus far, 147 countries have become State Parties to the CWC.

The CWC bans the development, production, stockpiling, or use of chemical weapons among its signatories, and provides for an extensive verification regime to ensure compliance with its nonproliferation tenets. The CWC's verification functions are the responsibility of the Organization for the Prohibition of Chemical Weapons (OPCW). On behalf of the OPCW, approximately 200 inspectors, drawn from among the 147 State Parties to the CWC, inspect military and industrial chemical facilities throughout the world to verify compliance with the CWC's nonproliferation provisions.

The CWC is the first major arms control treaty to have a significant impact on the private sector. Under the terms of the CWC, certain commercial chemical facilities are required to submit data declarations, including information on chemical production and consumption levels. Companies exceeding certain production, processing, consumption, and export or import thresholds are required to submit appropriate documentation to BIS. This information is then compiled and forwarded to the OPCW's Technical Secretariat, which is charged with carrying out verification functions.

To date, the OPCW has conducted over 1,200 routine inspections at over 460 sites in 50 countries. The OPCW also maintains an inspector presence at operational chemical weapons destruction facilities. Since the entry into force of the CWC, the United States has hosted approximately one-third of all CWC inspections and two-thirds of the number of total inspection days, due to the significant level of chemical production activity and large industrial chemical base in the United States.

During Fiscal Year 2002, 960 declarations and reports from 669 U.S. plant sites were received and verified by BIS staff. Of this number, 908 declarations and reports were forwarded to the OPCW and 52 were returned without action. BIS hosted eight on-site inspections of U.S. facilities engaged in chemical-related activities during Fiscal Year 2002.

With the cooperation and assistance of the American Chemistry Council and the Synthetic Organic Chemical Manufacturers Association, BIS hosted a CWC outreach seminar in New Orleans, Louisiana, on October 18, 2001. Over 50 industry participants attended the seminar to hear representatives from BIS, the Defense Department, and the FBI present general guidance to the chemical industry on plant site preparation for CWC inspections.

In response to requests from U.S. companies for specific assistance in preparing their facilities for inspection by the OPCW, BIS conducted 16 site assistance visits (SAVs) in Fiscal Year 2002 at various U.S. plant sites. The SAVs were successful in assisting industry in the preparation of pre-inspection briefings and inspection plans, and providing industry with methods of identifying and protecting confidential business information and national security information.

Missile Technology Control Regime

The United States has been a member of the Missile Technology Control Regime (MTCR) since the regime's inception in 1987. The focus of the MTCR is to limit the proliferation of missiles capable of delivering weapons of mass destruction. Initially, the MTCR consisted of only seven members. By the end of Fiscal Year 2002,

the MTCR had grown to include 33 member countries that have agreed to coordinate their national export controls to stem missile proliferation.

The focus and scope of the MTCR has evolved in the last 15 years in response to world events. The threat of chemical and biological weapons – highlighted by the Persian Gulf War in the early 1990s – led to an expansion in the focus of the MTCR from the narrow category of vehicles capable of delivering nuclear weapons to a broader range of items, including delivery systems for all weapons of mass destruction.

The MTCR expanded the scope of its work again in Fiscal Year 2002 by completing work on the International Code of Conduct Against Missile Proliferation (ICOC). The ICOC was launched by the member nations of the MTCR and is intended to encourage countries of missile proliferation concern to forego missile development programs in return for economic incentives from MTCR members. The initial draft of the ICOC was completed and presented at the MTCR Plenary on September 26-28, 2001. On February 7-8, 2002, representatives from 78 nations met in Paris, France, to begin discussion on ICOC implementation. Additional ICOC implementation meetings and final adoption of the ICOC are expected during Fiscal Year 2003.

In an effort to introduce uniformity of interpretation and enforcement of the MTCR, the MTCR plenary held its first ever meeting of enforcement experts at the close of Fiscal Year 2001 in Ottawa, Canada. The group exchanged views on how to effectively enforce missile technology controls, including sharing the mechanisms employed by member nations. Given the success of the first Enforcement Experts meeting, such meetings likely will become a regular part of the MTCR.

In Fiscal Year 2002, the MTCR adopted new U.S. proposed parameters in several categories of equipment and technology to create a unified control framework and foster greater uniformity in the interpretation of control guidelines among MTCR members. Export controls on items such as servo valves, bulk graphite, metal alloys, and small gas turbine engines were revised to ensure a

consistent control approach to controls among MTCR members. The MTCR will review pending proposals to revise control parameters on telemetry equipment, accelerometers, and ceramic materials during Fiscal Year 2003.

After more than a year of debate, an agreement was reached in the MTCR on the definitions of missile range and payload. Discussions on missile range and payload definitions during Fiscal Year 2002 eclipsed many of the other technical issues under review by the MTCR. This decision should lead to equal interpretation by all members as to the proper control status of ballistic and cruise missile systems. Now that a resolution to the range and payload debate has been reached, MTCR members will be able to better address new advances in materials and devices applicable to missile development.

The MTCR plenary meeting in Fiscal Year 2002 also discussed expanding MTCR controls to prevent terrorists from acquiring missile systems and related technology to deliver weapons of mass destruction, and to consider exchanging information in support of anti-terrorism efforts.

Nuclear Suppliers Group

The Nuclear Suppliers Group (NSG) is a group of 40 member countries established in 1992 and focused on stemming the proliferation of nuclear weapons. Kazakhstan was accepted as a member of the NSG in Fiscal Year 2002.

As it expands its membership, the NSG is focused on simplifying its organizational structure and achieving unanimity among its members on the interpretation and administration of export controls. In pursuit of this goal, the NSG established a new Consultative Group, which will meet twice a year to review matters relating to control lists, procedures, information sharing, transparency, and outreach activities. At its first meeting in November 2001, the Consultative Group adopted a technical note of explanation that clarified export controls on precision measuring devices to limit the controls to those items that are directly useful in nuclear proliferation activities. This revision is expected to be a template for similar clarification measures in other NSG control categories.

The NSG's first Licensing and Enforcement Experts Meeting was held at the May 2002 Plenary. The intent of the meeting was to provide participants with the opportunity to share information on the operational aspects of export enforcement. The success of the meeting has led to support from NSG members to establish export enforcement information sharing as a standard activity at all future NSG plenaries. Additionally, a majority of the NSG members expressed concern at the May 2002 Plenary about the need to ensure uniformity of interpretation of the NSG Guidelines. This issue is expected to play a prominent role in the work of the NSG in the coming year.

In another series of bilateral discussions, the NSG met with government representatives from Kazakhstan, China, Egypt, Malaysia, Indonesia, Pakistan, Mexico, Israel, Iran, and India in March 2002 to discuss nuclear nonproliferation efforts. The United States, as NSG Chair, headed the series of discussions intended to encourage increased adherence to global nonproliferation norms.



Under Secretary Kenneth I. Juster and Special Advisor to the Under Secretary, Dr. Richard T. Cupitt, talk with a member of a delegation of export control officials from the United Arab Emirates, April 9, 2002.

To better identify potential nuclear entities of concern, the United States proposed in Fiscal Year 2002 that NSG information sharing be enhanced through a voluntary exchange of information on nuclear and nuclear-related dual use approvals and denials. Additionally, the U.S. began a dialogue on potential changes to the NSG Guidelines to address nuclear terrorism.

Wassenaar Arrangement

The Wassenaar Arrangement (Wassenaar) is a multilateral arrangement regarding export controls on conventional arms and sensitive dual-use goods and technologies. Wassenaar was founded in 1996 to replace the East-West technology control program under the Coordinating Committee (COCOM) regime that ended in 1994.

Wassenaar was designed to promote transparency, the exchange of views and information, and greater responsibility in transfers of conventional arms and dual-use goods and technologies.

Through their national policies, Wassenaar members seek to ensure that transfers of conventional arms and dual-use goods and technologies do not contribute to the development or enhancement of military capabilities that undermine international or regional security and stability, and that such goods and technologies are not diverted to support those capabilities. Wassenaar does not impede

bona fide civil transactions and is not directed against any state or group of states. All measures undertaken with respect to Wassenaar are in accordance with member countries' national legislation and policies and are implemented on the basis of national discretion.

Wassenaar members maintain effective export controls for the items on the agreed control lists, which are reviewed periodically to take into account technological developments and experience gained. Wassenaar's specific information exchange requirements involve semi-annual notifications of arms transfers,

currently covering seven categories derived from the United Nations Register of Conventional Arms. Members are also required to report approvals, transfers, and denials of certain controlled dual-use commodities and technologies. Reporting of denials helps to bring to the attention of members strategic items that may undermine the objectives of Wassenaar.

During Fiscal Year 2002, there were several major accomplishments within Wassenaar, reflecting the changing nature of technology and threat to global security.

At the Wassenaar Plenary in Vienna, Austria in December 2001, Wassenaar members agreed to change the Initial Elements to include the prevention of terrorism as one of the objectives of the regime. Other proposals to strengthen the effectiveness of the regime that were supported by BIS were not adopted, but work on these proposals will continue during Fiscal Year 2003.

In addition, Wassenaar enhanced its controls on intangible software and technology, which are of particular importance in the information age. Furthermore, as part of ongoing Wassenaar list reviews, changes were made to Wassenaar's controls on machine tools and high performance computers, both of which were removed from the Sensitive List, but remain on the Basic List. These list reviews are intended to keep the control lists current and responsive to technical and market analyses. By transferring high performance computers and machine tools from the Sensitive to the Basic List, the Wassenaar members indicated that these products are somewhat less strategic and widely available. The Basic List allows members to use national discretion in determining whether a written authorization is required or more liberalized licensing practices, such as license exceptions, are appropriate for the export of these items.

Export Enforcement Initiatives

Safeguards Verification Program

The licensing of U.S. dual-use commodities is often dependent upon favorable completion of an end-use visit: either a pre-license check to determine if the proposed end-user is a reliable recipient for the item on the license application or a post-shipment verification to determine whether the item received is being used in accordance with the terms of the license. While a number of these end-use visits are conducted by Foreign Commercial Service officers serving in different countries around the world, BIS's Export Enforcement division (EE) also sends Special Agents to select countries to complete these checks during Safeguards Verification trips. The Safeguards Verification Teams travel overseas and visit

end-users to determine the disposition of licensed or otherwise controlled U.S.-origin commodities, particularly those items of proliferation concern. The Teams also visit prospective end-users to assess the suitability of foreign firms to receive U.S.-origin goods and technology. The Teams also conduct educational visits to these firms, often in cooperation with host governments.

During Fiscal Year 2002, a significant amount of EE resources were dedicated to carrying out post-shipment verifications on exports of high-performance computers to Tier III countries, as required by the 1998 National Defense Authorization Act (NDAA). In early 2002, the President raised the performance level of computers eligible for export to Tier III countries under a license exception from 28,000 millions of theoretical operations per second (MTOPs) to 190,000 MTOPs. This change significantly reduced the number of post-shipment verifications EE will be required to carry out under the NDAA on future shipments of high performance components. Therefore, EE is now able to shift Safeguards resources to a more focused approach on specific countries or regions of concern.

Export Enforcement Attaché Program

As part of BIS efforts to achieve its enforcement mission, BIS's Office of Export Enforcement (OEE) sends experienced Special Agents overseas as export control attachés at U.S. select embassies. In Fiscal Year 2002, EE attachés posted in Moscow, Russia, and Beijing, China worked with host government officials to help develop and maintain effective export control systems and facilitate cooperation between these countries and the United States on export enforcement matters.

The principal mission of the attaché is to help ensure that U.S. dual-use goods entering a country (or region) in which the attaché is posted are used in accordance with U.S. export control laws and regulations. This is accomplished through selective end-use checks and by working with the host government and local businesses to ensure that they understand and comply with U.S. export control regulations. The attachés also work with host government officials and local businesses to provide information and appropriate training to facilitate better understand U.S. dual-use export control laws and regulations.

During Fiscal Year 2002, OEE received funding to post attachés in Abu Dhabi, United Arab Emirates, and in Cairo, Egypt. For Fiscal Year 2003, BIS has requested additional resources to post attachés in Singapore; New Delhi, India; and Shanghai, China.

Export Enforcement International Outreach Programs

During Fiscal Year 2002, BIS’s Export Enforcement division conducted a number of outreach programs to foreign governments. These outreach initiatives are part of the ongoing BIS efforts to create more effective enforcement of export control regulations in foreign countries – with particular emphasis on countries that are major transshipment hubs in the global economy. During the Fiscal Year 2002, BIS officials conducted training and technical workshops in the Czech Republic, Slovakia, Hungary, Romania, Malta, Cyprus, and the United Arab Emirates.

In March 2002, BIS participated in the seventh round of the U.S.-Hong Kong Interagency Export Control Discussions. This year’s talks focused on the Hong Kong Government’s plans for closer economic partnership with mainland China, and the potential impact of these plans on Hong Kong’s export control system. BIS emphasized that the U.S. Government considers Hong Kong’s continued autonomy of vital importance and cautioned that border streamlining and increased economic interaction must not impair the integrity of Hong Kong’s autonomous customs territory.

Nonproliferation and Export Control Cooperation

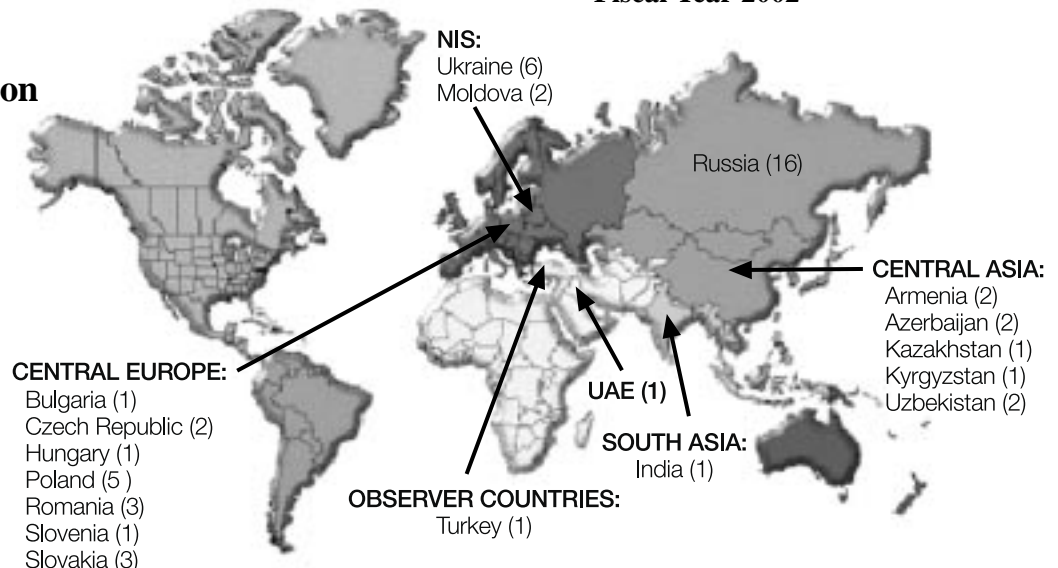
BIS’s Nonproliferation and Export Control (NEC) Cooperation program has a key role in BIS’s bilateral and multilateral initiatives. Established in 1994, the NEC program was designed to work with key countries of the world to develop or strengthen their national export control systems. The NEC mission “to strengthen foreign national export control

systems to keep nuclear, biological, and chemical weapons, delivery systems and other sensitive materials out of the hands of terrorists and states of concern” is carried out by the coordination, organization, and execution of bilateral and multilateral technical exchanges.

During Fiscal Year 2002, NEC – with assistance from other parts of the Department, including BIS’s Office of Export Enforcement and the Export Administration division, the Department’s Office of Chief Counsel for Industry and Security, and other U.S. Government agencies – organized or coordinated 51 bilateral technical exchange workshops and two multilateral conferences. This represents a nearly 20 percent increase over the total number of bilateral and multilateral activities completed during Fiscal Year 2001. Each of the exchanges and conferences focused on one of the five key areas of export control systems necessary to address the growing threat of the proliferation of weapons of mass destruction, which are:

- legal basis and framework of export controls;
- export control licensing procedures and practices;
- export enforcement;
- industry-government relations; and
- export control system automation.

NEC Bilateral Cooperation Activities Fiscal Year 2002



Note: Number of activities is displayed in parentheses.

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The exchange activities undertaken by NEC during Fiscal Year 2002 included cooperative bilateral export control workshops with Armenia, Azerbaijan, Bulgaria, the Czech Republic, Georgia, Hungary, India, Kazakhstan, the Kyrgyz Republic, Moldova, Poland, Romania, Russia, Slovakia, Slovenia, Turkey, Ukraine, and Uzbekistan. One of the most significant accomplishments for the NEC bilateral program activities in Fiscal Year 2002 involved reaching an agreement with two high-priority countries – India and the United Arab Emirates – on conducting a series of comprehensive export control technical exchanges.

In addition to the bilateral activities carried out during Fiscal Year 2002, NEC organized BIS's Seventh Annual Symposium for International Export Control Officials. The conference, held in Washington, D.C. in conjunction with BIS's Update Conference, attracted a total of 50 export control officials from 26 different nations.

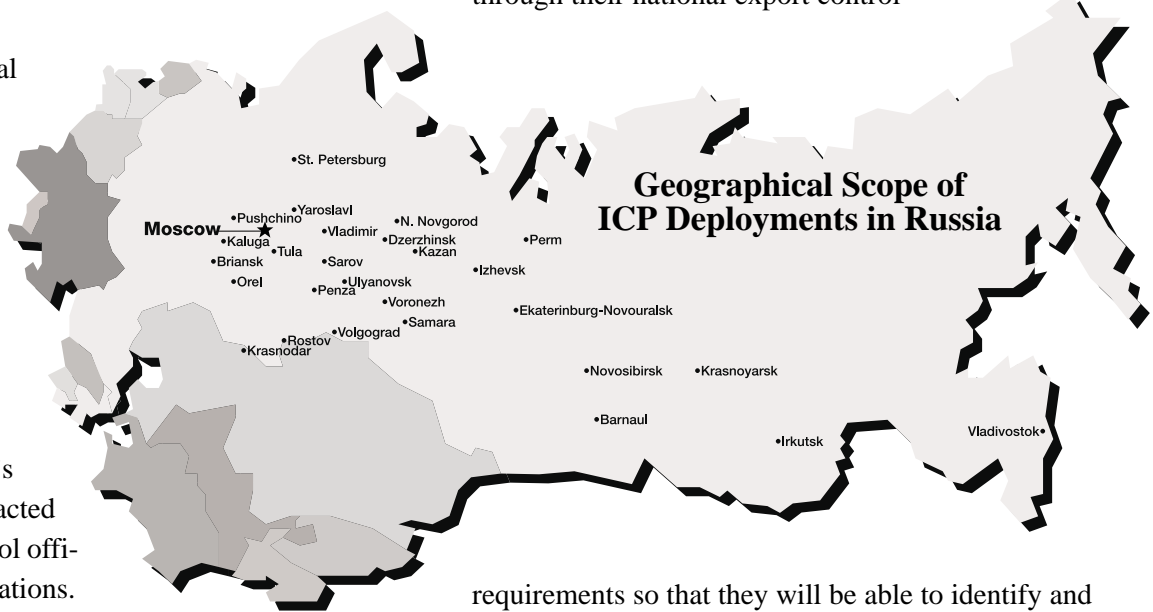
In conjunction with the interagency community, in Fiscal Year 2002 BIS participated in several multilateral export control conferences, including the Asian Export Control Seminar, the 6th Central Asia/Caucasus Regional Export Control Forum, and the 4th European International Conference on Export Controls. NEC also represented BIS in the first U.S.-European Union meeting on coordinating export control and border security cooperation programs.

In an effort to enhance its multilateral programs, during Fiscal Year 2002 NEC developed a Model Plan for Multilateral Technical Exchanges. The model is intended to supplement the BIS Model Country Plan for bilateral technical exchanges. This plan not only helps NEC target deficiencies in multilateral export control cooperation efforts, it creates a platform for developing long-term

strategies to improve national export control systems among countries that have completed the BIS bilateral technical exchange program.

Internal Control Program Activities

During Fiscal Year 2002, NEC significantly expanded its Internal Control Program (ICP). Created in 1998, the ICP is central to NEC's overall export control and nonproliferation mission. The ICP was developed to design and distribute export control software to companies overseas. This software takes foreign companies step-by-step through their national export control



requirements so that they will be able to identify and prevent undesirable transactions and thereby comply with national export control requirements.

The ICP is tailored for and translated into the national language of the recipient country, and has been made available to over 1,000 exporting organizations during its three-year tenure in Russia, Ukraine, and Poland. The actual distribution of the ICP in each country has been made in the context of regional workshops. During Fiscal Year 2002, 16 regional workshops were held in the three countries.

In addition to NEC's ICP activities during Fiscal Year 2002 in Russia, Ukraine, and Poland, NEC initiated new ICP projects with Romania and the Czech Republic. NEC is in the process of developing ICP's for Hungary, Romania, Estonia, Lithuania, Latvia, and Kazakhstan.

Export Control and Border Security

During Fiscal Year 2002, NEC helped develop the first interagency strategic plan for the Export Control and Border Security (EXBS) Program, which is intended to provide overall guidance for most U.S. Government export control assistance efforts. BIS and the U.S. Customs Service launched the first phase of the EXBS program in Russia with the introduction of the Product Identification Tool (PIT). The objective of the PIT is to improve the skills of foreign Customs Inspectors in their day-to-day operations with the use of the PIT software tool. During Fiscal Year 2002, NEC and the U.S. Customs Service demonstrated the generic version of the PIT software tool and outlined a project plan for customization of the software to the requirements of Russia, and the effective distribution to and training of, border and customs officials in Russia.

Transshipment Country Export Control Initiative

During Fiscal Year 2002, BIS launched the Transshipment Country Export Control Initiative (TECI) – a two-pronged initiative designed to counter illegal diversions of controlled goods through the world’s major transshipment hubs. Under the first prong, BIS seeks to work with relevant counterpart agencies in key transshipment countries to strengthen indigenous export control regimes and export control cooperation. To this end, BIS began to direct more efforts toward export control cooperation programs with authorities in Hong Kong, Malaysia, Panama, Singapore, Taiwan, Thailand, and the United Arab Emirates regarding trade compliance for controls on transit, transshipment, and reexport trade. In particular, BIS engaged in a number of preparatory activities to establish a firm foundation for action in Fiscal Year 2003. This included, among other things, putting these countries high on the list of BIS international priorities, targeting more BIS enforcement and international technical exchange programs toward these destinations, reviewing the current lists of government best practices on transshipment, and developing a model agreement to ensure the confidentiality of data exchanges with these authorities.

The TECI’s second prong seeks to combat diversions through transshipment hubs by increasing cooperation with industry present in or operating through such hubs. To this end, BIS took initial steps to create a new public-private partnership on export controls with companies and trade associations engaged in shipping, air cargo, freight forwarding, port operations, and other aspects of transshipment trade facilitation. BIS officials meet informally with individuals in these industries and began to review its “red flags,” internal compliance program software, and other trade compliance tools for their potential application to companies primarily involved in trade facilitation. If successful, this partnership will supplement the existing relationships between BIS and different export and trade-related industries, which will result in enhanced U.S. trade security and expanded global trade opportunities.

Goals for Fiscal Year 2003

During Fiscal Year 2002, BIS adjusted its mission and goals to better reflect the new realities of an increasingly global economy. In Fiscal Year 2003, BIS’s agenda in strengthening U.S. national security and foreign policy interests without unnecessarily hindering U.S. economic interests will remain an important part of its mission. However, without cooperation and verification from other countries on their exports and assurance as to what degree they are meeting international standards, the U.S. Government will need to continue monitoring, advising, and directing global strategies for adherence to nonproliferation objectives.

Key goals for BIS’s Fiscal Year 2003 international programs include the following:

- International enforcement outreach programs will be significantly involved in the TECI that was launched by BIS in September 2002.
- In support of the TECI, NEC will seek agreement on comprehensive technical bilateral exchange programs with several transshipment countries in Fiscal Year 2003. NEC anticipates completing 75 technical exchanges

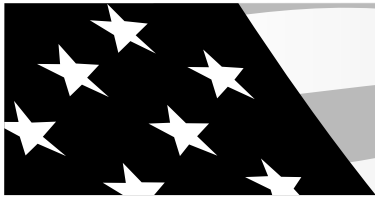
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in Fiscal Year 2003. NEC will implement strategies with the Czech Republic, Hungary, and Poland to “graduate” these countries from the basic NEC technical exchange program within two years.

- NEC and U.S. Customs will work with Russian Customs officials to proceed with the second phase of the PIT project. During phase two, the project team will assist Russia in the deployment of its customized software and the effective distribution to and training of Russian Customs inspectors at the local and regional level. In addition, during Fiscal Year 2003, NEC expects to expand the PIT program beyond Russia to other countries.
- The United States will formally present its recommendations on possible changes to the NSG Guidelines to incorporate anti-terrorism measures that include nuclear terrorism as factors for consideration in the review of nuclear-related exports.
- BIS plans to work with Wassenaar partners during the 2003 assessment year to seek to adopt a denial consultation procedure, establish a “catch-all” control, and

require reporting of small arms/light weapons transfers to non-Wassenaar members. Reviews of the Wassenaar control lists will also continue and revisions are expected in the areas of microprocessors, computers, and analog-to-digital converters, among others.

- BIS will play a significant role in the discussion of three U.S. proposals that were presented to the Australia Group in Fiscal Year 2002 to further expand controls on shipments of dual-use chemicals, biological agents, and related equipment to include items useful in terrorist activities.
- BIS will continue to focus within the MTCR on reducing the availability of missiles and limit access to missile-related technology. In particular, the development of short-range unmanned air vehicles (UAVs) and other types of cruise missiles that are particularly suited for the delivery of weapons of mass destruction present a new and growing threat that will be carefully monitored by the MTCR in Fiscal Year 2003. If necessary, the MTCR will consider additional control measures for the UAVs in Fiscal Year 2003.



Chapter 6: U.S. Defense Industrial and Technological Base Programs

Mission

The Bureau of Industry and Security (BIS) is the focal point within the Department of Commerce for issues related to the competitiveness of the U.S. defense industrial and technological base. In partnership with industry and other government agencies, BIS implements programs to ensure that the U.S. defense industrial and technological base has the capacity and capability to meet current and future national security requirements. BIS supports the U.S. defense industrial and technological base by securing timely delivery of critical products to support approved national defense and emergency preparedness programs, by conducting analyses of vital defense sectors, and by promoting U.S. defense exports.

Accomplishments in Fiscal Year 2002

Supporting Homeland Security and National Defense Requirements

BIS supported homeland security and national defense requirements through the administration of the Defense Priorities and Allocations System (DPAS). The DPAS program has played an important role in the U.S. Government’s response to the terrorist attacks of September 11. BIS has successfully secured the timely availability of industrial resources to meet approved national defense and homeland security requirements.¹

In Fiscal Year 2002, BIS worked closely with U.S. industry and the Department of Defense through the DPAS program to facilitate the increase in production of defense articles needed to support Operation Enduring Freedom. Noteworthy examples include:

- Ensuring the supply of special ballistic material to produce lightweight body armor vest plates for U.S. Army and U.S. Marine Corps troops, including those deployed to Afghanistan, while minimizing the effect of the program on the U.S. supplier’s ability to satisfy law enforcement and foreign military commercial orders for the material;
- Expediting the production and delivery of sensing equipment for both the Predator and Global Hawk unmanned aerial vehicles that directly support intelligence and combat operations in Afghanistan for the U.S. Air Force;
- Securing the delivery of guidance system components for precision guided munitions, such as the Joint Direct Attack Munition and Joint Stand-Off Weapon “smart bombs,” which have been the U.S. Air Force’s preferred munitions for use in Afghanistan; and
- Participating in the Department of Defense’s Priorities and Allocations Industrial Resources group chartered to assist in resolving industrial resource conflicts and supply issues associated with operational requirements.

¹Title I of the Defense Production Act of 1950, as amended, (50 U.S.C. App. § 2701 *et seq.*)(DPA) authorizes the President to require preferential acceptance and performance of contracts or orders over other contracts or orders to meet approved defense and energy program requirements that are necessary or appropriate to promote the national defense, 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 the Department, to BIS/SIES to implement this authority through the DPAS. Additionally, the Robert T. Stafford Disaster Relief and Emergency Assistance Act (42 U.S.C. § 5121, *et seq.*)(Stafford Act) amended the definition of “national defense” in section 702(13) of the DPA in 1994 to include emergency preparedness activities conducted pursuant to Title VI of the Stafford Act. Thus, based on a program determination and approval by the Federal Emergency Management Agency, DOC can also authorize priority ratings under the DPAS to support approved emergency preparedness activities.

In support of homeland security initiatives, BIS, in cooperation with the Federal Emergency Management Agency, authorized two Federal agencies to use the DPAS to ensure the timely delivery of industrial items for civilian emergency preparedness programs. BIS granted authority for the use of priority ratings for the following items to further homeland security programs:

- Supporting the procurement of up to 1,800 explosive detection system machines by the Transportation Security Administration, an agency within the U.S. Department of Transportation.
- Supporting data processing and communication equipment deliveries for the Federal Bureau of Investigation's \$380 million Trilogy Program designed to upgrade its nationwide data processing and communication infrastructure.

BIS also used the DPAS program to support the Department of State's \$6.5 billion Embassy Security Protection Program, and assisted other U.S. Government agencies and U.S. industry to obtain high security storage cabinets and facility guard booths, ensuring that the most urgent homeland security requirements received priority.

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

BIS conducted several major activities in Fiscal Year 2002 to monitor the strength of the U.S. defense industrial and technological base. On October 29, 2001, the Secretary of Commerce submitted a report prepared by BIS to the President pursuant to Section 232 of the Trade Expansion Act of 1962. The report found that iron ore and semi-finished steel – products used in manufacturing finished steel – are important to U.S. national security, but concluded that imports of these two items do not threaten to impair U.S. national security. These analyses, reached in consultations with the Department of Defense and other

U.S. Government agencies, took into account the events of September 11, 2001 and subsequent military operations. The report summarized the findings of a nine-month investigation, which was requested by Representative James Oberstar (MN) and Representative Bart Stupak (MI).²

In August 2002, BIS launched an assessment of the U.S. biotechnology industry. BIS partnered with the Technology Administration within the Department of Commerce, as well as other agencies of the U.S. Government, to obtain comprehensive data on the scope of domestic commercial and research activities in the biotechnology sector. The assessment, based on a survey of more than 3,000 companies, will address the economic health and competitiveness of U.S. companies that engage in this critical industry sector. In September 2002, BIS also initiated an assessment for the U.S. Army of the munitions power sources industry, which supplies the Department of Defense with batteries used in a variety of precision guided munitions. BIS conducts these studies in furtherance of its responsibilities to maintain and enhance the defense industrial and technological base.

In addition to these new analyses, BIS continued to work closely with the Department of Defense, other government agencies, and U.S. industry on several ongoing industrial and technological base studies. These include an assessment of the air delivery (e.g., parachute) industry for the U.S. Army, as well as assessments of the maritime research and education institutions and the shipbuilding and repair industry supplier base for the U.S. Navy. At the request of the U.S. Air Force, BIS also surveyed high-technology companies to gauge their willingness to work with Department of Defense agencies on research and development to produce new devices and systems for military applications. The survey sought to uncover problems that these firms encounter when entering into research and development partnerships with the Department of Defense (e.g., paperwork requirements, ownership issues).

²The Section 232 investigation was separate from the investigation conducted by the U.S. International Trade Commission under Section 201 of the Trade Act of 1974. The Section 232 investigation was focused on the narrow issue of the effect on national security of imports of two particular products – iron ore and semi-finished steel. The Section 201 proceeding covered many types of steel imports and addressed the broader issue of whether these imports were a substantial cause of serious injury to competing U.S. producers.

BIS's defense industrial and technological base responsibilities extend beyond the analysis of specific industry sectors. In Fiscal Year 2002, BIS reviewed 49 cases submitted to the interagency Committee on Foreign Investment in the United States (CFIUS) to ensure that foreign acquisitions of U.S. companies do not threaten U.S. national security. BIS examined 151 proposed memoranda of understanding and other types of international cooperative agreements that the Department of Defense proposed to execute with allied governments to assess their commercial implications and potential effects on the international competitiveness of U.S. industry. In addition, BIS reviewed 95 proposed transfers of excess defense equipment to foreign governments through the Department of Defense's Excess Defense Articles program, and provided recommendations to ensure that these transfers would not interfere with U.S. industry's ongoing sales or marketing activities.



Working with interagency partners, BIS successfully advocated for the sale of F-15 fighter aircraft to the Government of South Korea, a contract worth approximately \$4.5 billion.

BIS also continued work on its sixth and seventh reports to the Congress on the impact of offsets in defense trade on U.S. defense preparedness, industrial competitiveness, employment, and trade. Offsets are mandatory compensation required by certain foreign governments when purchasing U.S. weapons systems. Offset practices include co-production, countertrade, technology transfer, and foreign investment.

Public/Private Partnerships

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

BIS continues to team with other U.S. Government agencies to help American defense companies successfully compete in the highly competitive global defense market. The Department of Commerce advocates on behalf of U.S. companies for foreign defense contracts, and works closely with the Departments of State and Defense to engage foreign decision makers on the strategic, military, and economic issues associated with major defense procurements.

In Fiscal Year 2002, working with interagency partners, BIS successfully assisted U.S. companies to obtain four substantial contracts to supply foreign governments with defense articles worth approximately \$7.8 billion. These acquisition programs included fighter aircraft and naval combat systems to South Korea, attack helicopters to Kuwait, and aircraft electro-optical equipment to Australia. These sales help maintain the U.S. defense industrial and technological base and preserve high-technology employment. BIS also actively supported U.S. industry's proposals to satisfy several nations' fighter aircraft requirements with several multi-billion dollar procurement decisions expected in Fiscal Year 2003.

BIS continued to work closely with the Department's global network of commercial offices, including Export Assistance Centers across the United States, to identify defense trade opportunities for U.S. industry, support U.S. defense trade exhibitions overseas, and provide export counseling to U.S. companies exploring new emerging market opportunities, such as defense requirements in South Asia.

Supporting the U.S. Maritime Industry

BIS has partnered with the U.S. Coast Guard to promote the export of an array of assets being developed through the U.S. Coast Guard's \$17 billion Integrated Deepwater System Program (Deepwater) to modernize over the next two decades its aging fleet of ships, aircraft, sensors, communications, and logistics infrastructure. During Fiscal Year 2002, BIS participated with the Deepwater

team in maritime trade events in Africa, Europe, and Asia to promote the sale of Deepwater assets to foreign navies, coast guards, fisheries, and environmental agencies. These sales would bolster interoperability with allied and friendly nations, and create business opportunities for U.S. industry at the prime contractor and subcontractor levels.

In Fiscal Year 2002, BIS and its partner organization, the U.S. Navy's Best Manufacturing Practices program, also introduced the Department of Transportation and other agencies participating in the Marine Transportation System initiative (MTS) to the concept of a best practices program for U.S. ports.³ MTS initiative to address the security, environmental, infrastructure, competitiveness, and safety challenges facing individual port authorities across the country. If initiated, this program would benchmark "best practices" for port security, as well as training, infrastructure enhancement, natural development, and economic growth, for the 350 ports in the United States.

Strengthening International Cooperation

Supporting Allied Defense Requirements

BIS, in consultation with the Department of Defense, worked with U.S. industry through the DPAS program to satisfy allied operational requirements in support of Operation Enduring Freedom and other defense needs. The DPAS actions taken included:

- Accelerating production and delivery of communications and navigation system equipment from U.S. suppliers for Germany, Turkey, and the United Kingdom; and
- Assisting the United Kingdom with its procurement of Apache Helicopter subsystems and weapons.

In Fiscal Year 2002, BIS continued to represent the



Working with interagency partners, BIS successfully advocated for the sale of Apache helicopters to Kuwait, a contract worth approximately \$1 billion.

United States on the NATO Industrial Planning Committee, which addresses industrial base issues associated with NATO's defense and civil emergency planning. In June 2002, NATO's North Atlantic Council approved a document drafted by BIS, which establishes an agreement among all NATO Members on security of supply for industrial resources. This agreement, based on the principles and procedures of the BIS-administered DPAS, recommends that the NATO nations enter into bilateral and multilateral agreements on security of supply. In February 2002, the Department of Defense, with BIS support, entered into a bilateral security of supply agreement with the United

Kingdom. This agreement complements the NATO Security of Supply Initiative.

BIS's advocacy and Deepwater export promotion efforts have also supported the interests of the Department of Defense and the U.S. Coast Guard in standardization and interoperability with the armed forces of allied and friendly nations.

³Nineteen Federal departments and agencies are working together through the MTS initiative to address the security, environmental, infrastructure, competitiveness, and safety challenges facing individual port authorities across the country.

Goals for Fiscal Year 2003

Building upon this year's accomplishments, BIS will continue to partner with industry and other government agencies to ensure that the U.S. defense industrial and technological base meets current and future U.S. national security requirements. Goals for Fiscal Year 2003 include:

Supporting National Defense Requirements and Homeland Security

- BIS will continue to work closely with U.S. industry and interagency partners through the DPAS program to support the production and delivery of industrial resources needed to meet national defense and homeland security requirements.
- BIS will complete the assessment of the U.S. biotechnology industry. The final report will provide companies with data that will help them benchmark their activities against the international biotechnology industry.
- BIS will publish assessments of the air delivery and munitions power sources industries for the U.S. Army; assessments of the shipbuilding and repair industry supplier base, and maritime research and education institutions for the U.S. Navy; and the study on research and development partnerships for the U.S. Air Force.
- BIS will introduce electronic surveys for its industry assessments, leveraging technology to enhance data collection and processing efficiency, and to reduce paperwork burdens on industry respondents.

- BIS will forward its sixth and seventh reports on off-sets in defense trade to the Congress, and will initiate its eighth offsets report. With the publication of these two reports, BIS will have collected and analyzed data on offset agreements and transactions from 1993-2000.

Public/Private Partnerships

- BIS will continue to work with U.S. industry and interagency partners to support and promote the sale of U.S. defense products overseas, help maintain the U.S. industrial base, preserve high-technology employment, and further the U.S. interest in standardization and interoperability with the armed forces of allied and friendly nations. Export promotion activity for the Deepwater program will focus on Southern Africa and the Persian Gulf regions.

Strengthening International Cooperation

- BIS will continue to support the Department of Defense in negotiating bilateral security of supply agreements with allied and friendly nations. Using the recently signed security of supply agreement with the United Kingdom as a model, the Department of Defense has initiated bilateral negotiations with other nations, including Australia, Italy, the Netherlands, Norway, and Sweden.



Chapter 7: Critical Infrastructure Protection

Mission

The Bureau of Industry and Security (BIS) – through its Critical Infrastructure Assurance Office (CIAO) – coordinates private sector input into the national strategies for cyber security and homeland security, and leads the Federal Government’s outreach efforts to industry on critical infrastructure protection and cyber security issues.

Accomplishments in Fiscal Year 2002

Public Private Partnerships

Acting alone, the Federal Government cannot hope to secure our nation’s critical infrastructures. Infrastructure assurance can only be achieved by a voluntary public-private partnership of unprecedented scope, involving business and government at the Federal, state, and local levels. Forging a broad-based partnership between industry and government lies at the heart of the CIAO’s mission.



Under Secretary Kenneth I. Juster addresses the Commerce Department’s Patriot Day Ceremony, September 11, 2002.

The CIAO supports activities that protect the following identified critical infrastructure sectors: agriculture, food, water supply, public health, emergency services, government services, defense industrial base, information and telecommunications, energy, banking and finance, transportation, the chemical industry, and postal and shipping. These industrial sectors are deemed “critical” because their incapacity or destruction could have a debilitating regional or national impact on our quality of life. The Federal Government is concerned with the readiness, reliability, and continuity of key services within these sectors – both physical and cyber.

The CIAO seeks to engender awareness among the owners and operators of the nation’s critical infrastructures (both private sector and state and local government) on the need to secure their assets, systems, and networks against deliberate physical and cyber attacks.

As described in Chapter 4 of this report, the CIAO organizes and participates in

local, regional, and nationwide conferences and events presenting and educating the public and private sector on critical infrastructure protection issues.

Partnership for Critical Infrastructure Security

The CIAO supports the Partnership for Critical Infrastructure Security (PCIS), an organization that provides a unique forum for government and private sector owners and operators of critical infrastructures to address and discuss common issues and share information across industry sectors. The mission of PCIS is to identify and

address infrastructure security matters common to all sectors because of increased reliance on shared information systems and networks.

Representatives of more than 70 Fortune 500 companies involved in critical infrastructure industries are members of PCIS. Through participation in workshops and forums, such as the “Annual Cross Sector Information Sharing Meeting,” and “Keep America Working: Securing Digital Control Systems for the Nation’s Critical Infrastructures,” the CIAO supported PCIS efforts to educate members and facilitate cross-sector cooperation and problem solving.

National Infrastructure Advisory Council

The CIAO was tasked with providing staff support for the National Infrastructure Advisory Council (NIAC), an advisory committee composed of up to 30 private sector representatives to provide counsel to the President on national critical infrastructure assurance issues. The NIAC will provide advice and make recommendations on enhancing cooperation between the public and private sectors in protecting information systems supporting critical infrastructures, proposing and developing ways to encourage private industry to perform periodic risk assessments of critical information and telecommunications systems, and monitoring the development of private sector Information Sharing and Analysis Centers (ISACs) as well as providing recommendations on how these organizations can best foster improved coordination among the ISACs and between the ISACs and the government. The NIAC will begin its work in Fiscal Year 2003.

Digital Control Systems Conferences

In February 2002, the CIAO coordinated a meeting, hosted by the Chairman of the President’s Critical Infrastructure Protection Board, consisting of government leaders, technical experts, and appropriate policy and regulatory staff to discuss security shortcomings in existing digital control systems, ways to improve security, and the government’s role in improving security. Digital control systems are a category of computer and networked systems that manage the delivery of key industrial services including electricity, water, and transportation.

In April 2002, the CIAO and PCIS convened a meeting with owners and operators of facilities in various critical infrastructure sectors, government representatives, and digital control system vendors. The purpose of the meeting was to lay out the scope of dependency on digital control systems, the landscape of the obstacles to securing such systems, and a list of potential high-return initiatives to address them. PCIS has agreed to take the lead in this initiative because it has the unique ability to engage various sectors in cross-sectoral issues.

Information Sharing and Analysis Centers

One of the most important methods of managing the security of critical infrastructures is intra-sector and cross-sector coordination and information sharing. Information Sharing and Analysis Centers (ISACs) are a mechanism to share information about vulnerabilities, threats, and incidents, and to analyze the information for common trends within a sector or among different sectors.

Since the events of September 11, the CIAO has helped facilitate the creation of ISACs in many of the newly-identified critical infrastructure sectors, including in the healthcare, insurance, and chemical sectors. The CIAO continues to support mature ISACs in identifying emerging needs and in working strategically with all of the ISACs.

In conjunction with the White House Office of Cyber-space Security, the CIAO coordinated the second annual meeting of ISACs in Fiscal Year 2002. The objectives of the meeting were to update the ISACs on the current status of ISAC formulation in certain key infrastructure sectors, share information across critical infrastructure sectors, and plan next steps. The CIAO provided support, facilitated discussion, and convened members of these groups to ensure communication and cooperation between and among ISACs.

International Activities

BIS’s involvement in critical infrastructure assurance issues has extended beyond the borders of the United States. The CIAO participated in the U.S.-India Cyber Terrorism Initiative on March 26, 2002, and CIAO representatives attended both the U.S.-India and the U.S.-Italy Bilateral Critical Infrastructure Protection Sessions on May 2-3,

2002 in Rome, Italy. The CIAO continues to support other U.S. critical infrastructure protection-focused bilateral meetings.

In addition, the CIAO has an ongoing partnership with Canada's Office of Critical Infrastructure Protection and Emergency Preparedness (OCIEP). The CIAO delivered



Secretary of Commerce Donald L. Evans addresses the Homeland Security Tech Expo, September 19, 2002.

several briefings on the topic of building public-private partnerships to staff from agencies across the Canadian Government in October 2002. In addition to the CIAO's briefings for OCIEP officials, the Associate Deputy Minister of OCIEP has participated in several of the CIAO's outreach activities in the United States, such as the CIAO-CXO Media Policy Forums described in Chapter 4.

Cyber Security Education

The CIAO has worked with the National Education and Training Program for Infrastructure and Information Assurance to increase the number of information technology professionals who protect our computer networks and the information stored in them, cyber infrastructures, and management information systems by increasing the number of people studying this issue.

State and Local Critical Infrastructure Protection

The CIAO – in partnership with senior state officials – sponsored and managed two successful state conferences that addressed lessons learned from September 11, including lessons learned in the areas of homeland secu-

urity and critical infrastructure protection. The focus of the conferences was to improve cooperation between private industry and local, state, and Federal governments to address the challenge of ensuring the protection of essential services in the event of a terrorist attack or significant breach of security.

The conferences were held on February 12-13, 2002 in Austin, Texas and on April 23-24, 2002 in Princeton, New Jersey. The state conference series has been instrumental in assisting the CIAO towards completion of *Effective Practices on Critical Infrastructure Assurance*, a tool that communities can use to assure their own critical infrastructures. The compendium of *Effective Critical Infrastructure Assurance Practices*, resulting from the Effective Practices Working Groups identified in the CIAO's state conferences, and the establishment of a consortium of academia, government and private sector partners, will aid communities across the United States.

Federal Government Policy and Initiatives

President's Critical Infrastructure Protection Board

By signing Executive Order 13231, the President created the President's Critical Infrastructure Protection Board and gave it responsibility for "ensur[ing] protection of information systems for critical infrastructure, including emergency preparedness communications, and the physical assets that support such systems." BIS has been instrumental in supporting the work of the Board. The Under Secretary for Industry and Security and the Director of the CIAO both are Board members. The Under Secretary also chairs the Committee on Private Sector and State and Local Government Outreach, which, among other things, is responsible for coordinating outreach to and consultation with the private sector, including corporations that own, operate, develop, and equip information, telecommunications, transportation, energy, water, health care, and financial services on protection of information systems for critical infrastructure, including emergency preparedness communications, and the physical assets that support such systems. The Committee also is responsible for coordinating outreach to state and local governments, as well as communities and representatives from academia and other relevant elements of society.

National Strategies for Homeland Security and Cyberspace Security

A national strategy provides a foundation and a common framework for roles, responsibilities, and concerted action. It also helps to establish, with the Congress and the American public, the basis for proposing legislative and public policy reforms where such reforms are needed to advance national policy.

To address the need to defend against the threat of physical attack upon our nation's homeland, President Bush established the Office of Homeland Security (OHS). On July 16, 2002, the President issued the *National Strategy for Homeland Security*, an overarching strategy for securing the American homeland. This overarching strategy is being further detailed in two components, which include:

- the *National Strategy to Secure Cyberspace*, focusing on protecting information systems and networks; and
- the *National Strategy for the Physical Protection of Critical Infrastructures and Key Assets*, providing specific implementation strategies, including roles and responsibilities.

In conjunction with the staff of the President's Critical Infrastructure Protection Board, the CIAO participated in the development and drafting of the *National Strategy to Secure Cyberspace*, including facilitating and coordinating the efforts of the Lead Agency Sector Liaison officials and sector representatives concerning the preparation by the private sector of input for the strategy.

OHS also enlisted the CIAO's help in developing the *National Strategy for the Physical Protection of Critical Infrastructures and Key Assets*, which will aid in the protection of the physical facilities of critical infrastructure systems. In addition to helping OHS with the national physical and cyber security strategies, the CIAO provided both facilitation and analytical support for a series of workshops on physical critical infrastructure protection with industry and state and local governments.

Federal Asset Dependency Analysis

The CIAO is responsible for assisting civilian Federal agencies with analyzing their dependencies on critical infrastructures to ensure that the Federal Government is able to continue to deliver services essential to the security, economy, and health and safety of its citizens, despite deliberate attempts by a variety of threats to disrupt such services through cyber or physical attacks.

To carry out this mission, the CIAO developed Project Matrix,TM a program designed to accurately identify and characterize the assets and associated infrastructure dependencies and interdependencies the Federal Government requires to fulfill its most critical responsibilities to the nation.

Project MatrixTM involves a two-step process in which each civilian Federal agency identifies critical assets (Step 1) and identifies other Federal Government assets, systems, and networks on which those critical assets depend to operate, as well as all associated dependencies on privately-owned and operated critical infrastructures (Step 2). Because of constant changes in the agencies' infrastructures, a continuing information "refreshment" step is needed to keep the Matrix database accurate and reliable.

In Fiscal Year 2002, 17 Federal agencies had entered the Matrix process, with three agencies having completed Step 1 and two agencies having completed Step 2. Currently, six agencies are in the process of completing Step 1. The Matrix analytical work for Step 2 for four additional agencies has been completed, and the Matrix team is in the process of preparing a report on each agency.

Goals for Fiscal Year 2003

BIS will continue to develop partnerships at the senior executive level with industry, as well as state and local government, to address governance, core management practices, and risk-based investment decision-making criteria in the area of critical infrastructure protection. Specifically, the CIAO plans to help secure digital control systems through the PCIS, announce and convene meetings of the NIAC, and develop the new health care, insurance, and chemical ISACs while supporting the existing ISACs.

The CIAO also will continue its series of state conferences and compile *Effective Critical Infrastructure Assurance Practices* to aid local communities. Finally, the CIAO will continue to initiate Project Matrix Steps 1, 2, and refreshment steps, and coordinate the *National Strategy for the Physical Protection of Critical Infrastructures and Key Assets* for external review in Fiscal Year 2003.

In accordance with the Department of Homeland Security Act of 2002, it is anticipated that the CIAO will move to the Department of Homeland Security by March 1, 2003, and will cease to be a part of BIS.



Appendix A: Guiding Principles of the Bureau of Industry and Security

This statement of principles represents the guiding philosophy of the Commerce Department's Bureau of Industry and Security in approaching its activities and fulfilling its responsibilities. This statement is not intended to dictate any particular regulatory action or enforcement action.

- **The Bureau's paramount concern is the security of the United States.** The Bureau's mission is to protect the security of the United States, which includes its national security, economic security, cyber security, and homeland security.
 - The Bureau's credibility – within government, with industry, and with the American people – depends upon its fidelity to this principle.
 - For example, in the area of dual-use export controls, the Bureau will vigorously administer and enforce such controls to stem the proliferation of weapons of mass destruction and the means of delivering them, to halt the spread of weapons to terrorists or countries of concern, and to further important U.S. foreign policy objectives. Where there is credible evidence suggesting that the export of a dual-use item threatens U.S. security, the Bureau must act to combat that threat.
- **Protecting U.S. security includes not only supporting U.S. national defense, but also ensuring the health of the U.S. economy and the competitiveness of U.S. industry.**
 - The Bureau seeks to promote a strong and vibrant defense industrial base that can develop and provide technologies that will enable the United States to maintain its military superiority.
 - The Bureau must take great care to ensure that its regulations do not impose unreasonable restrictions on legitimate international commercial activity that is necessary for the health of U.S. industry. In protecting U.S. security, the Bureau must avoid actions that compromise the international competitiveness of U.S. industry without any appreciable national security benefits.
- **The Bureau strives to work in partnership with the private sector.** The Bureau will seek to fulfill its mission, where possible, through public-private partnerships and market-based solutions.
 - U.S. security cannot be achieved without the active cooperation of the private sector, which today controls a greater share of critical U.S. resources than in the past. At the same time, the health of U.S. industry is dependent on U.S. security – of our borders, our critical infrastructures, and our computer networks.
 - The symbiotic relationship between industry and security should be reflected in the formulation, application, and enforcement of Bureau rules and policies.

Appendix A: Guiding Principles of the Bureau of Industry and Security

- **The Bureau strives to work cooperatively with other parts of the U.S. Government and with state and local governments.**
 - The Bureau shall seek to collaborate in a collegial and effective manner with other agencies and departments of the U.S. Government, including the National Security Council, the Office of Homeland Security, the State Department, the Defense Department, the Energy Department, and the Intelligence Community.
 - The Bureau shall consult with its oversight committees and other appropriate Members of Congress and congressional staff on matters of mutual interest.
 - The Bureau shall seek to enhance its relationships with state and local government officials and first responders to national emergencies.
- **The Bureau's activities and regulations need to be able to adapt to changing global conditions and challenges.** The political, economic, technological, and security environment that exists today is substantially different than that of only a decade ago. Bureau activities and regulations can only be justified, and should only be maintained, to the extent they reflect current global realities. Laws, regulations, or practices that do not take into account these realities – and that do not have sufficient flexibility to allow for adaptation in response to future changes – ultimately harm national security by imposing costs and burdens on U.S. industry without any corresponding benefit to U.S. security.
 - In the area of exports, these significant geopolitical changes suggest that the U.S. control regime that in the past was primarily list-based must shift to a mix of list-based controls and controls that target specific end-uses and end-users of concern.
 - The Bureau also should be creative in thinking about how new technologies can be utilized in designing better export controls and enforcing controls more effectively.
- **The Bureau's rules, policies, and decisions should be stated clearly, applied consistently, and followed faithfully.** The Bureau's rules, policies, and decisions should be transparent and clearly stated. Once promulgated, Bureau rules and policies should be applied consistently, and Bureau action should be guided by precedent.
 - Uncertainty, and the delay it engenders, constitutes a needless transaction cost on U.S. companies and citizens, hampering their ability to compete effectively. Voluntary compliance with Bureau rules and regulations should be encouraged and, to the extent appropriate, rewarded.
 - These precepts are particularly important with respect to the application and enforcement of export controls. An effective export control regime necessarily depends upon the private sector clearly understanding and seeking to implement Bureau rules and policies voluntarily.
- **Decision making should be fact-based, analytically sound, and consistent with governing laws and regulations.** Bureau decisions should be made after careful review of all available and relevant facts and without any philosophical predisposition.
 - A “reasonable person” standard should be applied to all decisions: How would a “reasonable person” decide this issue? The Bureau's mission does not lend itself to “ideological” decision making – especially when it comes to its licensing and enforcement functions.
 - It is inappropriate to recommend outcomes based on an assumption that a position will be reviewed and “pared back” by another party – whether it be another office in the Bureau or another agency of the U.S. Government. Such an approach violates the public's trust, undermines the Bureau's credibility, and imposes substantial costs in terms of wasted time and effort.

- **International cooperation is critical to the Bureau's activities.** Fulfilling the Bureau's mission of promoting security depends heavily upon international cooperation with our principal trading partners and other countries of strategic importance, such as major transshipment hubs. Whether seeking to control the spread of dangerous goods and technologies, protect critical infrastructures, or ensure the existence of a strong defense industrial base, international cooperation is critical.
- With regard to export control laws in particular, effective enforcement is greatly enhanced by both international cooperation and an effort to harmonize the substance of U.S. laws with those of our principal trading partners.
- International cooperation, however, does not mean settling on the "lowest common denominator." Where consensus cannot be broadly obtained, the Bureau will not abandon its principles, but should seek to achieve its goals through other means, including cooperation among smaller groups of like-minded partners.

Nothing contained herein shall create any rights or benefits, substantive or procedural, enforceable by any party against BIS, its officers and employees, or any other person.



Appendix B: Regulatory Changes in Fiscal Year 2002

Entity List

On December 21, 2001, BIS published a rule removing two Russian entities from the Entity List found in Supplement No. 4 to Part 744 of the Export Administration Regulations (EAR). These entities were added to the Entity List on July 29, 1998.

Wassenaar Arrangement

On January 3, 2002, BIS published a final rule revising certain entries on the Commerce Control List (CCL) controlled for national security reasons in Categories 1, 2, 3, 4, 5-Part I (Telecommunications), 6, 7, and 9 to conform with changes in the List of Dual-Use Goods and Technologies maintained and agreed upon by governments participating in the Wassenaar Arrangement on Export Controls for Conventional Arms and Dual-Use Goods and Technologies (Wassenaar Arrangement). The Wassenaar Arrangement controls strategic items with the objective of improving regional and international security and stability.

On March 8, 2002, BIS published a rule revising certain national security control parameters in Category 4 (Computers) of the CCL to conform with changes in the Wassenaar Control List agreed upon in December 2000.

On June 6, 2002, BIS published a rule revising encryption controls (Category 5 – Part 2, Information Security), completing implementation of the December 2000 Wassenaar changes.

High Performance Computers and Microprocessors

On March 8, 2002, BIS published a rule implementing the President's decision to revise U.S. export controls on high performance computers (HPCs), announced January 2, 2002. HPCs controlled by ECCN 4A003 with a composite theoretical performance (CTP) up to 190,000 Millions of Theoretical Operations per Second (MTOPS) may be exported to most destinations under License Exception CTP without advance notification.

On March 21, 2002, BIS published a rule liberalizing controls on exports and reexports of microprocessors with a CTP up to 12,000 MTOPS to certain civil end-users under License Exception CIV, completing implementation of the announcement made by President Bush on January 2, 2002. Neither rule liberalized controls on items destined to terrorist-supporting countries.

Czech Republic, Hungary, and Poland

On March 18, 2002, BIS published a rule removing the licensing requirements for certain regional stability items and certain crime control items destined to the Czech Republic, Hungary and Poland to correctly reflect the status of those countries as NATO members.

Agency Name Change

On April 26, 2002, BIS published a rule changing the Bureau's name from Bureau of Export Administration to "Bureau of Industry and Security" to reflect more accurately the breadth of the Bureau's activities. In addition, on July 10, 2002, BIS published a rule changing the name of the Office of Chief Counsel for Export Administration to the Office of Chief Counsel for Industry and Security to conform with the agency's name change.

Missile Technology

On May 20, 2002, BIS published a rule implementing the changes agreed upon at the September 2001 Missile Technology Control Regime (MTCR) Plenary Meeting held in Ottawa, Canada. These revisions include several changes to two entries on the CCL: Export Control Classification Numbers (ECCNs) 1C107 and 9A101.

On September 18, 2002, BIS published a rule clarifying that production equipment for missile technology items covered under ECCNs 1B115, 1B117, 9B115, and 9B116 are subject to the EAR and controlled on the CCL. Previously, these ECCNs had been controlled by the Department of State under the International Traffic in Arms Regulations.

Australia Group (AG) and Chemical Weapons Convention (CWC) Controls

On May 31, 2002, BIS published a rule implementing agreements reached at the October 2001 plenary meeting of the AG and AG intersessional decisions. This rule also clarified controls on mixtures and certain reexports of CWC-controlled items, and harmonized anti-terrorism controls affecting a number of CCL entries that describe controlled chemicals and mixtures containing these chemicals. Finally, this rule updated the list of countries that are currently States Parties to the CWC by adding Nauru and Uganda.

Unverified List

On June 14, 2002, BIS published a list of selected firms for which BIS was unable to perform either a pre-license check or a post-shipment verification. BIS considers the involvement of any Unverified List firm in a transaction as a “red flag” for purposes of the “Know Your Customer” guidance set forth in Supplement No. 3 to Part 732 of the EAR. Such a “red flag” imposes an affirmative duty to inquire further into facts surrounding the proposed transaction.

Denied Persons List

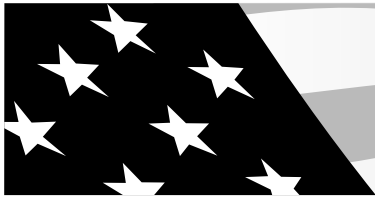
On August 27, 2002, BIS published a rule removing references to a “Denied Persons List” from the EAR. BIS publishes notices of orders denying the exporting privileges of persons named in such orders in the *Federal Register* to provide notice to all persons of the provisions of the order. BIS maintains an unofficial compilation of such denial orders, for the convenience of the public, in a “Denied Persons List” included in the unofficial version of the EAR and on a Web site. Because these compilations are not included in the Code of Federal Regulations, the rule removes references to a “Denied Persons List” from the EAR.

Nuclear Suppliers Group

On August 29, 2002, BIS published a rule reformatting approximately 50 ECCNs on the CCL to make them conform more closely to the language used to identify such items on the European Union (EU) and Nuclear Suppliers Group (NSG) dual-use lists. In addition, the rule revised the types of controls and the scope of the controls that apply to a number of ECCNs on the CCL (most of these revisions involved clarifications concerning the scope of NP controls). Finally, the rule removed certain licensing requirements for Belarus, Cyprus, Slovenia, and Turkey in conformance with the licensing policy that applies to other NSG member countries.

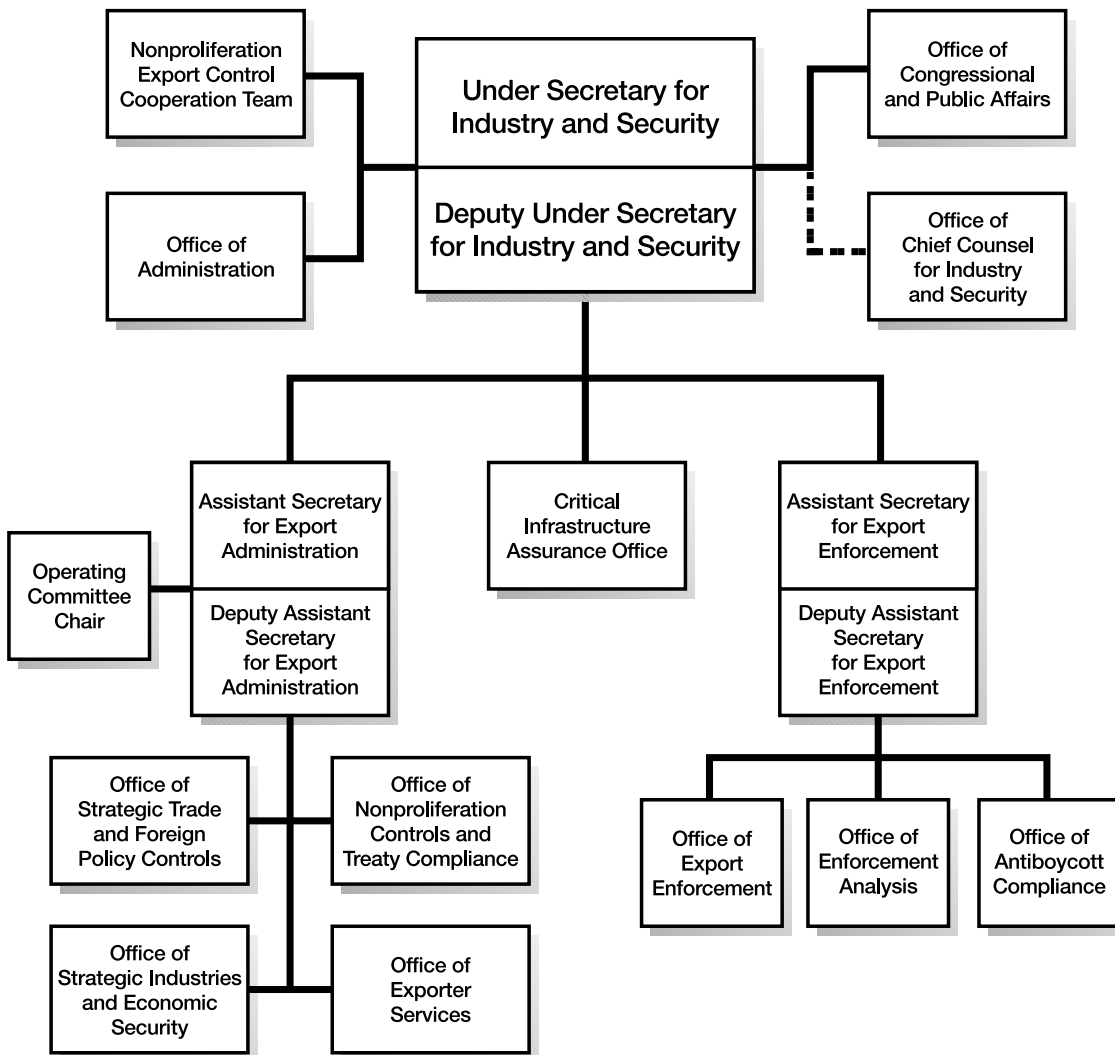
“Space Qualified” Items

On September 23, 2002, BIS published a rule clarifying which “space qualified” items identified under certain ECCNs on the CCL are subject to the EAR (i.e., subject to the licensing jurisdiction of BIS). A separate rule published concurrently by the U.S. Department of State clarified which space qualified items are on the U.S. Munitions List and, therefore, subject to the International Traffic in Arms Regulations (i.e., subject to the licensing jurisdiction of the Office of Defense Trade Controls, U.S. Department of State). This rule also removed certain space qualified items on the CCL from License Exception eligibility.



Appendix C: Administrative Information

BUREAU OF INDUSTRY AND SECURITY ORGANIZATIONAL CHART



Continuity of Operations Plan

In accordance with Federal Preparedness Circular 65, the Bureau of Industry and Security (BIS) developed a Continuity of Operations Plan (COOP). BIS briefed all employees and is in the process of conducting training on policies and procedures in the COOP. Certain aspects of the COOP will be tested in Fiscal Year 2003. Copies of BIS's vital records have been shipped to three emergency storage sites and alternate relocation sites have been equipped with office supplies, laptops, and in some cases, meals ready to eat.

Evacuation Plan

After the events of September 11, evacuation plans became an even higher priority. BIS created concise evacuation instructions and diagrams that are location-specific for all BIS offices in the Herbert C. Hoover Building. BIS employees volunteered to serve as floor wardens and stairway monitors to assist fellow employees in the event of evacuations.

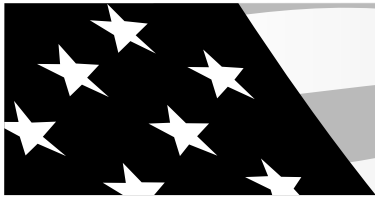
IT Security

BIS achieved significant progress in Information Technology (IT) security during Fiscal Year 2002. While the

August 2001 General Accounting Office (GAO) audit report and the Office of the Inspector General's comments on BIS IT security formed a foundation from which to work, BIS has gone well beyond these reports to design and implement a strong IT security program. Most significantly, BIS has written, approved, and published an IT Security Program Policy and 13 issue-specific IT security policies.

On September 27, 2002, and based on the BIS Information Assurance Certification and Accreditation Policy, BIS was the first Bureau within the Department of Commerce to issue Interim Accreditation to an IT system (Export Control Automated Support System (ECASS) and the BIS Communications Infrastructure (BCI)) based on the National Information Assurance Certification and Accreditation Process (NIACAP).

BIS also remedied 100 percent of the weaknesses identified by GAO, provided IT security awareness education to all BIS employees, presented BIS senior managers with an IT security awareness overview, provided technical IT security training to the employees of the Office of the Chief Information Officer, and sent IT security program staff to attend training on the NIACAP process.



Appendix D: Summaries and Tables of Closed Export Enforcement Cases and Criminal Cases

Stopping Proliferation of Weapons of Mass Destruction

An important focus of BIS's enforcement efforts is to prevent illegal exports and diversions of sensitive goods and technologies that could contribute to the proliferation of weapons of mass destruction. The following cases are examples of enforcement efforts in this area:

McDonnell Douglas Corporation

In November 2001, BIS imposed a \$2.12 million civil penalty against McDonnell Douglas Corporation of St. Louis, Missouri as part of a settlement of charges that the company violated U.S. export control laws. The order imposing the penalty terminated a six-year investigation into exports of machine tools to China between 1994 and 1995. BIS alleged that McDonnell Douglas submitted license applications containing false and misleading statements about the end-use and end-user of the machine tools. BIS also alleged that the exports violated conditions of export licenses issued to the company.

In addition to the civil penalty (the second-highest ever imposed by the Department for an export violation), the order and settlement agreement required that McDonnell Douglas's parent company, The Boeing Company, assume responsibility and liability for all exports of dual-use items or technology made or to be made by McDonnell Douglas.

This investigation was conducted by the Intelligence and Field Support Division of Export Enforcement (EE).

Entegris, Inc.

On October 22, 2001, BIS imposed a \$496,000 civil penalty on Entegris, Inc., of Chaska, Minnesota to settle charges that Fluoroware, Inc., a company that merged into Entegris, violated the Export Administration Regula-

tions (EAR). BIS alleged that, on 124 occasions between February 1996 and December 1998, Fluoroware, Inc., illegally exported diaphragm valves and components to China, Israel, and Taiwan. BIS controls the export of such valves and components because of their potential use in the manufacture of precursors for chemical weapons. A portion of the penalty – \$96,000 – was suspended and will be waived after one year, provided that Entegris does not commit any violations during the suspension period.

This investigation was conducted by the Chicago Field Office.

Detector Electronics Corporation

On November 8, 2001, BIS imposed a \$15,000 civil penalty on Detector Electronics Corporation of Minneapolis, Minnesota to settle charges that the company exported U.S.-origin ultraviolet fire detection systems to Bharat Heavy Electrical Ltd. without the required BIS license. Bharat was a company in India that was identified on BIS's Entity List. BIS alleged that Detector Electronics Corporation exported the fire detection systems to India on two occasions between November and December 1998.

This investigation was conducted by the Chicago Field Office.

Embargoed Destinations

BIS and the Department of the Treasury's Office of Foreign Assets Control (OFAC) share jurisdiction over exports and some reexports to countries subject to U.N. or U.S. trade embargos. To avoid duplicate licensing responsibilities, BIS has in some instances (e.g., Iran, Iraq, and Libya) revised its regulations to provide that authorization from OFAC for an export also constitutes authorization under the EAR. Failure to obtain OFAC

Appendix D: Summaries and Tables of Closed Export Enforcement Cases and Criminal Cases

authorization for an item subject to the EAR often is a violation of the EAR. The following cases illustrate the enforcement of export controls to countries subject to a U.S. embargo:

Thane-Coat, Inc.

On January 24, 2002, BIS imposed a \$1.12 million civil penalty on Thane-Coat, Inc., of Stafford, Texas. Thane-Coat's U.S. export privileges, as well as the exporting privileges of the company's president, Jerry Vernon Ford, and its vice-president, Preston John Engebretson, were denied for a period of 25 years. The parties agreed to these penalties to settle allegations that Thane-Coat, Ford, and Engebretson conspired to violate the EAR by exporting pipe coating materials and equipment valued at more than \$28 million to the Great Man Made River Project in Libya through the United Kingdom between June 1994 and July 1996.

BIS charged Thane-Coat, Ford, and Engebretson each with 112 violations of the EAR, including conspiracy, failing to obtain the required BIS export licenses, and making false representations on Shipper's Export Declarations. Under the terms of the order approving the settlement, Thane-Coat was required to pay \$600,000 of the penalty within 90 days of the date of the order. Payment of the remaining \$520,000 was suspended for two years and was to be waived provided that Thane-Coat did not commit any violations during the two-year period.

In addition to the administrative settlements, Ford and Engebretson pled guilty to charges that they violated the International Emergency Economic Powers Act (IEEPA) by exporting the pipe coating materials to Libya without the required U.S. Government authorizations. Ford and Engebretson each received three years probation and were ordered to forfeit property valued at approximately \$800,000.

This investigation was conducted by the Dallas Field Office, the U.S. Customs Service, Houston, Texas, and the U.S. Attorney's Office, Houston, Texas.

BS&B Process Systems, Inc. and Black Sivalls & Bryson (UK) Ltd.

On January 17, 2002, BS&B Process Systems, Inc. (BS&B) was sentenced in the U.S. District Court for the Northern District of Oklahoma to pay a criminal fine of \$414,000 on charges related to the illegal export of oil field processing equipment to Iran. Black Sivalls & Bryson (UK) Ltd., its London affiliate, was fined \$448,000. BS&B also agreed to pay an additional civil penalty to the Department of \$86,000, and Black Sivalls & Bryson agreed to pay \$32,000 to settle related administrative charges. In addition, BIS imposed a two-year denial of export privileges on BS&B and a three-year denial period on Black Sivalls & Bryson. The denial period on BS&B was suspended in its entirety. Two years of the denial period for Black Sivalls & Bryson were suspended, leaving a one-year denial period in effect.

This investigation was conducted by the Dallas Field Office.

Jabal Damavand General Trading Company, Ltd.

In April 1998, Jabal Damavand General Trading Company (Jabal), located in Dubai, United Arab Emirates, purchased ferrology laboratory equipment, valued at \$435,000, from a company in Massachusetts. The equipment can be used to test engines in military and civilian vehicles. Jabal informed the Massachusetts company that the equipment was to be used in the oil industry in Dubai. After the system was delivered and tested in Dubai, the Massachusetts company learned that the equipment had been dismantled and shipped to Iran. The export of the equipment from the United States to Iran, even if by way of a third country, required authorization from OFAC. There was no authorization from OFAC. It is a violation of the EAR to export items subject to the EAR to Iran without OFAC authorization. On May 2, 2002, the Under Secretary affirmed the recommended decision and order of the administrative law judge finding a violation of the EAR and denying Jabal's export privileges for 10 years.

This investigation was conducted by the Boston Field Office.

Mercator, Inc.

In August 2002, Mercator, Inc., of Englewood, New Jersey, agreed to pay \$30,000 in civil penalties to settle allegations that it violated U.S. export controls and antiboycott laws in connection with a shipment of chemicals to Iran through the United Arab Emirates.

BIS alleged that Mercator exported 4,080 bags of ethylene vinyl acetate valued at \$126,896 to Dubai, United Arab Emirates, with knowledge that the chemicals would then be shipped to Iran without obtaining prior authorization from OFAC, as required by the EAR. BIS also alleged that Mercator violated the antiboycott provisions of the EAR by certifying that the goods being shipped did not originate in Israel. Finally, BIS alleged that Mercator failed to report to BIS its receipt of a request to engage in an unsanctioned foreign boycott.

This investigation was conducted jointly by the New York Field Office and BIS's Office of Antiboycott Compliance.

P&M Trading, Inc.

On September 9, 2002, BIS denied the export privileges of P&M Trading, Inc., of San Ramon, California, for a period of 10 years, based on the company's conviction for violating the U.S. embargo on Iran by attempting to export and causing the exportation of a Shimadzu Transformer Oil Gas Analysis System from the United States to Iran via the United Arab Emirates. The ten-year denial period runs from the date of that conviction, October 20, 2000.

This investigation was conducted by the San Jose and Boston field offices.

Crime Control/Human Rights

BIS controls the export of certain items intended for crime control or police uses that also could be used to commit human rights violations. The following cases illustrate the enforcement of these controls:

Waters Instruments, Inc.

On April 1, 2002, BIS imposed a \$186,000 civil penalty on Minnesota-based Waters Instruments, Inc., to resolve allegations that North Central Plastics, Inc., a company

that subsequently merged with Waters Instruments, Inc., exported electric cattle prods to Argentina, Honduras, Switzerland, Taiwan, Columbia, Ecuador, Ireland, and Mexico without obtaining the required Department of Commerce licenses. BIS agreed to suspend \$26,000 of the \$186,000 penalty. The suspended portion of the penalty was to be waived after two years, provided that Waters Instruments, Inc., did not commit any violations of the EAR during that period.

This investigation was conducted by the Chicago Field Office.

Hans Wrage

In August 2002, BIS imposed a \$30,000 civil penalty on Hans Wrage & Co. GmbH (Wrage) of Hamburg, Germany, to settle allegations that Wrage reexported 1,550 U.S.-origin shotguns from Germany to Poland without the required authorization from BIS. Wrage originally acquired the shotguns from a U.S. manufacturer.

This investigation was conducted by the Washington Field Office.

Thompson/Center Arms Corporation

BIS alleged that, on five occasions in 1998, Thompson/Center Arms Co., Inc., illegally exported rifle and pistol scopes to Argentina, the Czech Republic, and Switzerland. The scopes were controlled for crime control reasons and required export licenses. However, no such license was obtained by the company. On May 8, 2002, Thompson/Center Arms Co., Inc., agreed to pay a civil penalty of \$25,000 to settle the charges, of which \$12,500 was suspended for one year.

This investigation was conducted by the Boston Field Office.

National Security

The following cases illustrate BIS's role in enforcing national security export controls.

Eli Cohen

On January 30, 2002, BIS imposed a civil penalty of \$10,000 and a five-year denial of export privileges on

Eli Cohen, of Haifa, Israel, to settle allegations that Cohen made false and misleading representations to, and concealed material facts from, special agents of the Office of Export Enforcement who were conducting a post-shipment verification as part of a safeguards visit to Israel. The investigation related to the unlicensed resale of a U.S.-origin Thermacam Infrared Focal Plane Array. The export of the Thermacam, valued at \$35,460, was controlled for national security reasons because of its potential application in military surveillance.

This investigation was conducted by the Boston Field Office.

Lion Precision

On December 20, 2002, BIS imposed a \$52,500 civil penalty on Automated Quality Technologies, Inc., doing business as Lion Precision, a Minnesota company, to settle charges that the company illegally exported measuring probes to Singapore, Taiwan, and Thailand. Measuring probes are high performance devices capable of the precise measurements needed for the construction of military equipment. These items are controlled for nuclear nonproliferation and national security reasons. BIS alleged that on seven occasions, Lion Precision exported these measuring probes without the required export licenses. A portion of the penalty, \$42,500, was suspended and was to be waived after two years, provided that the company did not commit any violations during this period.

This investigation was conducted by the Chicago Field Office.

Toxic Chemicals and Chemical Precursors

BIS maintains export controls on toxic chemicals and chemical precursors that can be used to manufacture chemical weapons. The following case illustrates enforcement of these controls:

Kaiser Aluminum & Chemical Corporation

On December 28, 2001, a four-year investigation culminated with Kaiser Aluminum & Chemical Corporation reaching an agreement to settle administrative charges of 10 unlicensed exports of high-strength aluminum rods to Israel and Taiwan, 12 unlicensed exports of potassium

fluoride to Jamaica, and 9 false statements on Shipper's Export Declarations. Potassium fluoride is a precursor for the production of toxic chemical agents. High-strength aluminum rod can be used to manufacture equipment for the enrichment of uranium. Kaiser agreed to pay a \$210,000 civil penalty to settle the allegations. A portion of the penalty, \$45,000, was suspended for one year, and was to be waived, provided that the company committed no violations during this period.

This investigation was conducted by the Dallas Field Office.

Other Export Control Cases

During Fiscal Year 2002, BIS also investigated the following cases:

Ihsan Elashi

On June 17, 2002, Ihsan Elashi, also known as Sammy Elashi, of Richardson, Texas, pled guilty in the U.S. District Court for the Northern District of Texas to a charge of exporting computer equipment to Saudi Arabia in violation of a BIS temporary denial order (TDO). In addition, Elashi pled guilty to several other charges of credit card fraud, money laundering, and wire fraud. Sentencing was pending in this case at the end of Fiscal Year 2002.

Elashi was the founder and principal owner of Tetrabal Corporation, a Richardson, Texas company that sold and exported computer hardware, computer software, and telecommunications equipment primarily to customers in the Middle East. Prior to the creation of Tetrabal, Elashi was employed by Infocom Corporation, another Richardson, Texas, company owned by Elashi's brothers. While employed at Infocom, Elashi engaged in sales and export transactions similar to those made by Tetrabal.

On September 6, 2001, BIS temporarily denied Infocom's export privileges based on evidence that Infocom had shipped and attempted to ship computer technology to Libya and Syria – countries designated as state sponsors of terrorism by the U.S. Department of State – without the required U.S. Government authorizations. BIS found that Elashi and Tetrabal were related to Infocom and, on that basis, extended the terms of the Infocom denial order to Elashi and Tetrabal.

In his guilty plea, Elashi admitted that, on September 22, 2001, after imposition of the TDO, he and Tetrabal willfully violated that order by participating in a transaction that involved the export and attempted export of computers and monitors from the United States to Saudi Arabia.

This investigation was conducted by the Dallas Field Office.

Maria Elena Ibanez & International High Tech Marketing

On March 21, 2002, Maria Elena Ibanez, former President of International High Tech Marketing (IHTM), was sentenced to 18 months probation and a criminal fine of \$5,000 after she pled guilty in U.S. District Court in Miami, Florida, to conspiring to falsify export documents. By pleading guilty to the charge, Ibanez acknowledged that on numerous occasions between 1996 and 1998, she directed IHTM employees to submit undervalued invoices for computer and related items to freight forwarders, causing the forwarders to submit falsified air waybills and Shipper's Export Declarations to the U.S. Customs Service and Bureau of the Census. BIS also pursued administrative charges against Ibanez, which had not been resolved by the end of the fiscal year.

In March 2000, IHTM had pled guilty and was fined \$250,000 for two counts of export violations in connection with exports to Libya and Sudan, and three counts of undervaluing the goods to evade the requirement to file a Shippers Export Declaration.

This investigation was conducted by the Miami Field Office.

EOTT Energy Operating Limited Partnership (EOTT)

In July 2002, BIS imposed a \$508,000 civil penalty against EOTT Energy Operating Limited Partnership, (EOTT), of Houston, Texas to settle allegations that the company exported crude petroleum to Canada in excess of the quantities BIS had authorized. BIS controls the export of crude petroleum to any foreign destination to protect the domestic supply of crude petroleum.

BIS alleged that, on 14 occasions between January 1997 and February 1999, EOTT exported crude petroleum from the United States to Canada in amounts exceeding the quantities authorized by BIS export licenses. BIS further alleged that EOTT caused the filing of 46 Shipper's Declarations (SEDs) that stated that the crude petroleum qualified for export under the export license numbers indicated on the SEDs. BIS alleged that these representations were false because EOTT already had exported the authorized amounts of crude petroleum under the export license numbers represented on the SEDs.

This investigation was conducted by the Dallas Field Office.

Kaiyo USA

On April 2, 2002, BIS imposed a \$10,000 civil penalty on Don Yamaguchi, of Houston, Texas doing business as Kaiyo USA, to settle allegations that Yamaguchi caused an exporter to make a false statement on the Shipper's Export Declaration (SED) in connection with an export of satellite modems from the United States. Yamaguchi advised the exporter that the goods being exported were ultimately destined for Japan when, in fact, Japan was not the ultimate destination of the shipment.

This investigation was conducted by the Dallas Field Office.

Antiboycott Cases

The U.S. Government stands firm in its policy of opposing restrictive trade practices and boycotts against its allies. BIS is committed to opposing economic boycotts against those allies. The following cases highlight BIS's role in this process:

Johns Hopkins Health Care System

On August 6, 2002, Johns Hopkins Health Care System agreed to pay a \$10,000 civil penalty to settle allegations that it violated the antiboycott provisions of the EAR when the company discriminated against an individual in support of the Arab League boycott of Israel. BIS alleged that Johns Hopkins discriminated against a U.S. person because she was Jewish. The person had been seeking a position with the company's International Services

Appendix D: Summaries and Tables of Closed Export Enforcement Cases and Criminal Cases

Department, which markets medical services around the world, including in the Middle East. BIS alleged that the discriminatory conduct was motivated by the company's concern about having a Jewish person in that position because of the Arab League boycott of Israel.

Koch Petroleum Group, L.P. and Koch Refining International Pte. Ltd.

On February 20, 2002, Koch Petroleum Group, L.P. and Koch Refining International Pte. Ltd., agreed to pay a total of \$37,000 in civil penalties to settle allegations that the two related crude oil trading companies violated the antiboycott provisions of the EAR. BIS alleged that Koch Petroleum Group, L.P., located in Wichita, Kansas and its subsidiary, Koch Refining International Pte. Ltd., located in Singapore failed to report their receipts of requests to engage in restrictive trade practices or boycotts within the time period prescribed by the regulations.

Sunbeam Europe, Limited and Coleman Benelux, B.V.

On December 12, 2001, Sunbeam Corporation, a Florida-based consumer products company, agreed to pay \$9,000 in civil penalties to settle allegations that two of its foreign subsidiaries – Sunbeam Europe, Ltd., located in the United Kingdom and Coleman Benelux, B.V., located in the Netherlands – violated the antiboycott provisions of the EAR. BIS alleged that Sunbeam Europe, Ltd., failed to report its receipts of three requests to engage in restrictive trade practices or boycotts as required by the EAR. BIS also alleged that Coleman Benelux, B.V., violated the EAR when it agreed to refuse to do business with ships “blacklisted” by the boycott office in Lebanon.

**Table 1
Export Enforcement Cases Closed October 1, 2001 to September 30, 2002**

Order Date	Cases	Charges	Sections Violated¹	Respondents	Result
10/22/01	In the Matter of Entegris, Inc., on its own behalf and as successor to Fluoroware, Inc.	Exported various valves, including diaphragm valves, from the United States to Taiwan, Israel, and the People's Republic of China without obtaining the required licenses.	787.6 [7] 787A.6 [14] 764.2(a) [103]	Entegris, Inc., on its own behalf and as successor to Fluoroware, Inc.	Settlement Agreement – civil penalty of \$496,000, \$96,000 suspended for one year
11/08/01	In the Matter of Detector Electronics Corporation	Exported U.S.-origin ultraviolet fire detection systems to Bharat Heavy Electrical Limited, an organization on the Entity List, without obtaining the required licenses.	764.2(a) [2]	Detector Electronics Corporation	Settlement Agreement – civil penalty of \$15,000
11/14/01	In the Matter of McDonnell Douglas Corporation	Submitted license applications containing false and misleading statements about the end-use and end-user for the export of machine tools; violated the conditions of the U.S. export licenses issued to McDonnell Douglas Corporation.	787.5(a)(1) [20] 787.6 [30]	McDonnell Douglas Corporation	Settlement Agreement – civil penalty of \$2,120,000
12/14/01	In the Matter of Automated Quality Technologies, Inc. doing business as Lion Precision	Exported from the United States to Taiwan, Thailand, and Singapore a non-contact measuring probe without the required export licenses.	787A.6 [2] 764.2(a) [5]	Automated Quality Technologies, Inc. doing business as Lion Precision	Settlement Agreement – civil penalty of \$52,500, \$42,500 suspended for two years
12/28/01	In the Matter of Kaiser Aluminum & Chemical Corporation	Exported or caused to be exported potassium fluoride from the United States to Jamaica without the required licenses; exported or caused to be exported aluminum rod with an outside diameter of more than three inches from the United States to Israel and Taiwan without the required licenses; made false or misleading statements of material fact directly or indirectly to a United States agency in connection with the use of export control documents.	787.6 [2] 787A.6 [8] 764.2(a) [17] 787.5 [1] 787A.5 [1] 764.2(g) [7]	Kaiser Aluminum & Chemical Corporation	Settlement Agreement – civil penalty of \$210,000, \$45,000 suspended for one year

¹The number shown in brackets is the number of violations alleged.

Appendix D: Summaries and Tables of Closed Export Enforcement Cases and Criminal Cases

Table 1
Export Enforcement Cases Closed October 1, 2001 to September 30, 2002 (Continued)

Order Date	Cases	Charges	Sections Violated ¹	Respondents	Result
01/24/02	In the Matter of Thane-Coat, Inc.	Conspiracy; exported or caused to be exported pipe coating materials from the United States to Libya without obtaining the required validated export licenses that it knew or had reason to know was required; made false or misleading statements of material fact directly or indirectly to a U.S. Government agency in connection with the use of export control documents.	787.3(b) [1] 787.4(a) [32] 787A.4(a) [5] 787.5(a) [32] 787A.5(a) [5] 787.6 [32] 787A.6 [5]	Thane-Coat, Inc.	Settlement Agreement – civil penalty of \$1,120,000, \$520,000 suspended for 2 years; export privileges denied for 25 years
01/24/02	In the Matter of Jerry Vernon Ford	Conspiracy; exported or caused to be exported pipe coating materials from the United States to Libya without obtaining the required validated export licenses that he knew or had reason to know was required; made false or misleading statements of material fact directly or indirectly to a U.S. Government agency in connection with the use of export control documents.	787.3(b) [1] 787.4(a) [32] 787A.4(a) [5] 787.5(a) [32] 787A.5(a) [5] 787.6 [32] 787A.6 [5]	Jerry Vernon Ford	Settlement Agreement – export privileges denied for 25 years
01/24/02	In the Matter of Preston John Engrebretson	Conspiracy; exported or caused to be exported pipe coating materials from the United States to Libya without obtaining the required validated export licenses that he knew or had reason to know was required; made false or misleading statements of material fact directly or indirectly to a U.S. Government agency in connection with the use of export control documents.	787.3(b) [1] 787.4(a) [32] 787A.4(a) [5] 787.5(a) [32] 787A.5(a) [5] 787.6 [32] 787A.6 [5]	Preston John Engrebretson	Settlement Agreement – export privileges denied for 25 years
01/30/02	In the Matter of Eli Cohen	Made false and misleading representation or statement of material fact directly to BIS and concealed material facts from BIS in connection with an improper transfer of an infrared camera.	764.2(g) [1]	Eli Cohen	Settlement Agreement – civil penalty of \$10,000; export privileges denied for five years

¹The number shown in brackets is the number of violations alleged.

Table 1
Export Enforcement Cases Closed October 1, 2001 to September 30, 2002 (Continued)

Order Date	Cases	Charges	Sections Violated ¹	Respondents	Result
02/04/02	In the Matter of BS&B Process Systems, Inc.	Exported oil production equipment from the United States to Iran, through the United Kingdom, without obtaining the authorization it knew or had reason to know was required; 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; failed to prepare the required Shipper's Export Declaration.	787.4 [1] 787.6 [1] 764.2(a) [3] 764.2(e) [2] 764.2(g) [1]	BS&B Process Systems, Inc.	Settlement Agreement – civil penalty of \$86,000; export privileges denied for three years, all of which is suspended
02/04/02	In the Matter of Black, Sivalls & Bryson (UK) Ltd.	Received oil production equipment in the United Kingdom that it knew or had reason to know its affiliated company in the United States, BS&B Process Systems, Inc., had exported from the United States without the required authorization, and forwarded the items to Iran.	787.4 [1] 764.2(e) [2]	Black, Sivalls & Bryson (UK) Ltd.	Settlement Agreement – civil penalty of \$32,000; export privileges denied for three years, two years suspended
02/05/02	In the Matter of Federal Parts International, Inc.	Exported U.S.-origin auto parts from the United States to Iran without obtaining the required validated export licenses; made false or misleading representation of material fact directly or indirectly to a United States agency in connection with the preparation, submission or use of an export control document; attempted to export from the United States to Iran U.S.-origin auto parts without obtaining the required authorization that it knew or had reason to know was required.	787.3(a) [2] 787.4(a) [2] 787.5(a) [2] 787.6 [2]	Federal Parts International, Inc.	Settlement Agreement – civil penalty of \$50,000; export privileges denied for 10 years
02/11/02	In the Matter of Neopoint, Inc.	Exported 128 bit encryption software to South Korea without obtaining the license that it knew or had reason to know was required.	764.2(a) [10] 764.2(e) [9]	Neopoint, Inc.	Settlement Agreement – civil penalty of \$95,000

¹The number shown in brackets is the number of violations alleged.

Appendix D: Summaries and Tables of Closed Export Enforcement Cases and Criminal Cases

Table 1
Export Enforcement Cases Closed October 1, 2001 to September 30, 2002 (Continued)

Order Date	Cases	Charges	Sections Violated ¹	Respondents	Result
03/04/02	In the Matter of Infocom Corporation, Tetrabal Corporation, Inc., Ihsan Medhat "Sammy" Elashi, denied persons, and related persons Abdulah Al Nasser, Maysoon Al Kayali, Mynet.Net Corp., Bayan Medhat Elashi, Ghassan Elashi, Basman Medhat Elashi Hazim Elashi, Fadwa Elafrangi	TDO: Reason to believe that there was a risk of an imminent violation based on evidence 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., Ihsan Medhat "Sammy" Elashi, denied persons, and related persons Abdulah Al Nasser, Maysoon Al Kayali, Mynet.Net Corp., Bayan Medhat Elashi, Ghassan Elashi, Basman Medhat Elashi Hazim Elashi, Fadwa Elafrangi	Renewal of order temporarily denying export privileges renewed for 180 days
03/14/02	In the Matter of Waters Instruments, Inc.	Exported or caused to be exported electric cattle prods from the United States to Argentina, Honduras, Switzerland, Taiwan, Columbia, Ecuador, Ireland, and Mexico without obtaining the required licenses that it knew or had reason to know was required.	787A.6[4] 764.2(a)[15] 764.2(e)[12]	Waters Instruments, Inc.	Settlement Agreement – civil penalty of \$186,000, \$26,000 suspended for two years
04/01/02	In the Matter of Don K. Yamaguchi, individually, and Kaiyo U.S.A.	In connection with an export of satellite modems from the United States, Yamaguchi caused the exporter to make a false and misleading statement of material fact on the air waybill, an export control document.	787A.2[1]	Don K. Yamaguchi, individually, and Kaiyo U.S.A.	Settlement Agreement – civil penalty of \$10,000
05/02/02	In the Matter of Jabal Damavand General Trading Company	Exported equipment from the United States through UAE to Iran without the required authorization; participated in that transaction with knowledge that a violation had occurred; acted with intent to evade the regulations by making a false statement to the U.S. supplier of the equipment as to the end-use and destination of the equipment.	764.2(b)[1] 764.2(e)[1] 764.2(h)[2]	Jabal Damavand General Trading Company	Export privileges denied for 10 years
05/08/02	In the Matter of Thompson/Center Arms Company, Inc.	Exported rifle and pistol scopes from the United States to Argentina, the Czech Republic, and Switzerland without the required licenses.	764.2(a)[5]	Thompson/Center Arms Company, Inc.	Settlement Agreement – civil penalty of \$25,000, \$12,500 suspended for one year

¹The number shown in brackets is the number of violations alleged.

Table 1
Export Enforcement Cases Closed October 1, 2001 to September 30, 2002 (Continued)

Order Date	Cases	Charges	Sections Violated ¹	Respondents	Result
07/15/02	In the Matter of EOTT Energy Operating Limited Partnership	Exported and caused to be exported crude petroleum to Canada in violation of the terms of BIS export licenses; filed or caused to be filed Shipper's Export Declarations that contained material misrepresentations of fact.	764.2(a) [14] 764.2(g) [46]	EOTT Energy Operating Limited Partnership	Settlement Agreement – civil penalty of \$508,000
07/16/02	In the Matter of Printrak, A Motorola Company	Exported or reexported automated fingerprint identification systems and associated software, and encryption software to various destinations without obtaining the required licenses; filed or caused to be filed Shipper's Export Declarations that stated the incorrect Export Control Classification Number or certified that the export was authorized under an export license or license exception that did not, in fact, authorize the export.	764.2(a) [37] 764.2(g) [8]	Printrak, A Motorola Company	Settlement Agreement – civil penalty of \$135,000
08/14/02	In the Matter of Mercator, Inc.	Exported plastic products that were subject to the Export Administration Regulations and the Iranian Transactions Regulations to Iran without obtaining prior authorization from the Treasury Department's Office of Foreign Assets Control; transferred plastic products to the United Arab Emirates with knowledge that the plastic products would be exported to Iran without the required authorization; failed to retain export control documents and other records required to be maintained.	764.2(a) [1] 764.2(e) [1] 764.2(i) [1]	Mercator, Inc.	Settlement Agreement – civil penalty of \$18,000
08/28/02	In the Matter of Tetrabal Corporation, Inc. and Ihsan Medhat "Sammy" Elashi, denied persons and related persons Maysoon Al Kayali, and Mynet.Net Corp.	TDO: Reason to believe that there was a risk of an imminent violation based on evidence that the respondents shipped and attempted to ship goods to Libya and Syria without obtaining the necessary authorizations.	764.2(a) 764.2(g)	Tetrabal Corporation, Inc. and Ihsan Medhat "Sammy" Elashi, denied persons and related persons Maysoon Al Kayali, and Mynet.Net Corp.	Renewal of order temporarily denying export privileges partially renewed for 180 days

¹The number shown in brackets is the number of violations alleged.

Appendix D: Summaries and Tables of Closed Export Enforcement Cases and Criminal Cases

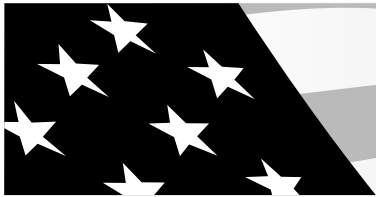
Table 1
Export Enforcement Cases Closed October 1, 2001 to September 30, 2002 (Continued)

Order Date	Cases	Charges	Sections Violated ¹	Respondents	Result
08/29/02	In the Matter of Hans Wrage & Co. GMBH	Reexported from Germany to Poland, shotguns with a barrel length of at least 18 inches but less than 24 inches, which had been exported from the United States, without obtaining the required licenses.	764.2(a) [3]	Hans Wrage & Co. GMBH	Settlement Agreement – civil penalty of \$30,000
09/09/02	In the Matter of P&M Trading, Inc.	[EAA § 11(h)] Willfully, knowingly and unlawfully violated the embargo against Iran by attempting to export and causing the exportation of a Shimadzu GC-14A Transformer Oil Gas Analysis System from the United States to Iran via the United Arab Emirates.	Section 1705 of the IEEPA	P&M Trading, Inc.	Export privileges denied until October 20, 2010
09/30/02	In the Matter of Yaudat Mustafa Talyi, also known as Joseph Talyi, and International Business Services, Ltd. and Top Oil Tools, Ltd.	TDO: Reason to believe that there was a risk of an imminent violation based on evidence that Talyi, through his company International Business Services, Inc., exported or participated in the export of U.S.-origin items to Libya and Sudan without obtaining the necessary authorizations from BIS or the Treasury Department's Office of Foreign Assets Control; attempted to mislead U.S. suppliers about the ultimate destination and end-user of the items ordered by falsely claiming that they were bound for acceptable destinations such as the United Arab Emirates or Venezuela while the items were designed for oil field equipment in Libya and Sudan.	764.2(a) 764.2(d) 764.2(g)	In the Matter of Yaudat Mustafa Talyi, also known as Joseph Talyi, and International Business Services, Ltd. and Top Oil Tools, Ltd.	Order temporarily denying export privileges for 180 days

¹The number shown in brackets is the number of violations alleged.

**Table 2
Criminal Indictments and Informations Returned During Fiscal Year 2002
Charging Export Control Violations Investigated by the Office of Export Enforcement**

Indictment/ InformationDate	Defendant (s)	Charge (s)	Enforcement Organization(s)	Sanction/Status at End of Fiscal Year
1/10/02	Maria Elena Ibanez	Conspiracy to falsify export control documents.	Commerce	Received a \$5,000 fine and 18 months of probation
3/19/02	Edvard Yamnik	Illegal export of fingerprint materials to Belarus.	Commerce	Not Concluded
4/10/02	Ihsan Elashyi, a.k.a. Sammy Elashyi, and Tetrabal Corporation	Knowingly and willfully violating a Commerce Department temporary denial order.	Commerce/Joint Terrorism Task Force	Not Concluded
4/22/02	M.I.I. (Massive International Inc.)	Illegal export of hydraulic stud tensioners to a firm on the Entity List in India.	Commerce/Customs	Received a \$10,000 fine
5/24/02	Malte Mangelsen, John Phillip Clements, Minequip Corporation, Jeffrey Woodbridge, and Sigma Enterprises Limited	Conspiracy to illegally export spare machine parts for hydraulic shears to Libya.	Commerce/Customs	Not Concluded
8/23/02	Zlatko Brkic	Illegal export of handcuffs to Bosnia and Herzegovina.	Commerce	Trial Pending



Appendix E: Tables of Antiboycott Settlements and Reporting Data

Table 1
Number of Individual Firms, Transactions, Requesting Documents,
and Restrictive Trade Practices by Firm Type
October 2001 through September 2002

ALL TRANSACTIONS
(Summary Totals)¹

*(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	209	52	5	0	0	74	340
Transactions Reported	664	358	8	0	0	225	1,255
Requesting Documents Involved	664	358	8	0	0	225	1,255
Restrictive Trade Practices Requests ²	814	380	11	0	0	272	1,477

¹Totals, 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.

²Two or more types of restrictive trade practices are often reported in connection with one transaction.

Appendix E: Tables of Antiboycott Settlements and Reporting Data

Number of Individual Firms, Transactions, Requesting Documents, and Restrictive Trade Practices by Firm Type October 2001 through September 2002

Table 1(a) All Transactions

Category	Take Action ¹	Refuse ²	Undecided	Total ³
EXPORTER				
Number of Requests	130	534	0	664
Dollar Amount (\$000)	108,332	938,508	0	1,046,840
BANK				
Number of Requests	257	101	0	358
Dollar Amount (\$000)	47,678	10,817	0	58,494
FORWARDER				
Number of Requests	2	6	0	8
Dollar Amount (\$000)	75	214	0	289
CARRIER				
Number of Requests	0	0	0	0
Dollar Amount (\$000)	0	0	0	0
INSURER				
Number of Requests	0	0	0	0
Dollar Amount (\$000)	0	0	0	0
OTHER				
Number of Requests	56	169	0	225
Dollar Amount (\$000)	31,383	256,788	0	288,171
TOTAL				
Number of Requests	445	810	0	1255
Dollar Amount (\$000)	187,468	1,206,327	0	1,393,795

¹Transactions 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.

²"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.

³Dollar values may not add due to rounding.

**Number of Individual Firms, Transactions, Requesting Documents,
and Restrictive Trade Practices by Firm Type
October 2001 through September 2002**

Table 1(b) Prohibited Transactions

Category	Take Action¹	Refuse²	Undecided	Total³
EXPORTER				
Number of Requests	1	247	0	248
Dollar Amount (\$000)	0	390,142	0	390,142
BANK				
Number of Requests	0	8	0	8
Dollar Amount (\$000)	0	2,377	0	2,377
FORWARDER				
Number of Requests	0	4	0	4
Dollar Amount (\$000)	0	155	0	155
CARRIER				
Number of Requests	0	0	0	0
Dollar Amount (\$000)	0	0	0	0
INSURER				
Number of Requests	0	0	0	0
Dollar Amount (\$000)	0	0	0	0
OTHER				
Number of Requests	0	89	0	89
Dollar Amount (\$000)	0	100,133	0	100,133
TOTAL				
Number of Requests	1	348	0	349
Dollar Amount (\$000)	0	492,807	0	492,807

¹Transactions 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.

²"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.

³Dollar values may not add due to rounding.

Appendix E: Tables of Antiboycott Settlements and Reporting Data

Number of Individual Firms, Transactions, Requesting Documents, and Restrictive Trade Practices by Firm Type October 2001 through September 2002

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

Category	Take Action ¹	Refuse ²	Undecided	Total ³
EXPORTER				
Number of Requests	1	34	0	35
Dollar Amount (\$000)	18	19,367	0	19,385
BANK				
Number of Requests	23	58	0	81
Dollar Amount (\$000)	1,051	5,639	0	6,690
FORWARDER				
Number of Requests	0	1	0	1
Dollar Amount (\$000)	0	26	0	26
CARRIER				
Number of Requests	0	0	0	0
Dollar Amount (\$000)	0	0	0	0
INSURER				
Number of Requests	0	0	0	0
Dollar Amount (\$000)	0	0	0	0
OTHER				
Number of Requests	0	13	0	13
Dollar Amount (\$000)	0	14,695	0	14,695
TOTAL				
Number of Requests	24	106	0	130
Dollar Amount (\$000)	1,069	39,727	0	40,795

¹Transactions 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.

²"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.

³Dollar values may not add due to rounding.

**Number of Individual Firms, Transactions, Requesting Documents,
and Restrictive Trade Practices by Firm Type
October 2001 through September 2002**

Table 1(d) Exceptions to Prohibited

Category	Take Action¹	Refuse²	Undecided	Total³
EXPORTER				
Number of Requests	108	191	0	299
Dollar Amount (\$000)	98,070	506,435	0	604,505
BANK				
Number of Requests	25	0	0	25
Dollar Amount (\$000)	20,471	0	0	20,471
FORWARDER				
Number of Requests	0	0	0	0
Dollar Amount (\$000)	0	0	0	0
CARRIER				
Number of Requests	0	0	0	0
Dollar Amount (\$000)	0	0	0	0
INSURER				
Number of Requests	0	0	0	0
Dollar Amount (\$000)	0	0	0	0
OTHER				
Number of Requests	53	43	0	96
Dollar Amount (\$000)	27,156	115,424	0	142,579
TOTAL				
Number of Requests	186	234	0	420
Dollar Amount (\$000)	145,697	621,858	0	767,556

¹Transactions 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.

²"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.

³Dollar values may not add due to rounding.

Appendix E: Tables of Antiboycott Settlements and Reporting Data

Number of Individual Firms, Transactions, Requesting Documents, and Restrictive Trade Practices by Firm Type October 2001 through September 2002

Table 1(e) Not Prohibited

Category	Take Action ¹	Refuse ²	Undecided	Total ³
EXPORTER				
Number of Requests	20	62	0	82
Dollar Amount (\$000)	10,244	22,565	0	32,809
BANK				
Number of Requests	209	35	0	244
Dollar Amount (\$000)	26,155	2,800	0	28,956
FORWARDER				
Number of Requests	2	1	0	3
Dollar Amount (\$000)	75	34	0	109
CARRIER				
Number of Requests	0	0	0	0
Dollar Amount (\$000)	0	0	0	0
INSURER				
Number of Requests	0	0	0	0
Dollar Amount (\$000)	0	0	0	0
OTHER				
Number of Requests	3	24	0	27
Dollar Amount (\$000)	4,227	26,536	0	30,763
TOTAL				
Number of Requests	234	122	0	356
Dollar Amount (\$000)	40,702	51,935	0	92,637

¹Transactions 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.

²"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.

³Dollar values may not add due to rounding.

**Table 2
Number of Restrictive Trade Practices by
Firm Type and Type of Restrictive Trade Practice
October 2001 through September 2002**

ALL TRANSACTIONS

Restrictive Trade Practice	Export	Bank	Forwarder	Carrier	Insurer	Other¹	Total²
Carrier	88	305	7	0	0	26	426
Manufacturer/Vendor/Buyer	76	7	0	0	0	32	115
Insurance	0	0	0	0	0	0	0
Finance	2	1	0	0	0	0	3
Origin of Goods	329	61	4	0	0	54	448
Marked Goods/Packages	0	0	0	0	0	0	0
War Reparations	1	0	0	0	0	0	1
Observe Boycott Laws	157	2	0	0	0	50	209
Race/Religion/Sex/Origin	0	0	0	0	0	0	0
Relations with Boycotted Country	58	4	0	0	0	19	81
Risk of Loss	0	0	0	0	0	0	0
Destination of Goods	69	0	0	0	0	72	141
Other Restrictive Trade Practices	34	0	0	0	0	19	53
Totals	814	380	11	0	0	272	1,477

¹Includes but are not limited to law firms, consulting firms, and general contractors.

²Enhanced to the extent that an exporter and one or more other organizations report on the same transaction.

Appendix E: Tables of Antiboycott Settlements and Reporting Data

Table 3
Number¹ of Restrictive Trade Practices
by Originating Country and Type of Practice
October 2001 through September 2002

Country	Carrier	Manufacture/ Vendor/ Buyer	Insurance	Finance	Origin of Goods	Marked Goods/ Packaging	War Reparations	Observe Boycott Laws	Race/ Religion/ Sex/ Origin	Relations with Boycotted Country	Risk of Loss	Destination of Goods	Other Restrictive Practices	Total
Bahrain	29	11	0	0	10	0	1	12	0	2	0	0	0	65
Egypt	1	0	0	0	3	0	0	0	0	0	0	0	0	4
Iraq	0	3	0	0	1	0	0	1	0	2	0	0	0	7
Jordan	7	0	0	1	0	0	0	2	0	1	0	0	0	11
Kuwait	40	2	0	0	39	0	0	1	0	0	0	0	0	82
Lebanon	48	2	0	0	6	0	0	0	0	1	0	0	0	57
Libya	1	4	0	0	3	0	0	0	0	5	0	0	1	14
Qatar	35	3	0	0	7	0	0	17	0	1	0	15	10	88
Saudi Arabia	6	7	0	0	39	0	0	24	0	8	0	1	2	87
Syria	22	14	0	0	22	0	0	53	0	22	0	0	34	167
UAE	188	56	0	1	231	0	0	81	0	39	0	3	0	599
Other ²	49	14	0	1	87	0	0	18	0	0	0	122	6	297
Total	426	116	0	3	448	0	1	209	0	81	0	141	53	1,478
Percent³	29	8	0	0	30	0	0	14	0	5	0	10	4	100

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

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

³Percentages may not add due to rounding.

**Table 4
Number¹ of Restrictive Trade Practices
by Originating Country and Type of Document
October 2001 through September 2002**

Country	Bid or Tender Proposal	Carrier Blacklist	Letter of Credit	Questionnaire	Requisition/ Purchase Order	Unwritten	Other Written	Total
Bahrain	13	0	30	0	12	0	1	56
Egypt	2	0	0	0	2	0	0	4
Iraq	2	0	0	1	0	0	2	5
Jordan	2	0	6	1	1	0	0	10
Kuwait	1	0	72	0	5	0	2	80
Lebanon	0	0	48	1	2	0	5	56
Libya	5	0	1	0	3	0	0	9
Qatar	24	0	28	0	26	0	2	80
Saudi Arabia	32	0	5	2	25	0	8	72
Syria	60	0	26	12	7	30	12	147
UAE	158	2	199	0	96	1	14	470
Other ²	101	0	51	0	89	5	21	267
Total	400	2	466	17	268	36	67	1,256
Percentage³	32	0	37	1	21	3	5	99

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

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

³Percentages do not add due to rounding.

**Table 5
Number and Value of Exporter Transactions
by Originating Country and Decision on the Request
October 2001 through September 2002**

All Transactions¹

Country	Take Action²	Refuse³	Undecided	Total⁴
BAHRAIN				
Number of Requests	3	24	0	27
Dollar Amount (\$000)	11	88,194	0	88,206
EGYPT				
Number of Requests	0	4	0	4
Dollar Amount (\$000)	0	7	0	7
IRAQ				
Number of Requests	0	2	0	2
Dollar Amount (\$000)	0	642	0	642
JORDAN				
Number of Requests	0	3	0	3
Dollar Amount (\$000)	0	86	0	86
KUWAIT				
Number of Requests	5	13	0	18
Dollar Amount (\$000)	79	1,161	0	1,240
LEBANON				
Number of Requests	3	8	0	11
Dollar Amount (\$000)	769	551	0	1,320
LIBYA				
Number of Requests	0	9	0	9
Dollar Amount (\$000)	0	1,626	0	1,626
QATAR				
Number of Requests	6	28	0	34
Dollar Amount (\$000)	248	5,252	0	5,500
SAUDI ARABIA				
Number of Requests	0	47	0	47
Dollar Amount (\$000)	0	46,738	0	46,738

All Transactions¹ (Continued)

Country	Take Action²	Refuse³	Undecided	Total⁴
SYRIA				
Number of Requests	6	92	0	98
Dollar Amount (\$000)	610	94,311	0	94,921
UAE				
Number of Requests	53	197	0	250
Dollar Amount (\$000)	51,467	409,669	0	461,136
OTHER⁵				
Number of Requests	54	107	0	161
Dollar Amount (\$000)	55,147	290,272	0	345,419
TOTAL⁴				
Number of Requests	130	534	0	664
Dollar Amount (\$000)	108,332	938,508	0	1,046,840

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

²Transactions 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.

⁴Dollar values may not add due to rounding.

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

**Number and Value of Exporter Transactions
by Originating Country and Decision on the Request
October 2001 through September 2002**

Table 5(b) Prohibited Transactions

Country	Take Action¹	Refuse²	Undecided	Total³
BAHRAIN				
Number of Requests	0	17	0	17
Dollar Amount (\$000)	0	69,663	0	69,663
EGYPT				
Number of Requests	0	1	0	1
Dollar Amount (\$000)	0	0	0	0
IRAQ				
Number of Requests	0	2	0	2
Dollar Amount (\$000)	0	642	0	642
JORDAN				
Number of Requests	0	3	0	3
Dollar Amount (\$000)	0	86	0	86
KUWAIT				
Number of Requests	1	4	0	5
Dollar Amount (\$000)	0	59	0	59
LEBANON				
Number of Requests	0	5	0	5
Dollar Amount (\$000)	0	65	0	65
LIBYA				
Number of Requests	0	8	0	8
Dollar Amount (\$000)	0	1,626	0	1,626
QATAR				
Number of Requests	0	16	0	16
Dollar Amount (\$000)	0	986	0	986
SAUDI ARABIA				
Number of Requests	0	28	0	28
Dollar Amount (\$000)	0	1,130	0	1,130

Table 5(b) Prohibited Transactions (Continued)

Country	Take Action¹	Refuse²	Undecided	Total³
SYRIA				
Number of Requests	0	65	0	65
Dollar Amount (\$000)	0	88,267	0	88,267
UAE				
Number of Requests	0	72	0	72
Dollar Amount (\$000)	0	158,847	0	158,847
OTHER⁴				
Number of Requests	0	26	0	26
Dollar Amount (\$000)	0	68,771	0	68,771
TOTAL³				
Number of Requests	1	247	0	248
Dollar Amount (\$000)	0	390,142	0	390,142

¹Transactions 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.

²"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.

³Dollar values may not add due to rounding.

⁴Includes Algeria, India, Iran, Malaysia, Nigeria, Oman, Pakistan, Tunisia, and Yemen.

Appendix E: Tables of Antiboycott Settlements and Reporting Data

Number and Value of Exporter Transactions by Originating Country and Decision on the Request October 2001 through September 2002

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

Country	Take Action ¹	Refuse ²	Undecided	Total ³
BAHRAIN				
Number of Requests	0	1	0	1
Dollar Amount (\$000)	0	730	0	730
EGYPT				
Number of Requests	0	0	0	0
Dollar Amount (\$000)	0	0	0	0
IRAQ				
Number of Requests	0	0	0	0
Dollar Amount (\$000)	0	0	0	0
JORDAN				
Number of Requests	0	0	0	0
Dollar Amount (\$000)	0	0	0	0
KUWAIT				
Number of Requests	0	1	0	1
Dollar Amount (\$000)	0	58	0	58
LEBANON				
Number of Requests	0	1	0	1
Dollar Amount (\$000)	0	34	0	34
LIBYA				
Number of Requests	0	0	0	0
Dollar Amount (\$000)	0	0	0	0
QATAR				
Number of Requests	0	3	0	3
Dollar Amount (\$000)	0	3,152	0	3,152
SAUDI ARABIA				
Number of Requests	0	0	0	0
Dollar Amount (\$000)	0	0	0	0

Table 5(c) Prohibited as First Received, but Amended (Continued)

Country	Take Action ¹	Refuse ²	Undecided	Total ³
SYRIA				
Number of Requests	0	3	0	3
Dollar Amount (\$000)	0	2,024	0	2,024
UAE				
Number of Requests	1	10	0	11
Dollar Amount (\$000)	18	3,181	0	3,199
OTHER⁴				
Number of Requests	0	15	0	15
Dollar Amount (\$000)	0	10,187	0	10,187
TOTAL⁵				
Number of Requests	1	34	0	35
Dollar Amount (\$000)	18	19,367	0	19,385

¹Transactions 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.

²"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.

³Dollar values may not add due to rounding.

⁴Includes Algeria, India, Iran, Malaysia, Nigeria, Oman, Pakistan, Tunisia, and Yemen.

Appendix E: Tables of Antiboycott Settlements and Reporting Data**Number and Value of Exporter Transactions
by Originating Country and Decision on the Request
October 2001 through September 2002****Table 5(d) Exceptions Prohibited Transactions**

Country	Take Action ¹	Refuse ²	Undecided	Total ³
BAHRAIN				
Number of Requests	2	4	0	6
Dollar Amount (\$000)	1	17,771	0	17,772
EGYPT				
Number of Requests	0	2	0	2
Dollar Amount (\$000)	0	7	0	7
IRAQ				
Number of Requests	0	0	0	0
Dollar Amount (\$000)	0	0	0	0
JORDAN				
Number of Requests	0	0	0	0
Dollar Amount (\$000)	0	0	0	0
KUWAIT				
Number of Requests	2	5	0	7
Dollar Amount (\$000)	37	323	0	361
LEBANON				
Number of Requests	0	0	0	0
Dollar Amount (\$000)	0	0	0	0
LIBYA				
Number of Requests	0	0	0	0
Dollar Amount (\$000)	0	0	0	0
QATAR				
Number of Requests	6	1	0	7
Dollar Amount (\$000)	248	0	0	248
SAUDI ARABIA				
Number of Requests	0	17	0	17
Dollar Amount (\$000)	0	45,606	0	45,606

Table 5(d) Exceptions Prohibited Transactions (Continued)

Country	Take Action ¹	Refuse ²	Undecided	Total ³
SYRIA				
Number of Requests	0	1	0	1
Dollar Amount (\$000)	0	0	0	0
UAE				
Number of Requests	43	101	0	144
Dollar Amount (\$000)	42,636	231,608	0	274,244
OTHER⁴				
Number of Requests	54	61	0	115
Dollar Amount (\$000)	55,147	211,120	0	266,267
TOTAL³				
Number of Requests	108	191	0	299
Dollar Amount (\$000)	98,070	506,435	0	604,505

¹Transactions 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.

²"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.

³Dollar values may not add due to rounding.

⁴Includes Algeria, India, Iran, Malaysia, Nigeria, Oman, Pakistan, Tunisia, and Yemen.

Appendix E: Tables of Antiboycott Settlements and Reporting Data

Number and Value of Exporter Transactions by Originating Country and Decision on the Request October 2001 through September 2002

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

Country	Take Action ¹	Refuse ²	Undecided	Total ³
BAHRAIN				
Number of Requests	1	2	0	3
Dollar Amount (\$000)	10	30	0	41
EGYPT				
Number of Requests	0	1	0	1
Dollar Amount (\$000)	0	0	0	0
IRAQ				
Number of Requests	0	0	0	0
Dollar Amount (\$000)	0	0	0	0
JORDAN				
Number of Requests	0	0	0	0
Dollar Amount (\$000)	0	0	0	0
KUWAIT				
Number of Requests	2	3	0	5
Dollar Amount (\$000)	42	720	0	762
LEBANON				
Number of Requests	3	2	0	5
Dollar Amount (\$000)	769	452	0	1,221
LIBYA				
Number of Requests	0	1	0	1
Dollar Amount (\$000)	0	0	0	0
QATAR				
Number of Requests	0	8	0	8
Dollar Amount (\$000)	0	1,113	0	1,113
SAUDI ARABIA				
Number of Requests	0	2	0	2
Dollar Amount (\$000)	0	1	0	1

Table 5(e) Prohibited as First Received, but Amended (Continued)

Country	Take Action¹	Refuse²	Undecided	Total³
SYRIA				
Number of Requests	5	24	0	29
Dollar Amount (\$000)	610	4,020	0	4,630
UAE				
Number of Requests	9	14	0	23
Dollar Amount (\$000)	8,813	16,034	0	24,847
OTHER⁴				
Number of Requests	0	5	0	5
Dollar Amount (\$000)	0	194	0	194
TOTAL³				
Number of Requests	20	62	0	82
Dollar Amount (\$000)	10,224	22,565	0	32,809

¹Transactions 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.

²"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.

³Dollar values may not add due to rounding.

⁴Includes Algeria, India, Iran, Malaysia, Nigeria, Oman, Pakistan, Tunisia, and Yemen.

Table 6
Number of Individual Firms, Transactions,
Requesting Documents and Restrictive Trade Practices
Received by (“Controlled-in-Fact”) Foreign Subsidiaries
October 2001 through September 2002

ALL TRANSACTIONS (Summary Totals)

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

¹Includes Austria, and Sweden.

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

**Number of Individual Firms, Transactions,
Requesting Documents and Restrictive Trade Practices
Received by (“Controlled-in-Fact”) Foreign Subsidiaries
October 2001 through September 2002
ALL TRANSACTIONS (Summary Totals)**

Table 6(a) All Transactions

Country	Take Action	Refuse	Undecided	Total
UNITED KINGDOM				
Number of Requests	3	26	0	29
Dollar Amount (\$000)	4,172	21,000	0	25,172
FRANCE				
Number of Requests	0	4	0	4
Dollar Amount (\$000)	0	86	0	86
GERMANY				
Number of Requests	0	4	0	4
Dollar Amount (\$000)	0	6,455	0	6,455
NETHERLANDS				
Number of Requests	0	25	0	25
Dollar Amount (\$000)	0	10,503	0	10,503
BELGIUM				
Number of Requests	0	15	0	15
Dollar Amount (\$000)	0	3,616	0	3,616
SWITZERLAND				
Number of Requests	0	13	0	13
Dollar Amount (\$000)	0	30,525	0	30,525
CANADA				
Number of Requests	0	1	0	1
Dollar Amount (\$000)	0	824	0	824
ITALY				
Number of Requests	0	2	0	2
Dollar Amount (\$000)	0	97	0	97
OTHER EUROPEAN NATIONS¹				
Number of Requests	0	19	0	19
Dollar Amount (\$000)	0	1,148	0	1,148

Table 6(a) All Transactions (Continued)

Country	Take Action	Refuse	Undecided	Total
OTHER ARAB NATIONS²				
Number of Requests	1	149	0	150
Dollar Amount (\$000)	0	342,176	0	342,176
ALL OTHER NATIONS				
Number of Requests	9	104	0	113
Dollar Amount (\$000)	1,346	1,384,522	0	1,385,868
TOTAL				
Number of Requests	13	362	0	375
Dollar Amount (\$000)	5,518	1,800,952	0	1,806,470

¹Includes Austria, and Sweden.

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

**Number of Requests of Individual Firms, Transactions,
Requesting Documents and Restrictive Trade Practices
Received by (“Controlled-in-Fact”) Foreign Subsidiaries
October 2001 through September 2002**

Table 6(b) Prohibited Transactions

Country	Take Action	Refuse	Undecided	Total
UNITED KINGDOM				
Number of Requests	0	13	0	13
Dollar Amount (\$000)	0	20,298	0	20,298
FRANCE				
Number of Requests	0	3	0	3
Dollar Amount (\$000)	0	53	0	53
GERMANY				
Number of Requests	0	3	0	3
Dollar Amount (\$000)	0	5,155	0	5,155
NETHERLANDS				
Number of Requests	0	10	0	10
Dollar Amount (\$000)	0	9,844	0	9,844
BELGIUM				
Number of Requests	0	12	0	12
Dollar Amount (\$000)	0	3,603	0	3,603
SWITZERLAND				
Number of Requests	0	7	0	7
Dollar Amount (\$000)	0	8,178	0	8,178
CANADA				
Number of Requests	0	0	0	0
Dollar Amount (\$000)	0	0	0	0
ITALY				
Number of Requests	0	2	0	2
Dollar Amount (\$000)	0	97	0	97
OTHER EUROPEAN NATIONS¹				
Number of Requests	0	5	0	5
Dollar Amount (\$000)	0	114	0	114

Table 6(b) Prohibited Transactions (Continued)

Country	Take Action	Refuse	Undecided	Total
OTHER ARAB NATIONS²				
Number of Requests	0	107	0	107
Dollar Amount (\$000)	0	247,857	0	247,857
ALL OTHER NATIONS				
Number of Requests	0	4	0	4
Dollar Amount (\$000)	0	41,813	0	41,813
TOTAL				
Number of Requests	0	166	0	166
Dollar Amount (\$000)	0	337,012	0	337,012

¹Includes Austria, and Sweden.

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

**Number of Requests of Individual Firms, Transactions,
Requesting Documents and Restrictive Trade Practices
Received by (“Controlled-in-Fact”) Foreign Subsidiaries
October 2001 through September 2002**

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

Country	Take Action	Refuse	Undecided	Total
UNITED KINGDOM				
Number of Requests	0	6	0	6
Dollar Amount (\$000)	0	132	0	132
FRANCE				
Number of Requests	0	0	0	0
Dollar Amount (\$000)	0	0	0	0
GERMANY				
Number of Requests	0	1	0	1
Dollar Amount (\$000)	0	1,300	0	1,300
NETHERLANDS				
Number of Requests	0	6	0	6
Dollar Amount (\$000)	0	541	0	541
BELGIUM				
Number of Requests	0	1	0	1
Dollar Amount (\$000)	0	11	0	11
SWITZERLAND				
Number of Requests	0	1	0	1
Dollar Amount (\$000)	0	61	0	61
CANADA				
Number of Requests	0	1	0	1
Dollar Amount (\$000)	0	824	0	824
ITALY				
Number of Requests	0	0	0	0
Dollar Amount (\$000)	0	0	0	0
OTHER EUROPEAN NATIONS¹				
Number of Requests	0	2	0	2
Dollar Amount (\$000)	0	846	0	846

Table 6(c) Prohibited as First Received, but Amended (Continued)

Country	Take Action	Refuse	Undecided	Total
OTHER ARAB NATIONS²				
Number of Requests	0	7	0	7
Dollar Amount (\$000)	0	2,649	0	2,649
ALL OTHER NATIONS				
Number of Requests	0	0	0	0
Dollar Amount (\$000)	0	0	0	0
TOTAL				
Number of Requests	0	25	0	25
Dollar Amount (\$000)	0	6,364	0	6,364

¹Includes Austria, and Sweden.

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

**Number of Requests of Individual Firms, Transactions,
Requesting Documents and Restrictive Trade Practices
Received by (“Controlled-in-Fact”) Foreign Subsidiaries
October 2001 through September 2002**

Table 6(d) Exceptions to Prohibitions

Country	Take Action	Refuse	Undecided	Total
UNITED KINGDOM				
Number of Requests	2	6	0	8
Dollar Amount (\$000)	100	404	0	504
FRANCE				
Number of Requests	0	0	0	0
Dollar Amount (\$000)	0	0	0	0
GERMANY				
Number of Requests	0	0	0	0
Dollar Amount (\$000)	0	0	0	0
NETHERLANDS				
Number of Requests	0	0	0	0
Dollar Amount (\$000)	0	0	0	0
BELGIUM				
Number of Requests	0	0	0	0
Dollar Amount (\$000)	0	0	0	0
SWITZERLAND				
Number of Requests	0	0	0	0
Dollar Amount (\$000)	0	0	0	0
CANADA				
Number of Requests	0	0	0	0
Dollar Amount (\$000)	0	0	0	0
ITALY				
Number of Requests	0	0	0	0
Dollar Amount (\$000)	0	0	0	0
OTHER EUROPEAN NATIONS¹				
Number of Requests	0	0	0	0
Dollar Amount (\$000)	0	0	0	0

Table 6(d) Exceptions to Prohibitions (Continued)

Country	Take Action	Refuse	Undecided	Total
OTHER ARAB NATIONS²				
Number of Requests	1	24	0	25
Dollar Amount (\$000)	0	88,379	0	88,379
ALL OTHER NATIONS				
Number of Requests	9	100	0	109
Dollar Amount (\$000)	1,346	1,342,709	0	1,344,055
TOTAL				
Number of Requests	12	130	0	142
Dollar Amount (\$000)	1,446	1,431,492	0	1,432,938

¹Includes Austria, and Sweden.

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

**Number of Requests of Individual Firms, Transactions,
Requesting Documents and Restrictive Trade Practices
Received by (“Controlled-in-Fact”) Foreign Subsidiaries
October 2001 through September 2002**

Table 6(e) Not Prohibited

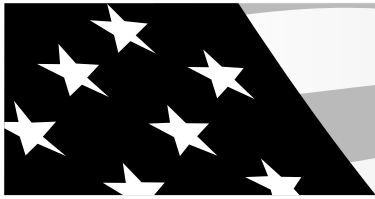
Country	Take Action	Refuse	Undecided	Total
UNITED KINGDOM				
Number of Requests	1	1	0	2
Dollar Amount (\$000)	4,072	166	0	4,238
FRANCE				
Number of Requests	0	1	0	1
Dollar Amount (\$000)	0	33	0	33
GERMANY				
Number of Requests	0	0	0	0
Dollar Amount (\$000)	0	0	0	0
NETHERLANDS				
Number of Requests	0	9	0	9
Dollar Amount (\$000)	0	118	0	118
BELGIUM				
Number of Requests	0	2	0	2
Dollar Amount (\$000)	0	3	0	3
SWITZERLAND				
Number of Requests	0	5	0	5
Dollar Amount (\$000)	0	22,286	0	22,286
CANADA				
Number of Requests	0	0	0	0
Dollar Amount (\$000)	0	0	0	0
ITALY				
Number of Requests	0	0	0	0
Dollar Amount (\$000)	0	0	0	0
OTHER EUROPEAN NATIONS¹				
Number of Requests	0	12	0	12
Dollar Amount (\$000)	0	188	0	188

Table 6(e) Not Prohibited (Continued)

Country	Take Action	Refuse	Undecided	Total
OTHER ARAB NATIONS²				
Number of Requests	0	11	0	11
Dollar Amount (\$000)	0	3,291	0	3,291
ALL OTHER NATIONS				
Number of Requests	0	0	0	0
Dollar Amount (\$000)	0	0	0	0
TOTAL				
Number of Requests	1	41	0	42
Dollar Amount (\$000)	4,072	26,084	0	30,156

¹Includes Austria, and Sweden.

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



Appendix F: Approved Applications for Country Group D:1 and Cuba

CCL	Description	Applications	Dollar Value
ALBANIA			
0A984	Shotguns, Buckshot, Shotgun Shells	1	\$20,768
3E001	Technology for Dev or Prod of Certain Items in 3A/	1	\$1
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: 2			
Total CCL's: 4			
Total Dollar Value: \$20,771			

CCL	Description	Applications	Dollar Value
ARMENIA			
0A984	Shotguns, Buckshot, Shotgun Shells	1	\$118,000
3D003	CAD Software for Semiconductor Devices/Integrated	1	\$0
3E001	Technology for Dev or Prod of Certain Items on 3A/	21	\$21
5A002	Systems/Equipment/Integrated Circuits for Info Sec	1	\$3
5D002	Software for Information Security	1	\$3
5E002	Technology for Dev/Prod/Use of Information Securit	1	\$8
Total Applications: 24			
Total CCL's: 6			
Total Dollar Value: \$118,035			

Appendix F: Approved Applications for Country Group D:1 and Cuba

CCL	Description	Applications	Dollar Value
AZERBAIJAN			
0A982	Thumbcuffs, Leg Irons and Shackles	1	\$2,150
5A002	Systems/Equipment/Integrated Circuits for Info Sec	1	\$2,365
Total Applications: 2			
Total CCL's: 2			
Total Dollar Value: \$4,515			

CCL	Description	Applications	Dollar Value
BELARUS			
3A001	Electronic Devices/Components	1	\$5,170
3E001	Technology for Dev or Prod of Certain Items in 3A/	2	\$2
4E001	Technology for Dev/Prod/Use of Certain Equip/Softw	1	\$1
6A003	Cameras	1	\$55,000
Total Applications: 5			
Total CCL's: 4			
Total Dollar Value: \$60,173			

CCL	Description	Applications	Dollar Value
BULGARIA			
0A982	Thumbcuffs, Leg Irons and Shackles	2	\$96,540
0A984	Shotguns, Buckshot, Shotgun Shells	4	\$138,784
0A987	Optical Sighting Devices for Firearms	1	\$510
1A005	Body Armor	1	\$46,815
3A001	Electronic Devices/Components	3	\$6,829
3A981	Polygraphs/Fingerprint Analyzers/Cameras/Equipment	3	\$236,000
3E001	Technology for Dev or Prod of Certain Items in 3A/	1	\$1
4D001	Software for Certain Equipment/Software in 4A-4D	1	\$1
4E001	Technology for Dev/Prod/Use of Certain Equip/Softw	1	\$1
5A002	Systems/Equipment/Integrated Circuits for Info Sec	1	\$17,000
5D002	Software for Information Security	1	\$5,000
5E001	Technology for Dev/Prod/Use, Etc, of Equip. in 5A0	2	\$2
6A008	Radar Systems/Equipment/Assemblies	1	\$13,500,000
Total Applications: 20			
Total CCL's: 13			
Total Dollar Value: \$14,047,483			

Appendix F: Approved Applications for Country Group D:1 and Cuba

CCL	Description	Applications	Dollar Value
CAMBODIA			
3A231	Neutron Generator Systems Including Tubes	1	\$102,000
Total Applications: 1			
Total CCL's: 1			
Total Dollar Value: \$102,000			

CCL	Description	Applications	Dollar Value
CHINA (PRC)			
EAR99	Items Subject to the Ear N.E.S.	16	\$1,550,980
0A987	Optical Sighting Devices for Firearms	4	\$41,007
1A999	Specific Processing Equipment, N.E.S	1	\$21,354
1C008	Non-Fluorinated Polymeric Substances	2	\$209,948
1C010	Fibrous/Filamentary Materials Used In Matrix Struc	4	\$2,708,021
1C202	Aluminum and Titanium Alloys in the Form of Tubes/	4	\$895,100
1C210	Fibrous/Filamentary Materials Not Controlled by 1C	4	\$5,280,000
1C231	Hafnium	1	\$1,773
1C234	Zirconium, with a Hafnium Content	4	\$305,913
1C350	Chemicals, Precursors for Toxic Chemical Agents	23	\$21,844,225
1C351	Human Pathogens, Zoonoses, and Toxins	1	\$2,870
1E001	Technology for Development of Equipment Under 1A00	3	\$2
1E103	Technology to Regulate Temperature of Composites	1	\$0
1E201	Technology for Use of 1A002,1A202,1A225 to 1B225	2	\$1
1E350	Technology for Use of 1C350 Chemicals	3	\$3
1E351	Technology for Use of Microbiological Materials	3	\$3
1E994	Technology for 1C993 Materials or 1C994 Fluids	1	\$0
2B001	Numerical Control Units/Motion Control Boards	6	\$7,793,965
2B006	Dimensional Inspection/Measuring Systems or Equipm	1	\$8,068
2B008	Assemblies/Units/Inserts for Machine Tools in 2B00	1	\$322,800
2B201	Machine Tools for Removing or Cutting Metals	3	\$1,192,500
2B204	Isostatic Presses Not Controlled by 2B004 or 2B104	1	\$356,000
2B227	Vacuum and Controlled Atmosphere Melting/Casting F	1	\$1,348,500
2B229	Centrifugal Balancing Machines	1	\$35,260
2B230	Pressure Transducers	33	\$510,030
2B350	Chemical Manufacturing Facilities and Equipment	32	\$2,909,352
2B351	Toxic Gas Monitoring Systems & Dedicated Detectors	58	\$964,372

Appendix F: Approved Applications for Country Group D:1 and Cuba

CCL	Description	Applications	Dollar Value
CHINA (PRC) (Continued)			
2B352	Equipment for Handling Biological Materials	3	\$3,541,990
2D002	Adaptive Control/Electronic Device Software	1	\$0
2E001	Technology Supporting Equipment/Software in 2A/2b/	1	\$1
2E002	Technology Supporting Equipment/Production in 2A/2	1	\$1
2E003	Other Technology	3	\$0
2E201	Technology for Use of Commodities Controlled by 2A	2	\$1
2E301	Technology for Use of Commodities Controlled by 2B	4	\$3
3A001	Electronic Devices/Components	32	\$1,558,888,701
3A002	General Purpose Electronic Equipment	21	\$1,650,269
3A225	Inverters/Converters/Frequency Changers/Generators	4	\$70,438
3A228	Switching Devices	1	\$25,246
3A231	Neutron Generator Systems Including Tubes	4	\$1,122,932
3A232	Detonators/Multipoint Initiation Systems	1	\$635,500
3A233	Mass Spectrometers	3	\$405,854
3A991	Electronic Devices and Components	1	\$186
3A992	General Purpose Electronic Equipment	2	\$7,381
3A999	Specific Processing Equipment, N.E.S.	3	\$82,100
3B001	Epitaxial Equipment for Semiconductors	11	\$387,448,792
3C001	Hetero-Epitaxial Materials	2	\$1,013,900
3C003	Organo-Inorganic Compounds Described in This Entry	2	\$1,469,000
3C004	Hydrides of Phosphorus, Arsenic, or Antimony	8	\$2,969,479
3D001	Software for Dev or Prod of Equip Certain Items on	10	\$0
3D002	Software for Use of Certain Equipment Controlled B	1	\$0
3D003	CAD Software For Semiconductor Devices/Integrated	52	\$6,451,823
3E001	Technology for Dev or Prod of Certain Items in 3A/	180	\$2,000,148
3E002	Other Technology for Items in Category 3	11	\$1,000,010
3E003	Other "Technology"	1	\$1
3E201	Technology for the Use of Certain Items in 3A	1	\$1
4A994	Items Not Controlled by 4A001/4A002/4A003	2	\$3,565,470
4D001	Software for Certain Equipment/Software In 4A-4D	3	\$3
4D003	Specific Software, as Described in This Entry	26	\$26
4E001	Technology for Dev/Prod/Use of Certain Equip/Softw	83	\$83
5A001	Telecommunications/Transmission Equipment	3	\$314,000
5A002	Systems/Equipment/Integrated Circuits for Info Sec	1	\$2
5A992	Information Security Equipment	1	\$1

Appendix F: Approved Applications for Country Group D:1 and Cuba

CCL	Description	Applications	Dollar Value
CHINA (PRC) (Continued)			
5B001	Equipment for Dev/Prod or Use of Items on 5A001	2	\$350,000
5B991	Telecommunications Test Equipment	1	\$5,207
5D001	Software for Dev/Prod/Use of Items in 5A001/5B001/	2	\$1
5D002	Software for Information Security	4	\$7
5D991	Software for Dev/Prod/Use with 5B994 Test Equipmen	1	\$5,207
5E001	Technology for Dev/Prod/Use, Etc, of Equip. in 5A0	142	\$1,758,096
5E002	Technology for Dev/Prod/Use of Information Securit	2	\$2
5E991	Technology for Dev/Prod/Use of 5b994 or 5d991	1	\$1
6A003	Cameras	84	\$2,907,713
6A005	Optical Equipment (Lasers)	8	\$7,078,134
6A006	Magnetometers/Magnetic Gradiometers/Compensation S	6	\$849,460
6A007	Gravity Meters (Gravimeters)/Gravity Gradiometers	1	\$199,340
6D003	Other Software	1	\$7,121,000
6E001	Technology for Development of Equipment/Materials/	3	\$3
6E002	Technology for Production of Equipment/Materials I	2	\$1
7A103	Instrumentation, Navigation Equipment/Systems Not	11	\$4,306,527
7D003	Other Software	1	\$1
7E004	Other Technology	1	\$0
9B990	Vibration Test Equipment	2	\$26,711
9E003	Other Technology	1	\$300,000
Total Applications: 777			
Total CCL's: 82			
Total Dollar Value: \$2,045,872,800			

CCL	Description	Applications	Dollar Value
CUBA			
EAR99	Items Subject to the Ear N.E.S.	517	\$1,973,178,650
0A001	Nuclear Reactors	1	\$16
3A002	General Purpose Electronic Equipment	1	\$17,000
3A992	General Purpose Electronic Equipment	1	\$250
4A994	Items Not Controlled by 4A001/4A002/4A003	5	\$112,600
5A991	Transmission Items not W/I Parameters in 5A001	1	\$34,220
6A003	Cameras	1	\$4,000
7A994	Other Navigation/Airborne Communication Equipment	1	\$20,182

Appendix F: Approved Applications for Country Group D:1 and Cuba

CCL	Description	Applications	Dollar Value
CUBA (Continued)			
8A001	Submersible Vehicles or Surface Vessels	1	\$450,000
8A992	Underwater Camera Equipment	23	\$140,456,000
9A991	Aircraft and Certain Gas Turbine Engines N.E.S.	44	\$398,360,000
9A992	Canopies, Harnesses, and Platform Mechanisms	1	\$19,500,000
Total Applications: 581			
Total CCL'2: 12			
Total Dollar Value: \$2,532,132,918			

CCL	Description	Applications	Dollar Value
ESTONIA			
0A982	Thumbcuffs, Leg Irons and Shackles	1	\$1,540
1C351	Human Pathogens, Zoonoses, and Toxins	1	\$211
2B230	Pressure Transducers	1	\$860
3A001	Electronic Devices/Components	1	\$276
3E001	Technology for Dev or Prod of Certain Items in 3A/	1	\$1
3E003	Other "Technology"	1	\$1
5E001	Technology for Dev/Prod/Use, Etc, of Equip. in 5A0	1	\$1
Total Applications: 5			
Total CCL's: 7			
Total Dollar Value: \$2,890			

CCL	Description	Applications	Dollar Value
GEORGIA			
1A005	Body Armor	1	\$6,331
1C225	Boron and Boron Compounds/Mixtures and Loaded Mate	1	\$1,650
Total Applications: 2			
Total CCL's: 2			
Total Dollar Value: \$7,981			

Appendix F: Approved Applications for Country Group D:1 and Cuba

CCL	Description	Applications	Dollar Value
KAZAKHSTAN			
1B201	Filament Winding Machines	1	\$2,998,000
3A231	Neutron Generator Systems Including Tubes	1	\$102,000
5E001	Technology for Dev/Prod/Use, Etc, of Equip. in 5A0	1	\$0
6A001	Acoustics	1	\$190,000
6A002	Optical Sensors	1	\$81,750
7A103	Instrumentation, Navigation Equipment/Systems Not	1	\$160,000
Total Applications: 6			
Total CCL's: 6			
Total Dollar Value: \$3,531,750			

CCL	Description	Applications	Dollar Value
KOREA, NORTH			
EAR99	Items Subject to the Ear N.E.S.	2	\$1,611,597
1C107	Graphite and Ceramic Materials	1	\$400,000
1C981	Crude Petroleum/Tar Sands/Crude Shale	1	\$0
1C992	Oil Well Perforators	1	\$673,453
2B998	Assemblies, Units or Inserts Designed for Tools	1	\$73
2B999	Specific Processing Equipment, N.E.S.	1	\$204,371
4A001	Ruggedized Electronic Computers/Related Equipment	1	\$10,500
4D001	Software for Certain Equipment/Software in 4A-4D	1	\$4,500
5D002	Software for Information Security	2	\$11,900
7A994	Other Navigation/Airborne Communication Equipment	2	\$30,650
Total Applications: 9			
Total CCL's: 10			
Total Dollar Value: \$2,947,044			

CCL	Description	Applications	Dollar Value
KYRGYZSTAN			
Total Applications: 0			
Total CCL's: 0			
Total Dollar Value: \$0			

Appendix F: Approved Applications for Country Group D:1 and Cuba

CCL	Description	Applications	Dollar Value
LAOS			
Total Applications: 0			
Total CCL's: 0			
Total Dollar Value: \$0			

CCL	Description	Applications	Dollar Value
LATVIA			
0A982	Thumbcuffs, Leg Irons and Shackles	1	\$1,540
0A987	Optical Sighting Devices for Firearms	2	\$32,415
3A001	Electronic Devices/Components	2	\$37,039
3A992	General Purpose Electronic Equipment	1	\$5,209
5A002	Systems/Equipment/Integrated Circuits for Info Sec	3	\$18,525
5D002	Software for Information Security	3	\$16,703
6A003	Cameras	1	\$12,000
Total Applications: 10			
Total CCL's: 7			
Total Dollar Value: \$123,431			

CCL	Description	Applications	Dollar Value
LITHUANIA			
0A982	Thumbcuffs, Leg Irons and Shackles	1	\$1,540
0A987	Optical Sighting Devices for Firearms	1	\$5,000
1C210	Fibrous/Filamentary Materials Not Controlled by 1C	1	\$307,000
3A001	Electronic Devices/Components	2	\$6,964
3A002	General Purpose Electronic Equipment	1	\$620
5D002	Software for Information Security	3	\$4,267
6A003	Cameras	1	\$40,000
6A005	Optical Equipment (Lasers)	2	\$41,664
Total Applications: 11			
Total CCL's: 8			
Total Dollar Value: \$407,055			

Appendix F: Approved Applications for Country Group D:1 and Cuba

CCL	Description	Applications	Dollar Value
MOLDOVA			
2B230	Pressure Transducers	1	\$860
Total Applications: 1			
Total CCL's: 1			
Total Dollar Value: \$860			

CCL	Description	Applications	Dollar Value
MONGOLIA			
Total Applications: 0			
Total CCL's: 0			
Total Dollar Value: \$0			

CCL	Description	Applications	Dollar Value
ROMANIA			
0A982	Thumbcuffs, Leg Irons and Shackles	1	\$1,540
0A987	Optical Sighting Devices for Firearms	2	\$30,000
1C117	Tungsten/Molybdenum/Alloys of These Metals in Sphe	2	\$74,500
3A001	Electronic Devices/Components	1	\$98
3A225	Inverters/Converters/Frequency Changers/Generators	1	\$16,249
3A981	Polygraphs/Fingerprint Analyzers/Cameras/Equipment	3	\$71,000
3E001	Technology for Dev or Prod ff Certain Items in 3A/	9	\$8
4D003	Specific Software, as Described in This Entry	2	\$2
4E001	Technology for Dev/Prod/Use of Certain Equip/Softw	2	\$2
5D002	Software for Information Security	3	\$19,875
5E001	Technology for Dev/Prod/Use, Etc, of Equip. in 5A0	1	\$0
6A003	Cameras	2	\$96,500
7A103	Instrumentation, Navigation Equipment/Systems Not	1	\$245,000
Total Applications: 27			
Total CCL's: 13			
Total Dollar Value: \$554,774			

Appendix F: Approved Applications for Country Group D:1 and Cuba

CCL	Description	Applications	Dollar Value
RUSSIA			
EAR99	Items Subject to the Ear N.E.S.	39	\$1,813,453
0A984	Shotguns, Buckshot, Shotgun Shells	1	\$8,082
0A987	Optical Sighting Devices for Firearms	7	\$598,694
1A985	Fingerprinting Powders, Dyes, and Inks	1	\$165,500
1A999	Specific Processing Equipment, N.E.S	5	\$132,305
1C006	Fluids and Lubricating Materials	2	\$37,454
1C018	Materials on the International Munitions List	1	\$13,200
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	1	\$0
1E103	Technology to Regulate Temperature of Composites	1	\$0
3A001	Electronic Devices/Components	34	\$344,846
3A002	General Purpose Electronic Equipment	8	\$464,776
3A292	Oscilloscopes and Transient Recorders	1	\$14,995
3A981	Polygraphs/Fingerprint Analyzers/Cameras/Equipment	4	\$1,012,490
3A992	General Purpose Electronic Equipment	2	\$42,555
3A999	Specific Processing Equipment, N.E.S.	6	\$131,546
3D002	Software for Use of Certain Equipment Controlled B	1	\$1
3D003	CAD Software for Semiconductor Devices/Integrated	3	\$5,942
3D991	General Purpose Electronic Equipment for 3A992	1	\$995
3E001	Technology for Dev or Prod of Certain Items in 3A/	13	\$14
3E003	Other "Technology"	1	\$1
3E991	Manufacturing and Test Equipment for 3B991/92	1	\$738
4A994	Items Not Controlled by 4A001/4A002/4A003	9	\$64,306
4D001	Software for Certain Equipment/Software in 4A-4D	1	\$1
4D003	Specific Software, as Described in This Entry	98	\$98
4D994	Software for Dev/Prod/Use of Items in 4A994/4B994/	3	\$1,806
4E001	Technology for Dev/Prod/Use of Certain Equip/Softw	102	\$102
4E992	Technology for Dev/Prod/Use of 4A994/4B994/4C994	2	\$2,006
5A991	Transmission Items Not W/I Parameters in 5A001	2	\$43,606
5D002	Software for Information Security	3	\$2,105,141
5D992	Software Not Controlled by 5D002	3	\$40,401

Appendix F: Approved Applications for Country Group D:1 and Cuba

CCL	Description	Applications	Dollar Value
RUSSIA (CONTINUED)			
5E001	Technology For Dev/Prod/Use, Etc, Of Equip. In 5A0	8	\$105
5E002	Technology For Dev/Prod/Use Of Information Securit	32	\$32
6A001	Acoustics	3	\$325,948
6A003	Cameras	56	\$2,640,995
6A005	Optical Equipment (Lasers)	2	\$43,014
6A994	Optics, Not Controlled by 6A004	1	\$5,522
6E001	Technology for Development of Equipment/Materials/	1	\$1
7A103	Instrumentation, Navigation Equipment/Systems Not	4	\$1,218,687
7D003	Other Software	1	\$1
7E004	Other Technology	1	\$0
9A001	Aero Gas Turbine Engines	1	\$239,250
9A003	Gas Turbine Engine Propulsion Systems	1	\$250,000
9B106	Environmental Chambers and Anechoic Chambers	1	\$750,000
9E001	Technology for Dev of Equipment or Software in 9A/	5	\$5
Total Applications: 299			
Total CCL's: 46			
Total Dollar Value: \$15,518,614			

CCL	Description	Applications	Dollar Value
TAJIKISTAN			
6A003	Cameras	1	\$82,000
TOTAL Applications: 1			
Total CCL's: 1			
Total Dollar Value: \$82,000			

CCL	Description	Applications	Dollar Value
TURKMENISTAN			
Total Applications: 0			
Total CCL's: 0			
Total Dollar Value: \$0			

Appendix F: Approved Applications for Country Group D:1 and Cuba

CCL	Description	Applications	Dollar Value
UKRAINE			
0A984	Shotguns, Buckshot, Shotgun Shells	2	\$18,088
0A986	Shotgun Shells (Except Buckshot Shells) and Parts	1	\$4,673
0A987	Optical Sighting Devices for Firearms	2	\$74,200
2E003	Other Technology	2	\$1
3A001	Electronic Devices/Components	5	\$24,796
3A002	General Purpose Electronic Equipment	2	\$48,876
5D002	Software for Information Security	1	\$135,000
5E001	Technology for Dev/Prod/Use, Etc, of Equip. In 5A0	1	\$1
6A003	Cameras	2	\$34,199
9B001	Equipment for Manufacturing Gas Turbine Blades/Van	1	\$1,176,000
Total Applications: 18			
Total CCL's: 10			
Total Dollar Value: \$1,515,834			

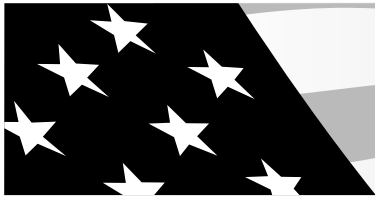
CCL	Description	Applications	Dollar Value
UZBEKISTAN			
1C350	Chemicals, Precursors for Toxic Chemical Agents	1	\$20,200,000
2B350	Chemical Manufacturing Facilities and Equipment	1	\$14,976
3A231	Neutron Generator Systems Including Tubes	1	\$1,200,000
4E001	Technology for Dev/Prod/Use of Certain Equip/Softw	1	\$1
Total Applications: 4			
Total CCL's: 4			
Total Dollar Value: \$21,414,977			

Appendix F: Approved Applications for Country Group D:1 and Cuba

CCL	Description	Applications	Dollar Value
VIETNAM			
EAR99	Items Subject to the Ear N.E.S.	1	\$458
1C350	Chemicals, Precursors for Toxic Chemical Agents	2	\$318,000
1C351	Human Pathogens, Zoonoses, and Toxins	1	\$1,112
1E001	Technology for Development of Equipment Under 1A00	2	\$1
1E002	Other Technology	1	\$0
1E351	Technology for Use of Microbiological Materials	1	\$1
2B350	Chemical Manufacturing Facilities and Equipment	3	\$30,449
2B351	Toxic Gas Monitoring Systems & Dedicated Detectors	4	\$6,911
2E001	Technology Supporting Equipment/Software in 2A/2B/	1	\$0
2E201	Technology for Use of Commodities Controlled by 2A	1	\$1
3A001	Electronic Devices/Components	2	\$34,807
3A002	General Purpose Electronic Equipment	2	\$105,453
3A231	Neutron Generator Systems Including Tubes	1	\$102,000
3A232	Detonators/Multipoint Initiation Systems	1	\$21,000
3E001	Technology for Dev or Prod of Certain Items in 3A/	5	\$4
4D003	Specific Software, as Described In This Entry	1	\$1
4D980	Software for Dev/Prod/Use with 4A980 Items	2	\$25
4E001	Technology for Dev/Prod/Use of Certain Equip/Softw	1	\$1
5D002	Software for Information Security	5	\$29,204
5E001	Technology for Dev/Prod/Use, Etc, of Equip. in 5A0	1	\$1
8A018	Commodities on the International Munitions List	1	\$34,200
8A992	Underwater Camera Equipment	1	\$16,350
9A018	Commodities on the International Munitions List	5	\$797,720
Total Applications: 38			
Total CCL's: 23			
Total Dollar Value: \$1,497,699			

Note 1: The license and dollar value data includes temporary export and reexport licenses.

Note 2: Within each country, the sum of the numbers in the application column may not equal Total Applications because more than one CCL item may appear on an export license application.



Appendix G: Report on Domestic Impact of U.S. Exports to Controlled Countries

In accordance with Section 14(e) of the Export Administration Act of 1979 (EAA), as amended, the Bureau of Industry and Security (BIS) continues to assess the impact on U.S. industry and employment of output from “controlled countries”¹ 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 EAA 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 certain turnkey plants and facilities (and related software and technology) to controlled destinations. In Fiscal Year 2002, BIS 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 destina-

tions (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 specifically identified on the Commerce Control List). In addition, certain turnkey plants and facilities (and related software and technology) may be listed in a Commerce Control List entry where the applicable Reason for Control does not require a license to one or more controlled destinations, as indicated in the appropriate Reason for Control column of the Commerce Country Chart. Other 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).

BIS 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.

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

Goods and Technology Exports

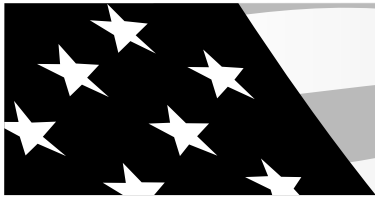
Historically, the dollar value of trade with controlled destinations has been low. In 2001, U.S. exports to these countries totaled \$22.8 billion, which represents an increase of \$3.3 million from 2000 levels, but only about three percent of total U.S. exports. China is, by far, the largest single export market among the controlled country group, with about 79 percent of total U.S. exports to controlled countries; Russia ranks second with about 11 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 likely minimal.

Although the bases for our export controls are national security, foreign policy, and short supply, BIS, 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, in 1999, BIS conducted a study that examined 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 accession to the WTO will be on such requirements. The United States runs a substantial trade deficit with China (\$84.1 billion in 2001), and a very high percentage of China's exports (more than 50 percent) 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 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, BIS 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 Department of the Treasury-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 BIS's Office of Strategic Industries and Economic Security (SIES) Web page at www.bis.doc.gov/OSIES/.



Appendix H: Agricultural Commodities Supply Information

Note: All data for this appendix was provided by the U.S. Department of Agriculture.

Wheat

Domestic Situation

Projected 2002/03 ending stocks of wheat are down 36 million bushels from last month as reduced production more than offsets smaller use. Projected ending stocks, at 371 million bushels, are 406 million bushels below the revised carryin level and the lowest since 340 million bushels in 1973/74. Estimated production published in the September 30 Small Grains 2002 Summary is down 62 million bushels from the previous forecast. Spring wheat (including durum) is down 46 million bushels, largely because of lower harvested area. Winter wheat is 16 million bushels below the previous forecast due to lower area and yield. Projected feed and residual use is reduced 25 million bushels because the September 1 stocks implied smaller-than-expected use in the June-August quarter. The projected price range is narrowed 10 cents on each end to \$3.55 to \$3.95 per bushel.

World Supply and Trade

World wheat trade in 2002/03 is forecast to be about 100 million tons, down 8.5 million tons from 2001/02. Global production is forecast down 8.9 million tons but consumption is forecast up 10.2 million tons from the previous year. Global stocks are forecast to fall by 28.4 million tons to the lowest level since 1982/83.

In early October, export quotes for #2 HRW FOB Gulf averaged \$194/MT, up \$4 from last month and up nearly \$65 from early June. Global production is down 2.8 million tons from last month with smaller crops in the United States, Australia, and Brazil partially offset by a larger crop in Russia. Global consumption is largely unchanged, while ending stocks are forecast down 4.3 million tons

from last month due mainly to lower forecast U.S. and Indian stocks. Global wheat trade in 2002/03 is forecast virtually unchanged from last month as increased exports from India, Russia, and the EU offset lower exports from Canada and Australia. Brazilian imports are forecast up 500,000 tons and are partially offset by lower imports by the United States.

Coarse Grains

(corn, sorghum, barley, oats, and rye)

Domestic Situation

Projected 2002/03 ending stocks of corn are up 35 million bushels from last month as the higher production more than offsets increased use and reduced beginning stocks. Reported beginning stocks are 37 million bushels below last month's forecast. Production is up 121 million bushels from last month due to higher yields, but the corn crop is still expected to be the smallest since 1995/96. Reduced production of barley and oats, published in the September 30 Small Grains 2002 Summary, is largely reflected in lower projected feed and residual use. Projected feed and residual use of corn is increased 50 million bushels this month to offset lower barley and oat use. The projected 2002/03 corn price range is lowered 5 cents on each end to \$2.30 to \$2.70 per bushel.

World Supply and Trade

World coarse grain trade in 2002/03 is practically unchanged from a year earlier at 101 million tons. The gap between global consumption and global production is expected to more than double, dropping carryout stocks approximately 35 million tons to 134.4 million. U.S. corn, China corn, and EU barley and rye are forecast to comprise more than two-thirds of world coarse grain stocks.

Appendix H: Agricultural Commodities Supply Information

Projected 2002/03 global coarse grain production, use, and ending stocks are up slightly from last month. Foreign coarse grain production is down marginally from last month as reductions for Australia barley, Canada barley and oats, China millet and sorghum, and India millet more than offset increases for Russia barley, Ukraine and Serbia corn, and EU barley and oats. There are a number of largely offsetting changes in global 2002/03 coarse grain trade, use, and ending stocks.

Global corn trade is virtually unchanged in 2002/03. U.S. exports will rise as a result of reduced competition and steady imports.

Rice

Domestic Situation

U.S. 2002/03 rice supplies are projected at a record 263.9 million cwt, 2 percent above last month and 4 percent above 2001/02. Rice production is forecast at 211.9 million cwt, 3 percent above last month, and just fractionally below the 2001/02 record. U.S. average yield for 2002/03 is forecast at a record 6,608 pounds per acre, nearly 3 percent above last month and last year. Long-grain production is forecast at 157.4 million cwt, nearly 3 percent above last month, but 5 percent below the 2001/02 record. Combined medium- and short-grain production is forecast at 54.5 million cwt, nearly 3 percent above last month, and 14 percent above 2001/02. Imports in 2002/03 are projected at 13 million cwt, 2 percent below last month and slightly below the revised 2001/02 level.

Domestic and residual use for 2002/03 is projected at a record 125.0 million cwt, 1 percent below last month, but nearly 3 percent above revised 2001/02. Exports are projected at 97 million cwt, 2 percent above last month, and 3 percent above the revised 2001/02 estimate. Exports of rough rice and milled rice are projected at 32 million cwt and 65 million cwt (rough-equivalent basis), respectively. Ending stocks, at 41.9 million cwt, are up nearly 12 percent from last month, 8 percent above 2001/02, and the largest since 1986/87. The season-average price range for 2002/03 is lowered 35 cents per cwt on each end to \$3.50 to \$4.00 per cwt compared to \$4.17 per cwt in 2001/02. The price decline is due largely to continued weak international prices, record domestic supplies, and

low prices reported by NASS for the first 2 months of the marketing year.

World Supply and Trade

World trade in 2003 is projected at 26.2 million tons, virtually unchanged from the previous year and up 500,000 tons from last month's estimate. Global production in 2002/03 is projected at 381.2 million tons (milled basis), down 15.1 million tons from revised 2001/02. Global ending stocks in 2002/03 are projected at 105.5 million tons, 26.5 million tons below revised 2001/02. Global consumption in 2002/03 is forecast at 407.7 million tons.

Asian export price quotes softened during the past month. In Thailand, export price quotes for 100B have dropped \$8 to \$189 per ton (FOB) partly due to some sales of government-held stocks. In Vietnam, export price quotes for 5 percent eased \$4 to \$187 per ton (FOB) due to a seasonal boost in supplies. Conversely, the export price quote for U.S. long grain grade #2/4 has strengthened \$10 this month to \$223 per ton (FOB), while the price quote for California medium grain #1/4 continues sideways at \$255 per ton (ex-spout Sacramento).

Soybeans and Products

Domestic Situation

The lower prices for most other major commodities during 2000/2001 led to near record plantings of 74.1 million acres of soybeans in 2001/2002. The higher net returns associated with soybeans was due in part to lower input costs. While the area planted was down 200,000 acres from the record in 2000/2001, the fall was minor in comparison to declines in planted acres of corn, wheat, and feed grains.

The large soybean area planted along with the yield of 39.6 bushels per acre led to an overall production of 78.7 million tons from a record 73 million harvested acres. This was the highest production total to date, and the second highest yield on record. The U.S. season average price fell to \$4.35 per bushel, down from \$4.54 in 2000/2001 due to large world supplies of soybeans. These lower prices helped push U.S. exports up 1.9 million tons to about 30 million tons, despite a nearly 3 million ton drop in Chinese imports of soybeans.

Healthy crush margins helped raise the U.S. soybean crush to 46.3 million tons in 2001/2002. This is 1.6 million tons higher than 2000/2001 and is attributable to higher domestic disappearance, as meal exports actually declined slightly. While margins narrowed toward the end of the marketing year, soybean oil is expected to contribute a higher share of the returns due to especially tight world vegetable oil supplies and resulting higher prices.

U.S. soybean meal exports for 2001/2002 eased slightly to 6.94 million tons from 6.99 in the previous year. The increased world demand for meal was largely satisfied by large increases in exports from Argentina and Brazil, which together were up almost 3 million tons. The growth in domestic disappearance of soybean meal was helped by lower prices, higher poultry production, and slightly lower corn supplies.

Large world supplies of vegetable oils in recent years changed in 2001/2002 to a situation of tighter supplies, increasing the value of U.S. origin oil. Beginning soybean oil stocks in the United States were large at 2.88 billion lbs, and ending stocks were 2.44 billion lbs. Season average price in 2001/2002 was 16.5 cents a pound, up from 14.2 cents in 2000/2001. U.S. exports of edible oils rose to 2.5 billion pounds in 2001/2002 from 1.4 billion pounds the prior year.

World Oilseeds and Products Supply and Trade

World oilseed production in 2001/2002 increased 9.9 million tons over the previous year's production totaling 323.3 million tons. Increases in soybeans, cottonseed, peanut, and palm kernel more than offset declines in sunflowerseed, rapeseed and copra. Weak net returns to sunflowerseed and rapeseed caused a reduction in the area planted, along with weather-related drops in yields in Canada, Argentina, India and the Former Soviet Union.

Major oilseed crushing rose 4.1 percent in 2001/2002 to 264.8 million tons. Soybean again led all crushing increases, up 10.9 million tons to 157.9 million tons. Rapeseed crush dropped 1.7 million tons and sunflowerseed crush fell over 2 million tons. Exports of oilseeds

fell 2.1 million tons, or 3 percent, with rapeseed and sunflowerseed of 2 million and 1.2 million tons respectively. This large export decline more than offset modest increases in soybeans, up 890 thousand tons, and peanuts, up 250 thousand tons. World ending stocks fell 3 percent to 34.8 million tons. The most notable stock changes were associated with rapeseed, down 650 thousand tons, sunflowerseed, down 360 thousand tons; and soybeans, up 190 thousand tons.

World protein meal production rose 4 percent to 182.5 million tons in 2001/2002. Declines of about 1 million tons each in rapeseed meal and sunflowerseed meal production were more than offset by an 8.3 million ton increase in soybean meal production. Exports of protein meals rose 6 percent to 60 million tons, as Argentina shipped out 2.1 million more tons of soybean meal, Brazil 820,000 more, and China exported 890,000 tons more than during 2000/2001.

The world edible oil situation changed in 2001/2002 from one of ample supplies to one of growing scarcity and rising prices. While total production rose by 2.4 percent, consumption grew just over 3 percent, sending stocks 14.7 percent lower. World edible oil production rose to 91.1 million tons. A slight palm oil production increase along with lower coconut oil, sunflowerseed oil, and rapeseed oil production account for the weak supply situation. The production decline in high oil-yielding sunflowerseed and rapeseed of 3.5 million tons meant that over 8 million tons of additional soybean production would be needed to offset the oil lost from declines in the other oils. Soybean production rose 8.6 million tons, but the net result was a relative tightening of the world's vegetable oil supply and relatively more meal becoming available. Soybean oil's market share rose 2.5 points to 25.2 percent of exports, while palm oil's market share rose only .1 points to 48.1 percent. These gains came at the expense of virtually all other vegetable oils, whose combined market share dropped 2.6 percent to 26.7 percent in 2001/2002.

Cotton

Domestic Situation

Cotton production in MY 2001/2002 was a record 20.3 million bales, up about 18 percent from the previous season. Upland cotton production, at 19.6 million bales, was 17 percent above the previous year. American-pima production totaled 700,000 bales, up 80 percent above the previous season.

The area planted to all cotton totaled 15.8 million acres, a 1.6 percent increase from the previous season. Harvested area, at 13.8 million acres, was up 6 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 increased due to more traditional abandonment levels than the previous season when high abandonment occurred due to extremely dry conditions. Yields for the United States averaged 705 pounds per harvested acre, the third highest yield on record.

Total cotton mill use during 2001/2002 was 7.7 million bales, down from 8.9 million the previous season. Upland cotton use, at 7.6 million bales was down 12.8 percent. American-pima mill use was estimated at 104 thousand bales, down 16.1 percent. Total 2001/2002 exports were estimated at 11 million bales, up 63 percent from the previous season. According to FAS data, the top six markets during 2001/2002 were Mexico, Turkey, India, Indonesia, Taiwan, and Thailand. Ending stocks for 2001/2002 were estimated at 7.6 million bales, up 27 percent from the previous season.

Cotton

International cotton prices in 2001/2002 were lower than the previous season, with the Cotlook A-Index (average of 5 lowest CIF North Europe quotes) average of 41.83 cents per pound. The A-Index was at its highest monthly level in July 2002 at 46.59 cents per pound, while the lowest price was for 37.22 cents per pound in October 2001.

World 2001/2002 cotton production was estimated at 98.0 million bales, up 10.5 percent from the previous season. Foreign production was estimated at 77.8 million bales, up 8.7 percent. The 2001/2002 season was charac-

terized by a large crop in China, the United States, India, Pakistan, and Uzbekistan. Production in some of the major importing countries such as Thailand and Indonesia increased significantly.

World 2001/2002 consumption was estimated at 94.4 million bales, up 2.6 percent from the previous season. The major increases in consumption were in China, Pakistan, and Turkey. World exports for 2001/2001 totaled 29.1 million bales, up 9.4 percent from the previous season. Increased exports were seen in the United States, Mali, Egypt, and Benin.

World ending stocks for 2001/2002 were estimated at 46.8 million bales, 9.6 percent above the previous season. A significant ending stock decrease occurred in China and Brazil.

Hides and Skins

U.S. Trade

According to U.S. trade statistics, U.S. whole cattle hide exports for 2001 totaled 23.3 million hides, reflecting a 13 percent rise from the 2000 level. In 2001, the value of U.S. whole cattle hide exports increased by 26 percent to \$1.45 billion. The U.S. export value of whole cattle hides and parts for January – August 2002 reached \$892 million, down 12 percent from the value exported for the same period in 2001.

Wood Products

Domestic Housing Situation

Construction put in place during July 2002 was estimated at a seasonally adjusted annual rate of \$834.1 billion, nearly unchanged from the revised June estimate of \$833.8 billion, according to the U.S. Commerce Department's Census Bureau. The July figure is 1.1 percent below July 2001. During the first 7 months of this year \$474.1 billion of construction was put in place, 0.2 percent above the \$473.0 billion for the same period in 2001. In constant (1996) dollars, the July annual rate was \$682.9 billion, 0.3 percent above the revised estimate of \$681.2 billion for June. Spending on new residential housing units was at a seasonally adjusted annual rate of \$295.4 billion in July, 0.1 percent above the revised June estimate of \$295.1 billion. Nonresidential building construction was

at a rate of \$162.1 billion, 2.1 percent below the revised June estimate of \$165.7 billion. In July, the estimated seasonally adjusted annual rate of public construction put in place was \$198.7 billion, 0.9 percent above the revised June estimate of \$197.0 billion.

Domestic Wood Product Situation

Production of lumber in the United States amounted to 46.6 billion board feet in 2001, which is 5.7 percent below the 49.4 billion board feet in 2000. Eastern lumber production amounted to 29.2 billion board feet in 2001, 6.3 percent below the 2000 level of 31.2 billion board feet. Southern yellow pine production amounted to 15.9 billion board feet in 2001, 4.1 percent below the 2000 production level. Production of eastern hardwoods amounted to 10.9 billion board feet in 2001, 7.9 percent below the 2000 level. Western lumber production amounted to 17.4 billion board feet in 2001, a decline of 4.6 percent from the 2000 production level of 18.3 billion board feet. Production of western softwoods decreased by 4.6 percent to 16.9 billion board feet from 2000 to 2001. Total western hardwood production decreased by 7.3 percent to 480,000 board feet.

U.S. Solid Wood Product Exports

In 2001, the United States exported \$5.1 billion of solid wood products, down 17 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 and Hong Kong posted gains in 2001. In 2002, U.S. wood products are forecast to decrease an additional \$100 million to total \$5.0 billion. Despite the forecast decline, exports to 5 of the top 15 wood markets will likely post gains in 2002. Exports to China and Hong Kong remain strong, while exports to Korea, Taiwan, and the Dominican Republic appear to be rebounding. Also, exports to Canada and Mexico, the first and fourth-largest U.S. export markets for wood products, are also close to returning positive growth in 2002.

In 2001, exports to Japan totaled \$1.07 billion, a decrease of \$413 million from the previous year. Much of the loss was attributed to declining log exports. As Japanese con-

sumers 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 \$1.0 billion in 2001, a decrease of \$242 million from the previous year. Of the major products exported to the EU, hardwood lumber decreased \$84 million, softwood lumber decreased \$52 million, and hardwood veneer decreased \$21 million. These declines are attributed partly to increased production of these products in the EU.

In 2001, exports to Mexico were \$373 million, a decrease of \$60 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 \$24 million in 2001. Decreased demand for housing has also reduced market opportunities for U.S. wood products.

In 2001, exports to China totaled \$137 million, an increase of \$43 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

EPA Announces Transition from Consumer Use of Treated Wood Containing Arsenic

On February 12, 2002, the Environmental Protection Agency announced a voluntary decision by the wood treating industry to move consumers away from the use of treated wood products containing arsenic by December 31, 2003. CCA-treated (copper chromated arsenate) wood is the most common form of treated wood used in the United States. CCA treated wood is used in a wide variety of applications including utility poles, roller coasters, outdoor decks, fencing, playground equipment, and other structures where wood is exposed to pests or the weather. EPA indicated that it does not believe there is a reason to remove or replace existing CCA-treated structures. In a related matter, the European Commission is proposing to ban the use of CCA-treated wood in all but a few industrial applications: railway sleepers, electric power transmission and telecommunications poles, and cooling towers.

IPPC Adopts Standard for Wood Packing Material

On March 15, 2002, the Interim Commission for Phytosanitary Measures, the governing body of the International Plant Protection Convention (IPPC), adopted a new standard for wood packing material used in international trade. The standard describes phytosanitary measures to reduce the risk of introduction or spread of pests associated with wood packing material. Wood packing material that has been treated with one or more approved measures and bears the specified mark will normally be accepted by all national plant protection organizations. The United States is one of 116 countries that are contracting parties to the IPPC. Measures approved in the standard include heat treatment (to a core temperature of 56° C for a minimum of 30 minutes) and fumigation with methyl-bromide. In 2001, the United States traded more than \$1.8 trillion worth of goods internationally, much of which was shipped using packing material covered by the IPPC standard. On June 27, 2002, the International Plant Protection Conven-

tion (IPPC) suspended implementation of its new standard for wood packing material used in international trade. The action resulted from unforeseen legal issues surrounding the trade marking of the “no bug” mark. The “no bug” mark was developed to signify that wood packing material carrying the mark is in compliance with the heat treatment/fumigation measures identified in the IPPC standard. The IPPC has indicated that it could take up to five months to develop and trade mark a new mark. (For additional information, view <http://www.aphis.usda.gov/ppq/swp/>.)

ITC Finds Threat of Injury In Canadian Softwood Lumber Investigation

On March 22, 2002, the Department of Commerce (DOC) announced the final countervailing duty rates and anti-dumping margins for Canadian softwood lumber, finding a net countervailing duty rate of 18.79 percent and anti-dumping margins ranging from 2.18 to 12.44 percent. In May, the International Trade Commission (ITC) announced its final injury determination, finding a threat of material injury in both the countervailing duty and antidumping investigations of Canadian softwood lumber. The duties were effective May 22, following publication of ITC’s final determination in the Federal Register. On July 17, the Department of Commerce (DOC) announced it was initiating an expedited review of its countervailing duty order for the purpose of establishing company-specific cash deposit rates for 73 Canadian manufacturers of softwood lumber. DOC had previously indicated its intent to initiate such a review in its May 22 countervailing duty order. Products manufactured in the Maritime Provinces are exempt from the countervailing duty, as are products of certain manufacturers who rely entirely on logs sourced from the Maritime Provinces or Maine. Cash deposits in an amount equal to the duties are required for all shipments of Canadian softwood lumber entering the United States after that date. U.S. officials met with officials of British Columbia and the Canadian Government in late August to discuss forestry reform and how one might evaluate future provincial forestry reform in the context of the U.S. countervailing duty law.

Japan Deems U.S. Wood Products Standards System Equivalent

The Japanese Ministry of Agriculture, Forestry and Fisheries MAFF has recognized the grading systems of certain wood products-related organizations in the United States as equivalent to those of the Japanese Agricultural Standards (JAS) grading system. Recognition allows U.S. grading and testing organizations to apply to function as Registered Foreign Grading Organizations/Registered Foreign Certification Organizations. In July 1999, the JAS Law was amended (effective June 2000) to allow foreign grading/quality control organizations to function as JAS-registered foreign grading organizations and/or JAS-registered foreign certification organizations, putting them on equal footing with their Japanese counterparts. This system will replace the current system of Foreign Testing Organizations (FTOs). There are currently five U.S. FTOs and 63 U.S. JAS-certified wood product manufacturers. Canada and Australia are the only other countries to date to have been recognized as having equivalent standards systems for wood products.

APA and TECO Recognized as RFCOs in Japan

On May 10, 2002, the Japanese Ministry of Agriculture, Forestry and Fisheries (MAFF) announced the recognition of APA – The Engineered Wood Association (APA) and TECO as Registered Foreign Certification Organizations (RFCO) under the Japanese Agricultural Standards (JAS) Law. The two organizations can now begin certifying production of member mills as meeting the requirements of the JAS Law. This announcement follows the March 6, 2002, decision by MAFF to recognize the wood products grading system of the United States as being equivalent to that of JAS. Recognition was a prerequisite for U.S. certification organizations such as APA and TECO to apply to function as RFCOs.

Malaysian Government Bans Logs from Indonesia

On June 25, 2002, the Malaysian Government announced a total ban on the importation of logs from Indonesia. In October 2001, the Indonesian Government banned the export of logs in an attempt to reduce the country's problem of illegal logging. Based on data from importing countries, Indonesia's log exports were valued at \$26 million during January – March 2002, of which \$10 million was exported to Malaysia. The Malaysian Government's action was taken to allay fears that its wood supply was originating from illegally harvested timber and to protect the integrity of its national timber certification scheme.

APHIS Releases Additional Shipment of Brazilian Mahogany

On August 13, 2002, USDA/Animal and Plant Health Inspection Service (APHIS) released an additional shipment of bigleaf mahogany after receiving verification from the Brazilian Government that it had been legally acquired. Ten shipments (and two partial shipments) of mahogany from Brazil have now been released for importation, and allowed entry into the United States. Twenty-one shipments (and two partial shipments) are still being held pending a decision that the shipments were exported in compliance with the Convention on International Trade in Endangered Species (CITES). Six countries (Costa Rica, Bolivia, Brazil, Mexico, Peru, and Colombia) have listed their populations of bigleaf mahogany on Appendix III of CITES, and are required to issue export permits for any shipments of mahogany, certifying that the wood was legally acquired. Several importers have gone to court requesting the release of additional shipments. In 2001, U.S. imports of Brazilian mahogany lumber were valued at \$38 million.

APHIS to Publish EIS for the Importation of Wood Packaging Material

On August 14, 2002, USDA/APHIS announced in the Federal Register that it intends to prepare an environmental impact statement (EIS) in connection with regulations under consideration by APHIS to decrease the likelihood of wood packaging material serving as a pathway for the introduction of exotic pests into the United States. APHIS is soliciting comments to assist them in identifying and/or confirming potential alternatives and environmental issues that should be examined in the EIS. Comments are due by September 13, 2002. The alternatives currently under consideration range from no action to requiring the use of alternative materials. It is expected that a proposed rule could be forthcoming before the end of the year. In 2001, the United States imported more than \$1.4 trillion worth of goods, much of which was transported on wooden pallets or in wooden containers.

Mexico Announces Safeguard Investigation on Plywood

On August 15, 2002, the Mexican Secretariat of Economy (SE) announced in the Diario Oficial that it was initiating a safeguard investigation of imported plywood in response to a petition filed by the Association of Manufacturers of Wood Panels (ANAFATA). The target of the investigation will be imports from Mexico's four largest suppliers, the United States, Indonesia, Malaysia, and Chile. Together, they accounted for over 80 percent of imports in 2000, the period of investigation. Plywood imports totaled \$187.5 million in 2000. The August 15 announcement did not include the imposition of provisional duties.

**World Cotton Supply, Use, and Trade
1997/98 - 2002/03 (Season Beginning August 1)
In 1,000 480 Lb. Bales**

	1997/98	1998/99	1999/00	2000/01	2001/02 Estimate	Percent Change	2002/03 Forecast
PRODUCTION							
World	91,900	85,270	87,463	88,744	98,063	-9.7%	88,568
China	21,100	20,700	17,600	20,300	24,400	-16.0%	20,500
United States	18,793	13,918	16,968	17,188	20,303	-10.7%	18,134
India	12,337	12,883	12,180	10,931	12,300	-13.0%	10,700
Pakistan	7,175	6,300	8,600	8,200	8,300	-1.2%	8,200
Uzbekistan	5,228	4,600	5,180	4,400	4,900	2.0%	5,000
Turkey	3,651	3,860	3,634	3,600	3,900	2.6%	4,000
Brazil	1,890	2,391	3,216	4,312	3,300	12.1%	3,700
Other	21,726	20,618	20,085	19,813	20,660	-11.3%	18,334
USE							
World	87,138	84,689	91,045	92,012	94,402	2.4%	96,708
China	19,150	18,700	21,300	23,250	25,500	2.9%	26,250
India	12,675	12,620	13,547	13,544	13,275	2.4%	13,600
Pakistan	7,187	7,000	7,650	8,100	8,500	3.5%	8,800
United States	11,349	10,401	10,194	8,862	7,722	2.3%	7,900
Turkey	5,000	4,600	5,600	5,167	6,150	4.1%	6,400

World Cotton Supply, Use, and Trade (Continued)

	1997/98	1998/99	1999/00	2000/01	2001/02 Estimate	Percent Change	2002/03 Forecast
USE (Continued)							
Brazil	3,626	3,774	4,236	4,200	4,100	0.0%	4,100
Indonesia	1,850	2,200	2,000	2,450	2,350	2.1%	2,400
Other	26,301	25,394	26,518	26,439	26,805	1.7%	27,258
IMPORTS							
World	26,256	24,955	28,503	26,699	29,445	4.9%	30,895
Turkey	1,450	1,139	2,400	1,750	2,800	-14.3%	2,400
Indonesia	1,910	2,323	2,076	2,650	2,500	-4.0%	2,400
India	145	508	1,600	1,567	1,750	25.7%	2,200
China	1,834	359	117	241	449	345.4%	2,000
Mexico	1,371	1,422	1,813	1,865	1,900	0.0%	1,900
Russia	1,225	850	1,600	1,650	1,850	-2.7%	1,800
Thailand	1,236	1,211	1,706	1,584	1,950	-7.7%	1,800
Other	17,085	17,143	17,191	15,392	16,246	0.9%	16,395
EXPORTS							
World	26,728	23,659	27,293	26,587	29,075	5.3%	30,603
United States	7,500	4,298	6,750	6,740	11,000	1.8%	11,200
Uzbekistan	4,570	3,812	4,100	3,400	3,400	8.8%	3,700
Australia	2,712	3,040	3,209	3,904	3,051	-8.2%	2,800
Greece	1,000	964	1,080	1,424	1,000	35.0%	1,350
Mali	825	950	900	575	925	-2.7%	900
China	34	681	1,692	448	342	119.3%	750
Egypt	322	450	425	375	410	82.9%	750
Benin	645	600	650	625	650	15.4%	750
Other	9,120	8,864	8,487	9,096	8,297	1.3%	8,403
ENDING STOCKS							
World	45,525	47,791	45,296	42,705	46,845	-16.4%	39,158
China	21,355	23,033	17,758	14,601	13,608	-33.1%	9,108
United States	3,887	3,939	3,915	6,001	7,600	-11.8%	6,700
India	4,174	4,750	4,913	3,773	4,488	-16.7%	3,738
Pakistan	1,521	1,711	2,696	2,646	3,361	-6.7%	3,136
Brazil	1,713	1,741	2,393	2,968	1,947	30.8%	2,547
Australia	1,808	2,085	2,309	2,095	2,259	-25.5%	1,684
Turkey	558	593	827	882	1,307	-9.6%	1,182
Other	10,509	9,939	10,485	9,739	12,275	-9.9%	11,063

Appendix H: Agricultural Commodities Supply Information

World Wheat, Flour, and Products Trade July/June Year – Thousand Metric Tons

	1998/99	1999/00	2000/01	12-Sep 2001/02	11-Oct 2001/02	12-Sep 2002/03	11-Oct 2002/03
EXPORTS							
Argentina	9,199	11,083	11,396	11,477	11,477	9,000	9,000
Australia	16,104	17,124	16,682	16,494	16,494	10,000	8,000
Canada	14,394	19,373	17,351	16,758	16,758	9,500	9,000
India	0	200	2,357	3,000	3,000	5,000	6,000
Kazakhstan	2,295	6,514	3,668	3,780	3,780	5,000	5,000
Russia	1,652	518	696	3,700	4,372	4,500	5,500
Turkey	2,803	1,984	1,601	500	548	1,000	1,000
Ukraine	4,696	1,952	78	5,486	5,486	6,000	6,000
EU	14,589	17,432	15,225	10,000	10,500	15,000	15,500
Eastern Europe	4,130	3,384	2,316	4,150	4,006	2,770	2,820
Others	3,133	3,763	4,265	5,892	6,004	5,960	6,220
Subtotal	72,995	83,327	75,635	81,237	82,425	73,730	74,040
United States	29,028	29,449	27,845	26,139	26,139	26,000	26,000
World Total	102,023	112,776	103,480	107,376	108,564	99,730	100,040
IMPORTS							
Algeria	4,250	4,750	5,600	4,000	4,000	4,500	4,500
Bangladesh	2,032	1,624	1,293	900	900	1,000	1,000
Bolivia	480	458	485	500	500	500	500
Brazil	7,422	7,340	7,518	7,000	7,000	6,000	6,500
Chile	722	732	438	450	450	500	500
China	829	1,010	195	1,300	1,100	1,000	1,000
Colombia	1,108	1,135	1,164	1,200	1,200	1,100	1,100
Cuba	977	1,119	963	1,100	1,100	1,000	1,000
Ecuador	410	485	490	450	450	500	500
Egypt	7,454	5,872	6,050	7,000	7,000	6,000	6,000
Ethiopia	466	1,082	888	400	400	400	400
India	1,294	1,311	45	100	50	100	50
Indonesia	3,117	3,744	4,069	4,000	4,000	4,000	4,000
Iran	2,585	7,363	6,245	6,000	6,000	3,000	3,000
Iraq	2,028	2,650	3,300	3,000	3,000	3,000	3,000
Israel	1,517	1,611	1,250	1,500	1,500	1,500	1,500
Japan	5,959	5,960	5,885	5,836	5,836	5,800	5,800
Jordan	344	741	650	800	800	800	800

World Wheat, Flour, and Products Trade
July/June Year – Thousand Metric Tons (Continued)

	1998/99	1999/00	2000/01	12-Sep 2001/02	11-Oct 2001/02	12-Sep 2002/03	11-Oct 2002/03
IMPORTS (Continued)							
Kenya	423	683	806	600	500	650	650
Korea, North	703	334	300	300	300	400	400
Korea, South	4,689	3,811	3,127	3,979	3,979	3,800	3,800
Libya	1,236	1,582	1,400	1,400	1,400	1,400	1,400
Malaysia	1,263	1,278	1,265	1,300	1,300	1,350	1,350
Mexico	2,485	2,632	3,066	3,200	3,200	3,300	3,300
Morocco	2,795	3,094	3,632	3,000	3,000	2,800	2,800
Nigeria	1,466	1,282	1,913	2,300	2,500	2,500	2,500
Pakistan	3,130	1,766	50	350	350	500	500
Peru	1,346	1,215	1,451	1,500	1,500	1,500	1,500
Philippines	2,328	2,982	3,050	3,000	3,000	3,500	3,500
Russia	2,490	5,083	1,604	500	550	500	500
South Africa	567	806	550	500	500	500	500
Sri Lanka	867	834	779	850	850	850	850
Sudan	615	792	920	900	900	900	900
Taiwan	1,011	1,138	1,033	1,000	1,000	1,000	1,000
Thailand	830	809	941	900	950	950	950
Tunisia	1,084	1,186	1,595	1,400	1,400	1,800	1,800
Turkey	1,862	1,462	446	1,000	1,000	500	500
UAE	788	1,386	1,100	1,100	1,100	1,300	1,300
Uzbekistan	380	550	550	500	500	300	300
Venezuela	1,300	1,386	1,394	1,400	1,400	1,400	1,400
Vietnam	604	550	650	900	950	1,000	1,000
Yemen	2,066	2,002	2,117	1,800	1,800	1,800	1,800
EU	3,761	4,176	3,159	9,000	9,500	5,000	5,000
O.W. Europe	576	730	523	610	610	560	560
Eastern Europe	2,060	1,620	2,732	1,670	1,720	2,370	2,195
United States	2,842	2,503	2,417	2,850	2,850	2,200	2,000
Subtotal	88,561	96,659	89,098	93,345	93,895	85,330	85,405
Other Countries	11,102	13,219	12,436	13,728	13,778	13,068	13,293
Unaccounted	2,360	2,898	1,946	303	891	1,332	1,342
World Total	102,023	112,776	103,480	107,376	108,564	99,730	100,040

Appendix H: Agricultural Commodities Supply Information

World Wheat Production, Consumption, and Stocks Local Marketing Years

	1998/99	1999/00	2000/01	12-Sep 2001/02	11-Oct 2001/02	12-Sep 2002/03	11-Oct 2002/03
PRODUCTION							
Algeria	2,200	1,470	760	2,010	2,010	1,400	1,400
Argentina	13,300	16,400	16,230	15,500	15,500	14,000	14,000
Australia	21,465	24,757	23,766	24,000	24,000	15,000	13,000
Brazil	2,188	2,403	1,660	3,250	3,250	3,700	3,300
Canada	24,076	26,900	26,804	20,568	20,568	15,400	15,500
China	109,726	113,880	99,640	93,870	93,870	92,000	92,000
India	66,350	70,780	76,369	68,763	68,763	72,000	72,000
Iran	12,000	8,500	7,500	7,500	7,500	10,500	10,500
Kazakhstan	4,700	11,200	9,100	12,700	12,700	12,000	12,000
Mexico	3,235	3,050	3,400	3,270	3,270	3,150	3,150
Morocco	4,378	2,154	1,381	3,316	3,316	3,300	3,300
Pakistan	18,694	17,854	21,079	19,023	19,023	19,500	19,500
Russia	27,000	31,000	34,450	46,900	46,900	48,000	49,000
Tunisia	1,353	1,393	1,320	1,120	1,120	430	430
Turkey	18,000	16,500	18,000	15,500	15,500	18,500	18,500
Ukraine	14,937	13,585	10,197	21,300	21,300	21,000	21,000
EU	103,085	96,392	104,784	91,725	91,725	104,400	104,000
Eastern Europe	33,928	28,195	28,616	35,243	35,093	30,397	30,997
Others	39,762	37,183	37,774	40,013	39,973	41,985	41,979
Subtotal	520,377	523,596	522,830	525,571	525,381	526,662	525,556
United States	69,327	62,569	60,758	53,278	53,262	45,894	44,215
World Total	589,704	586,165	583,588	578,849	578,643	572,556	569,771

World Wheat Production, Consumption, and Stocks
Local Marketing Years (Continued)

	1998/99	1999/00	2000/01	12-Sep 2001/02	11-Oct 2001/02	12-Sep 2002/03	11-Oct 2002/03
CONSUMPTION							
Algeria	6,150	6,100	6,150	6,100	6,100	6,100	6,100
Australia	4,530	5,227	6,894	7,000	7,025	7,130	7,180
Brazil	8,960	9,532	9,499	10,050	10,050	9,800	9,900
Canada	8,077	7,661	7,728	7,398	7,538	8,050	8,050
China	112,001	113,125	114,097	112,600	112,600	110,000	110,000
Egypt	12,958	12,750	12,486	12,750	12,750	12,600	12,600
India	63,707	68,793	66,821	60,363	61,295	63,100	64,050
Iran	15,400	15,700	15,200	15,000	15,000	14,500	14,500
Japan	6,112	5,909	5,824	6,006	5,991	6,090	6,090
Morocco	5,628	5,878	5,965	6,000	6,000	6,100	6,100
Pakistan	21,284	20,452	20,500	19,800	19,800	19,750	19,750
Russia	34,838	35,365	35,158	38,000	38,078	41,500	41,500
Turkey	16,886	16,777	16,700	16,617	16,501	17,000	17,000
Ukraine	12,419	12,186	12,155	12,669	12,644	13,600	13,600
EU	88,135	87,154	91,983	91,933	91,933	96,597	95,697
Eastern Europe	31,898	29,631	28,730	31,179	31,179	30,705	31,155
Others	96,339	101,434	97,920	99,763	100,711	103,697	103,151
Subtotal	545,322	553,674	553,810	553,228	555,195	566,319	566,423
United States	37,579	35,407	36,301	32,880	32,722	32,278	31,733
World Total	582,901	589,081	590,111	586,108	587,917	598,597	598,156
ENDING STOCKS							
Australia	1,868	3,613	4,629	5,179	5,179	3,099	3,099
Canada	7,435	7,699	9,658	6,488	6,488	4,638	5,238
China	70,135	71,358	56,473	37,531	37,331	19,531	19,331
India	9,921	13,080	21,500	27,000	26,000	31,000	28,000
Russia	1,000	1,200	1,400	7,100	6,400	9,600	8,900
Ukraine	1,900	1,800	450	3,695	3,695	5,195	5,195
EU	16,667	12,649	13,384	12,176	12,176	9,979	9,979
Others	43,606	38,113	37,497	41,311	41,144	41,323	41,346
Subtotal	152,532	149,512	144,991	140,480	138,413	124,365	121,088
United States	25,744	25,848	23,846	21,008	21,150	11,082	10,090
World Total	178,276	175,360	168,837	161,488	159,563	135,447	131,178

Appendix H: Agricultural Commodities Supply Information

Regional Wheat Imports, Production, Consumption, and Stocks Thousand Metric Tons

	1998/99	1999/00	2000/01	12-Sep 2001/02	11-Oct 2001/02	12-Sep 2002/03	11-Oct 2002/03
IMPORTS							
North America ¹	5,479	5,325	5,682	6,350	6,350	5,800	5,600
Latin America ²	16,089	16,252	16,316	16,405	16,355	15,090	15,590
EU	3,761	4,176	3,159	9,000	9,500	5,000	5,000
Other West. Eur. ³	576	730	523	610	610	560	560
Former Soviet Union	5,457	9,804	5,116	3,890	3,765	3,405	3,405
Eastern Europe ⁴	2,060	1,620	2,732	1,670	1,720	2,370	2,195
Middle East ⁵	12,223	18,433	16,068	16,435	16,535	12,950	12,975
North Africa ⁶	16,819	16,484	18,277	16,800	16,800	16,500	16,500
Other Africa ⁷	6,890	7,780	8,794	8,383	8,533	8,733	8,783
South Asia ⁸	7,390	5,889	2,751	3,210	3,160	3,460	3,410
Other Asia ⁹	22,476	22,854	21,569	23,665	23,665	23,950	24,050
Oceania ¹⁰	443	531	547	655	680	580	630
PRODUCTION							
North America ¹	96,638	92,519	90,962	77,116	77,100	64,444	62,865
Latin America ²	17,834	21,195	20,494	21,107	21,107	20,319	19,919
EU	103,085	96,392	104,784	91,725	91,725	104,400	104,000
Other West. Eur. ³	963	901	905	905	905	905	905
Former Soviet Union	57,561	66,060	64,756	92,867	92,913	94,805	95,805
Eastern Europe ⁴	33,928	28,195	28,616	35,243	35,093	30,397	30,997
Middle East ⁵	37,577	30,437	31,089	30,510	30,519	36,330	36,719
North Africa ⁶	14,195	11,527	9,936	12,701	12,701	11,505	11,405
Other Africa ⁷	4,771	4,716	5,615	5,871	5,776	5,583	5,288
South Asia ⁸	90,731	94,172	101,660	91,606	91,606	95,420	95,420
Other Asia ⁹	110,681	115,019	100,730	94,923	94,923	93,173	93,173
Oceania ¹⁰	21,740	25,032	24,041	24,275	24,275	15,275	13,275

Regional Wheat Imports, Production, Consumption, and Stocks
 Thousand Metric Tons (*Continued*)

	1998/99	1999/00	2000/01	12-Sep 2001/02	11-Oct 2001/02	12-Sep 2002/03	11-Oct 2002/03
CONSUMPTION							
North America ¹	51,065	49,609	49,609	46,148	46,107	46,228	45,683
Latin America ²	24,532	25,533	25,626	26,459	26,409	25,847	25,947
EU	88,135	87,154	91,983	91,933	91,933	96,597	95,697
Other West. Eur. ³	1,539	1,631	1,438	1,515	1,515	1,465	1,465
Former Soviet Union	65,589	66,598	65,370	70,301	70,300	76,615	76,565
Eastern Europe ⁴	31,898	29,631	28,730	31,179	31,179	30,705	31,155
Middle East ⁵	46,689	47,325	46,636	46,487	46,480	46,640	46,754
North Africa ⁶	28,392	28,970	28,626	28,875	28,875	28,675	28,675
Other Africa ⁷	11,645	12,592	14,095	13,939	13,994	14,191	13,846
South Asia ⁸	93,648	97,395	94,089	86,993	87,925	88,630	89,580
Other Asia ⁹	133,159	134,166	135,221	135,188	135,296	133,705	133,830
Oceania ¹⁰	5,177	5,965	7,627	7,770	7,781	7,925	7,975
ENDING STOCKS							
North America ¹	33,879	34,147	34,285	28,377	28,494	16,651	16,184
Latin America ²	2,500	2,895	2,349	2,417	2,417	2,494	2,494
EU	16,667	12,649	13,384	12,176	12,176	9,979	9,979
Other West. Eur. ³	475	475	475	475	475	475	475
Former Soviet Union	6,512	6,362	6,079	19,249	18,499	25,024	24,324
Eastern Europe ⁴	7,671	4,454	4,736	6,350	6,344	5,642	5,561
Middle East ⁵	12,522	11,088	9,517	8,625	8,497	8,715	8,887
North Africa ⁶	6,941	5,812	5,099	5,475	5,475	4,605	4,505
Other Africa ⁷	1,310	1,060	1,109	1,149	1,149	999	1,099
South Asia ⁸	14,071	16,932	25,828	29,651	28,651	33,901	30,901
Other Asia ⁹	73,760	75,773	61,247	42,165	42,007	23,663	23,470
Oceania ¹⁰	1,968	3,713	4,729	5,379	5,379	3,299	3,299

NOTES: Imports are reported on an international year basis. All other data are reported using marketing years.

Appendix H: Agricultural Commodities Supply Information

World Coarse Grain Trade October/September Year – Thousand Metric Tons

	1998/99	1999/00	2000/01	12-Sep 2001/02	11-Oct 2001/02	12-Sep 2002/03	11-Oct 2002/03
EXPORTS							
Argentina	8,500	9,596	13,016	9,820	9,260	8,520	8,510
Australia	4,859	3,836	4,631	4,750	4,550	3,460	2,760
Canada	3,297	3,645	3,560	2,160	2,110	1,875	1,875
China	3,363	9,954	7,296	8,025	8,525	9,520	9,520
South Africa	828	873	1,458	1,400	1,250	1,740	1,740
Russia	105	393	1,032	2,305	2,605	3,005	3,205
Turkey	798	184	157	500	500	700	700
EU	10,765	13,371	8,106	5,205	5,005	6,355	6,030
Others	6,293	6,081	9,297	13,542	13,512	9,680	9,755
Subtotal	38,808	47,933	48,553	47,707	47,317	44,855	44,095
United States	57,719	56,557	55,164	55,139	54,039	57,129	57,129
World Total	96,527	104,490	103,717	102,846	101,356	101,984	101,224
IMPORTS							
Algeria	1,934	1,957	1,842	2,003	2,003	2,105	2,105
Brazil	1,081	2,184	999	625	625	915	915
Canada	948	1,133	2,889	3,305	3,735	4,585	4,680
Chile	1,343	1,350	1,388	1,430	1,430	1,475	1,475
China	2,584	2,340	2,416	2,257	2,257	2,505	2,505
Colombia	1,686	2,112	1,993	2,015	2,015	1,940	1,940
Costa Rica	430	550	513	600	600	600	600
Dominican Republic	814	1,000	968	1,200	1,200	1,000	1,000
Ecuador	305	255	149	275	275	220	220
Egypt	3,687	4,600	5,339	5,250	4,850	5,250	5,250
Iran	1,448	2,100	1,751	1,600	1,600	1,500	1,500
Israel	1,135	1,331	1,402	1,150	1,150	1,050	1,050
Japan	20,922	20,414	20,236	20,130	20,030	19,285	19,085
Jordan	902	1,162	803	950	900	950	650
Korea, North	200	150	688	400	400	400	400
Korea, South	7,806	9,280	8,889	8,730	8,730	8,805	8,805
Libya	339	475	396	500	500	500	500
Malaysia	2,384	2,296	2,588	2,400	2,400	2,400	2,400
Mexico	9,091	9,939	11,006	9,960	8,860	10,850	10,350

World Coarse Grain Trade
October/September Year – Thousand Metric Tons (Continued)

	1998/99	1999/00	2000/01	12-Sep 2001/02	11-Oct 2001/02	12-Sep 2002/03	11-Oct 2002/03
IMPORTS (Continued)							
Morocco	1,822	1,497	1,473	1,405	1,405	1,405	1,405
Peru	1,100	912	912	975	975	975	975
Poland	499	756	824	275	275	300	350
Romania	161	150	463	100	100	125	125
Russia	1,185	2,048	563	1,000	800	800	800
Saudi Arabia	7,079	7,400	6,189	6,200	6,200	6,500	6,500
South Africa	408	491	146	1,160	1,010	520	820
Syria	1,002	1,325	1,090	1,000	1,000	700	900
Taiwan	4,798	5,231	5,157	4,940	4,940	4,560	4,560
Thailand	151	451	24	10	10	10	10
Tunisia	784	805	1,375	1,450	1,500	1,400	1,350
Turkey	1,027	1,461	648	1,375	1,375	805	805
Venezuela	1,463	1,300	1,207	600	600	600	600
Zimbabwe	350	63	66	310	310	210	210
EU	3,117	2,699	3,104	4,110	4,110	2,665	2,665
O.W. Europe	666	957	931	876	876	866	866
United States	2,659	2,607	2,672	2,145	2,195	2,825	2,850
Subtotal	87,310	94,781	93,099	92,711	91,241	91,601	91,221
Other Countries	5,318	8,080	8,389	8,206	8,341	7,810	7,810
Unaccounted	3,899	1,629	2,229	1,929	1,774	2,573	2,193
World Total	96,527	104,490	103,717	102,846	101,356	101,984	101,224

Appendix H: Agricultural Commodities Supply Information**World Coarse Grain Production, Consumption, and Stocks
Local Marketing Years – Thousand Metric Tons**

	1998/99	1999/00	2000/01	12-Sep 2001/02	11-Oct 2001/02	12-Sep 2002/03	11-Oct 2002/03
PRODUCTION							
Argentina	17,751	21,683	19,580	18,445	18,445	16,270	16,270
Australia	10,069	8,686	10,846	11,075	11,075	9,530	8,530
Brazil	33,505	32,553	42,698	36,662	36,662	38,159	38,159
Canada	26,565	26,832	24,326	22,412	22,412	19,820	19,395
China	143,460	137,218	113,953	122,405	121,893	133,400	132,900
Egypt	6,540	6,598	6,556	7,050	7,080	7,120	7,120
Hungary	7,597	8,293	6,080	9,171	9,171	7,350	7,350
India	31,670	30,480	31,631	30,932	34,682	30,000	27,500
Indonesia	6,500	6,200	5,900	6,000	6,000	6,100	6,100
Mexico	24,698	26,184	24,455	26,967	26,967	26,720	26,720
Philippines	4,894	4,449	4,508	4,525	4,505	4,525	4,450
Romania	9,640	11,945	5,775	8,460	8,460	8,055	8,055
South Africa	8,143	11,054	7,830	9,502	9,502	9,863	9,903
Ukraine	10,337	10,591	12,993	16,965	16,965	16,050	16,550
EU	105,514	102,113	107,193	105,714	105,714	104,750	105,585
Others	171,661	168,600	163,343	184,890	186,153	181,349	184,296
Subtotal	618,544	613,479	587,667	621,175	625,686	619,061	618,883
United States	271,474	263,172	273,129	261,862	261,861	242,265	244,517
World Total	890,018	876,651	860,796	883,037	887,547	861,326	863,400

World Coarse Grain Production, Consumption, and Stocks
Local Marketing Years – Thousand Metric Tons (Continued)

	1998/99	1999/00	2000/01	12-Sep 2001/02	11-Oct 2001/02	12-Sep 2002/03	11-Oct 2002/03
CONSUMPTION							
Argentina	10,033	9,084	9,386	8,257	8,257	8,190	8,190
Brazil	34,862	34,488	35,793	36,144	36,144	37,494	37,494
Canada	23,583	23,261	24,619	24,437	24,832	23,047	22,717
China	128,923	129,464	130,186	134,537	133,977	136,755	136,255
Egypt	10,227	11,098	11,858	12,345	12,045	12,370	12,370
India	31,823	30,450	31,516	31,275	33,925	30,500	28,800
Indonesia	6,711	7,279	7,150	7,100	7,100	7,200	7,200
Japan	21,273	20,818	20,362	20,284	20,184	19,685	19,485
Korea, South	8,312	9,392	9,251	9,285	9,285	9,360	9,360
Malaysia	2,425	2,353	2,420	2,485	2,485	2,485	2,485
Mexico	33,498	35,553	36,070	37,310	36,210	38,200	37,200
Romania	10,311	10,960	7,290	7,905	7,905	7,830	7,830
Russia	25,636	24,828	26,775	29,300	29,100	30,000	30,000
Saudi Arabia	7,669	7,454	6,803	7,114	7,114	6,914	6,914
South Africa	8,248	8,517	8,641	8,525	8,625	8,518	8,558
EU	97,518	95,815	102,814	102,291	102,291	100,278	102,479
Others	204,198	209,416	197,265	204,895	208,287	206,768	208,648
Subtotal	665,250	670,230	668,199	683,489	687,766	685,594	685,985
United States	205,275	212,130	215,388	216,199	217,047	212,007	212,489
World Total	870,525	882,360	883,587	899,688	904,813	897,601	898,474
ENDING STOCKS							
Canada	4,876	5,673	4,327	3,257	3,260	2,765	2,768
China	102,576	102,716	81,603	63,727	63,251	53,357	52,881
Russia	1,803	882	2,493	6,999	6,756	6,694	7,351
EU	23,533	19,519	16,878	19,776	19,776	20,528	19,537
Others	31,092	31,897	28,751	29,866	31,357	27,857	28,845
Subtotal	163,880	160,687	134,052	123,625	124,400	111,201	111,382
United States	51,373	48,857	52,701	45,936	45,087	22,085	23,031
World Total	215,253	209,544	186,753	169,561	169,487	133,286	134,413

Appendix H: Agricultural Commodities Supply Information

Regional Coarse Grain Imports, Production, Consumption, and Stocks Thousand Metric Tons

	1998/99	1999/00	2000/01	12-Sep 2001/02	11-Oct 2001/02	12-Sep 2002/03	11-Oct 2002/03
IMPORTS							
North America ¹	12,698	13,679	16,567	15,410	14,790	18,260	17,880
Latin America ²	9,911	11,931	10,305	9,965	9,965	9,815	9,815
EU	3,117	2,699	3,104	4,110	4,110	2,665	2,665
Other West. Eur. ³	666	957	931	876	876	866	866
Former Soviet Union	1,606	2,924	1,015	1,480	1,280	1,295	1,295
Eastern Europe ⁴	1,241	1,711	2,830	1,741	1,766	1,445	1,495
Middle East ⁵	13,514	15,754	12,813	13,125	13,075	12,305	12,205
North Africa ⁶	8,566	9,334	10,425	10,608	10,258	10,660	10,610
Other Africa ⁷	1,392	1,265	1,541	2,560	2,610	1,660	1,960
South Asia ⁸	175	260	56	105	15	305	305
Other Asia ⁹	39,611	42,248	41,834	40,842	40,742	40,040	39,840
Oceania ¹⁰	75	69	37	65	65	65	65
PRODUCTION							
North America ¹	322,737	316,188	321,910	311,241	311,240	288,805	290,632
Latin America ²	61,666	65,119	73,938	66,520	66,520	66,248	66,248
EU	105,514	102,113	107,193	105,714	105,714	104,750	105,585
Other West. Eur. ³	1,819	1,827	1,827	1,827	1,827	1,827	1,827
Former Soviet Union	39,830	42,211	51,720	64,202	64,223	59,210	60,710
Eastern Europe ⁴	51,122	54,650	37,010	51,724	51,794	47,590	48,217
Middle East ⁵	17,382	13,947	13,809	14,582	14,586	15,747	15,637
North Africa ⁶	10,063	9,366	7,580	9,305	9,335	9,572	9,572
Other Africa ⁷	68,841	70,249	64,248	68,612	69,458	70,100	71,090
South Asia ⁸	36,021	34,808	35,831	35,137	38,887	34,230	31,730
Other Asia ⁹	164,095	156,636	133,980	142,199	141,979	152,818	152,693
Oceania ¹⁰	10,679	9,306	11,466	11,695	11,695	10,150	9,150

Regional Coarse Grain Imports, Production, Consumption, and Stocks
Thousand Metric Tons (Continued)

	1998/99	1999/00	2000/01	12-Sep 2001/02	11-Oct 2001/02	12-Sep 2002/03	11-Oct 2002/03
CONSUMPTION							
North America ¹	262,356	270,944	276,077	277,946	278,089	273,254	272,406
Latin America ²	63,880	63,556	65,479	64,704	64,704	65,903	65,903
EU	97,518	95,815	102,814	102,291	102,291	100,278	102,479
Other West. Eur. ³	2,634	2,812	2,712	2,734	2,734	2,769	2,769
Former Soviet Union	47,060	44,416	48,076	53,809	53,616	53,549	53,849
Eastern Europe ⁴	51,574	52,443	40,992	47,034	47,579	46,124	46,629
Middle East ⁵	29,626	29,254	27,082	27,716	27,596	27,241	27,121
North Africa ⁶	18,331	18,452	18,308	19,417	19,117	19,951	19,951
Other Africa ⁷	68,434	68,373	66,881	69,130	70,329	69,755	70,515
South Asia ⁸	36,174	34,788	35,721	35,485	38,135	34,735	33,035
Other Asia ⁹	185,894	188,413	188,812	192,871	192,503	194,120	193,845
Oceania ¹⁰	6,098	5,868	6,716	6,985	6,985	6,840	7,040
ENDING STOCKS							
North America ¹	59,375	58,209	60,088	51,855	51,009	26,867	28,316
Latin America ²	3,593	3,141	3,958	3,959	4,019	4,024	4,094
EU	23,533	19,519	16,878	19,776	19,776	20,528	19,537
Other West. Eur. ³	695	659	660	629	629	553	553
Former Soviet Union	4,891	3,750	6,164	11,482	11,253	11,018	11,689
Eastern Europe ⁴	3,975	4,753	2,433	4,294	4,401	4,295	4,549
Middle East ⁵	4,170	3,056	3,211	2,527	2,610	2,213	2,306
North Africa ⁶	1,185	1,240	749	1,199	1,129	1,330	1,260
Other Africa ⁷	3,614	4,521	2,480	2,167	2,229	2,142	2,484
South Asia ⁸	740	1,020	1,135	842	1,877	592	827
Other Asia ⁹	108,580	108,908	87,826	69,635	69,159	58,603	58,077
Oceania ¹⁰	902	768	1,171	1,196	1,396	1,121	721

NOTES: Imports are reported on an international year basis. All other data are reported using marketing years.

Appendix H: Agricultural Commodities Supply Information

World Corn Trade October/September Year – Thousand Metric Tons

	1998/99	1999/00	2000/01	12-Sep 2001/02	11-Oct 2001/02	12-Sep 2002/03	11-Oct 2002/03
EXPORTS							
Argentina	7,848	8,859	12,229	9,200	8,700	8,000	8,000
Brazil	8	50	3,741	3,900	3,900	1,500	1,500
Canada	880	378	115	250	200	400	400
China	3,340	9,935	7,276	8,000	8,500	9,500	9,500
Hungary	1,829	1,786	730	3,000	2,800	1,800	1,800
Romania	400	400	50	200	200	100	100
South Africa	798	836	1,415	1,350	1,200	1,700	1,700
Thailand	100	75	397	200	200	100	100
Ukraine	365	55	397	350	350	300	300
EU	99	210	266	50	50	50	50
Others	1,045	1,278	1,448	1,175	1,150	1,090	1,090
Subtotal	16,712	23,862	28,064	27,675	27,250	24,540	24,540
United States	51,949	49,378	48,192	48,500	47,500	51,000	51,000
World Total	68,661	73,240	76,256	76,175	74,750	75,540	75,540
IMPORTS							
Algeria	1,171	1,300	1,500	1,600	1,600	1,700	1,700
Brazil	945	1,789	671	260	260	400	400
Canada	903	1,084	2,797	3,200	3,600	4,500	4,500
Chile	1,268	1,260	1,362	1,400	1,400	1,450	1,450
China	262	71	89	50	50	100	100
Colombia	1,570	2,005	1,857	1,800	1,800	1,800	1,800
Costa Rica	430	550	513	600	600	600	600
Dominican Republic	814	1,000	968	1,200	1,200	1,000	1,000
Ecuador	285	225	149	250	250	200	200
Egypt	3,687	4,600	5,268	5,200	4,800	5,200	5,200
Guatemala	385	500	549	600	600	550	550
Indonesia	455	1,229	1,280	1,100	1,100	1,200	1,200
Iran	1,072	1,100	929	1,000	1,000	900	900
Israel	579	800	993	800	800	500	500
Japan	16,336	16,117	16,340	16,300	16,300	15,500	15,500
Jordan	448	450	454	350	350	350	350

World Corn Trade
October/September Year – Thousand Metric Tons (Continued)

	1998/99	1999/00	2000/01	12-Sep 2001/02	11-Oct 2001/02	12-Sep 2002/03	11-Oct 2002/03
IMPORTS (Continued)							
Korea, North	200	150	688	400	400	400	400
Korea, South	7,517	8,694	8,743	8,500	8,500	8,500	8,500
Malaysia	2,384	2,296	2,588	2,400	2,400	2,400	2,400
Mexico	5,615	4,911	5,928	5,000	4,000	6,500	6,000
Morocco	729	750	966	800	800	900	900
Peru	1,050	862	861	900	900	900	900
Philippines	129	582	246	300	300	300	300
Poland	224	250	222	150	150	100	100
Russia	524	870	150	800	600	600	600
Saudi Arabia	1,265	1,500	1,389	1,400	1,400	1,500	1,500
South Africa	307	350	0	900	750	350	650
Syria	570	750	794	800	800	600	600
Taiwan	4,575	5,023	4,924	4,700	4,700	4,300	4,300
Tunisia	561	566	776	800	800	800	800
Turkey	887	1,250	608	1,300	1,300	750	750
Venezuela	1,463	1,300	1,207	600	600	600	600
Zimbabwe	350	50	50	300	300	200	200
EU	2,716	2,296	2,857	2,750	2,750	2,500	2,500
O.W. Europe	254	276	329	335	335	335	335
United States	388	229	120	250	250	450	450
Subtotal	62,318	67,035	69,165	69,095	67,745	68,935	68,735
Other Countries	3,654	5,117	5,784	5,525	5,660	5,085	5,085
Unaccounted	2,689	1,088	1,307	1,555	1,345	1,520	1,720
World Total	68,661	73,240	76,256	76,175	74,750	75,540	75,540

Appendix H: Agricultural Commodities Supply Information

World Corn Production, Consumption, and Stocks Local Marketing Years – Thousand Metric Tons

	1998/99	1999/00	2000/01	12-Sep 2001/02	11-Oct 2001/02	12-Sep 2002/03	11-Oct 2002/03
PRODUCTION							
Argentina	13,500	17,200	15,400	14,400	14,400	12,500	12,500
Brazil	32,393	31,641	41,536	35,500	35,500	37,000	37,000
Canada	8,952	9,161	6,827	8,200	8,200	8,300	8,300
China	132,954	128,086	106,000	114,000	114,088	125,000	125,000
Egypt	5,605	5,678	5,636	6,130	6,160	6,200	6,200
Hungary	6,000	7,000	5,000	7,600	7,600	6,000	6,000
India	10,680	11,470	12,068	11,500	13,510	11,000	11,000
Indonesia	6,500	6,200	5,900	6,000	6,000	6,100	6,100
Mexico	17,788	19,240	17,920	19,600	19,600	19,000	19,000
Nigeria	4,950	5,100	4,000	5,000	5,000	5,000	5,200
Philippines	4,894	4,449	4,508	4,525	4,505	4,525	4,450
Romania	8,000	10,500	4,800	7,000	7,000	7,000	7,000
Serbia	5,174	6,140	2,944	6,200	6,200	5,000	5,400
South Africa	7,724	10,563	7,483	9,100	9,100	9,500	9,500
Thailand	4,300	3,900	4,700	4,500	4,500	3,900	3,900
Ukraine	2,301	1,737	3,848	3,600	3,600	3,000	3,500
EU	35,295	36,404	37,460	38,810	38,810	39,220	39,300
Others	50,654	52,418	49,590	50,243	50,711	52,772	52,807
Subtotal	357,664	366,887	335,620	351,908	354,484	361,017	362,157
United States	247,882	239,549	251,854	241,485	241,485	224,763	227,844
World Total	605,546	606,436	587,474	593,393	595,969	585,780	590,001

World Corn Production, Consumption, and Stocks
Local Marketing Years – Thousand Metric Tons (Continued)

	1998/99	1999/00	2000/01	12-Sep 2001/02	11-Oct 2001/02	12-Sep 2002/03	11-Oct 2002/03
CONSUMPTION							
Brazil	33,615	33,044	34,500	34,500	34,500	36,000	36,000
Canada	8,918	8,822	9,934	11,280	11,730	12,400	12,400
China	115,500	118,000	120,000	124,000	124,000	126,000	126,000
Egypt	9,292	10,178	10,900	11,350	11,050	11,400	11,400
Hungary	4,921	5,014	4,635	4,400	4,600	4,300	4,300
India	10,853	11,350	11,950	11,850	13,050	11,500	12,000
Indonesia	6,711	7,279	7,150	7,100	7,100	7,200	7,200
Japan	16,436	16,317	16,200	16,200	16,200	15,700	15,700
Korea, South	7,617	8,400	8,700	8,650	8,650	8,650	8,650
Malaysia	2,425	2,353	2,420	2,485	2,485	2,485	2,485
Mexico	23,037	23,657	24,000	25,000	24,000	26,000	25,000
Nigeria	4,950	5,100	4,000	5,030	5,030	5,050	5,250
Romania	8,621	9,500	6,250	6,800	6,800	6,800	6,800
Serbia	5,048	6,091	3,119	6,150	6,175	4,950	5,350
South Africa	7,714	7,962	8,148	7,900	8,000	8,000	8,000
Others	131,164	139,234	137,224	135,929	137,722	137,416	138,126
Subtotal	396,822	412,301	409,130	418,624	421,092	423,851	424,661
United States	185,788	192,496	198,102	200,162	201,090	197,367	198,637
World Total	582,610	604,797	607,232	618,786	622,182	621,218	623,298
ENDING STOCKS							
Brazil	1,000	600	1,606	1,531	1,531	1,556	1,556
China	102,092	102,314	81,127	63,177	62,765	52,777	52,365
Japan	1,355	1,156	1,297	1,398	1,398	1,199	1,199
Mexico	1,850	2,336	2,167	1,752	1,752	1,237	1,737
South Africa	863	2,041	490	690	790	590	740
EU	3,739	3,629	3,380	3,290	3,290	3,260	3,340
Others	12,821	15,046	12,685	11,876	12,626	10,682	11,132
Subtotal	123,720	127,122	102,752	83,714	84,152	71,301	72,069
United States	45,391	43,628	48,240	41,555	40,627	18,530	19,413
World Total	169,111	170,750	150,992	125,269	124,779	89,831	91,482

Appendix H: Agricultural Commodities Supply Information

Regional Corn Imports, Production, Consumption, and Stocks Thousand Metric Tons

	1998/99	1999/00	2000/01	12-Sep 2001/02	11-Oct 2001/02	12-Sep 2002/03	11-Oct 2002/03
IMPORTS							
North America ¹	6,906	6,224	8,845	8,450	7,850	11,450	10,950
Latin America ²	9,456	11,198	9,747	9,225	9,225	9,015	9,015
EU	2,716	2,296	2,857	2,750	2,750	2,500	2,500
Other West. Eur. ³	254	276	329	335	335	335	335
Former Soviet Union	627	1,095	387	1,020	820	770	770
Eastern Europe ⁴	689	843	1,590	1,230	1,255	840	840
Middle East ⁵	5,383	6,475	5,760	6,250	6,250	5,150	5,150
North Africa ⁶	6,239	7,491	8,762	8,650	8,250	8,850	8,850
Other Africa ⁷	1,268	1,061	1,345	2,230	2,280	1,480	1,780
South Asia ⁸	175	260	51	100	10	300	300
Other Asia ⁹	32,190	34,887	35,232	34,335	34,335	33,285	33,285
Oceania ¹⁰	13	16	14	15	15	15	15
PRODUCTION							
North America ¹	274,622	267,950	276,601	269,285	269,285	252,063	255,144
Latin America ²	54,311	57,805	66,434	59,389	59,389	59,232	59,232
EU	35,295	36,404	37,460	38,810	38,810	39,220	39,300
Other West. Eur. ³	185	220	220	220	220	220	220
Former Soviet Union	5,370	5,078	7,518	6,765	6,765	6,545	7,045
Eastern Europe ⁴	25,263	30,705	18,119	27,406	27,476	24,930	25,530
Middle East ⁵	3,627	3,022	2,812	2,707	2,707	3,117	3,117
North Africa ⁶	5,908	5,880	5,692	6,332	6,362	6,402	6,402
Other Africa ⁷	33,944	37,712	31,850	34,316	34,402	35,785	35,365
South Asia ⁸	13,782	14,540	15,138	14,570	16,580	14,095	14,095
Other Asia ⁹	152,631	146,490	125,005	132,782	133,162	143,381	143,756
Oceania ¹⁰	483	510	500	666	666	645	645

Regional Corn Imports, Production, Consumption, and Stocks
 Thousand Metric Tons (*Continued*)

	1998/99	1999/00	2000/01	12-Sep 2001/02	11-Oct 2001/02	12-Sep 2002/03	11-Oct 2002/03
CONSUMPTION							
North America ¹	217,743	224,975	232,036	236,442	236,820	235,767	236,037
Latin America ²	56,810	56,347	58,073	57,447	57,447	58,767	58,767
EU	38,578	38,600	40,300	41,600	41,600	41,700	41,700
Other West. Eur. ³	479	496	549	555	555	555	555
Former Soviet Union	6,939	6,415	7,052	7,325	7,125	7,505	7,805
Eastern Europe ⁴	25,231	27,885	20,379	24,465	25,010	23,645	24,145
Middle East ⁵	8,999	9,652	8,848	8,957	8,957	8,267	8,267
North Africa ⁶	12,146	13,115	14,464	14,851	14,551	15,201	15,201
Other Africa ⁷	34,029	35,431	34,317	34,606	35,000	35,345	34,975
South Asia ⁸	13,955	14,430	15,021	14,920	16,120	14,595	15,095
Other Asia ⁹	166,316	170,846	173,292	176,985	177,277	178,010	178,435
Oceania ¹⁰	457	470	465	580	580	560	560
ENDING STOCKS							
North America ¹	48,126	47,516	51,287	44,157	43,232	20,617	22,003
Latin America ²	2,572	2,139	3,229	3,181	3,181	3,321	3,321
EU	3,739	3,629	3,380	3,290	3,290	3,260	3,340
Other West. Eur. ³	80	80	80	80	80	80	80
Former Soviet Union	1,374	1,027	1,414	1,414	1,414	864	1,064
Eastern Europe ⁴	1,886	2,926	1,499	1,930	2,030	1,905	2,105
Middle East ⁵	809	651	368	368	368	368	368
North Africa ⁶	391	491	494	475	405	476	406
Other Africa ⁷	2,821	4,201	2,138	1,788	1,860	1,698	1,770
South Asia ⁸	300	670	788	488	1,233	238	483
Other Asia ⁹	107,002	107,409	86,303	68,085	67,673	56,991	56,529
Oceania ¹⁰	11	11	12	13	13	13	13

NOTES: Imports are reported on an international year basis. All other data are reported using marketing years.

Appendix H: Agricultural Commodities Supply Information**World Barley Trade
October/September Year – Thousand Metric Tons**

	1998/99	1999/00	2000/01	12-Sep 2001/02	11-Oct 2001/02	12-Sep 2002/03	11-Oct 2002/03
EXPORTS							
Argentina	132	50	202	150	150	200	200
Australia	4,241	2,870	3,600	4,000	3,800	2,500	2,000
Canada	1,185	1,806	1,956	1,000	1,000	500	500
Kazakstan	475	772	292	450	450	500	500
Russia	92	393	1,031	2,300	2,600	3,000	3,200
Turkey	740	181	150	500	500	700	700
Ukraine	972	787	1,479	2,700	2,700	3,200	3,400
EU	8,894	10,458	6,148	3,800	3,600	4,500	4,000
Eastern Europe	475	607	577	605	805	700	600
Others	29	18	72	540	540	175	175
Subtotal	17,235	17,942	15,507	16,045	16,145	15,975	15,275
United States	550	852	1,065	500	500	500	500
World Total	17,785	18,794	16,572	16,545	16,645	16,475	15,775

World Barley Trade
October/September Year – Thousand Metric Tons (Continued)

	1998/99	1999/00	2000/01	12-Sep 2001/02	11-Oct 2001/02	12-Sep 2002/03	11-Oct 2002/03
IMPORTS							
Algeria	759	652	334	400	400	400	400
Brazil	115	130	170	200	200	200	200
China	1,955	2,244	2,305	2,200	2,200	2,400	2,400
Colombia	97	100	129	200	200	125	125
Cyprus	200	428	268	300	300	300	300
Iran	376	1,000	822	600	600	600	600
Israel	464	351	326	300	300	500	500
Japan	1,660	1,608	1,498	1,500	1,500	1,500	1,500
Jordan	454	712	349	600	550	600	300
Korea, South	113	106	85	100	100	100	100
Kuwait	134	125	45	125	125	125	125
Libya	248	200	144	250	250	250	250
Mexico	155	212	119	100	100	100	100
Morocco	951	747	506	600	600	500	500
Russia	335	737	346	200	200	200	200
Saudi Arabia	5,814	5,900	4,800	4,800	4,800	5,000	5,000
South Africa	84	105	122	150	150	100	100
Syria	432	575	296	200	200	100	300
Taiwan	194	167	195	200	200	200	200
Tunisia	223	239	599	650	700	600	550
Turkey	140	69	34	50	50	50	50
EU	91	70	212	1,000	1,000	100	100
O.W. Europe	310	546	478	435	435	425	425
Eastern Europe	544	545	796	430	430	450	450
United States	597	627	646	475	525	500	500
Subtotal	16,445	18,195	15,624	16,065	16,115	15,425	15,275
Other Countries	516	423	411	335	365	305	305
Unaccounted	824	176	537	145	165	745	195
World Total	17,785	18,794	16,572	16,545	16,645	16,475	15,775

Appendix H: Agricultural Commodities Supply Information

World Barley Production, Consumption, and Stocks Local Marketing Years – Thousand Metric Tons

	1998/99	1999/00	2000/01	12-Sep 2001/02	11-Oct 2001/02	12-Sep 2002/03	11-Oct 2002/03
PRODUCTION							
Algeria	720	510	163	574	574	400	400
Australia	5,987	5,032	7,196	7,500	7,500	5,500	4,500
Canada	12,709	13,196	13,468	10,846	10,846	7,900	7,700
China	2,656	2,970	2,646	2,535	2,535	2,400	2,400
Iran	2,300	1,600	1,400	1,500	1,500	1,900	1,900
Japan	144	205	214	206	206	230	230
Kazakstan	1,100	2,250	1,675	2,200	2,200	2,000	2,000
Morocco	1,970	1,474	467	1,155	1,155	1,600	1,600
Russia	9,800	10,600	14,100	19,500	19,500	17,500	18,500
Saudi Arabia	400	400	100	100	100	100	100
Syria	869	360	130	1,300	1,300	950	800
Turkey	7,500	6,600	7,400	6,900	6,900	7,500	7,500
Ukraine	5,870	6,425	6,872	10,200	10,200	10,500	10,500
EU	51,907	48,929	51,659	48,156	48,156	47,950	48,300
Eastern Europe	10,696	9,685	7,462	9,806	9,806	9,008	9,208
Others	13,712	11,516	12,803	12,978	12,996	12,696	12,736
Subtotal	128,340	121,752	127,755	135,456	135,474	128,134	128,374
United States	7,667	6,103	6,939	5,434	5,430	5,480	4,940
World Total	136,007	127,855	134,694	140,890	140,904	133,614	133,314
CONSUMPTION							
Algeria	1,475	1,060	550	650	650	650	650
Australia	2,130	2,560	3,200	3,400	3,400	3,200	3,200
Canada	11,336	11,419	11,875	10,369	10,318	7,993	7,793
China	5,209	5,200	4,900	4,700	4,700	4,800	4,800
Cyprus	350	558	425	425	425	425	425
Iran	2,675	2,450	2,300	2,300	2,300	2,300	2,300
Japan	1,860	1,819	1,700	1,750	1,750	1,700	1,700
Mexico	585	653	850	850	850	850	850
Morocco	2,601	2,345	1,350	1,750	1,750	2,000	2,000
Russia	12,900	11,441	12,700	14,250	14,250	15,400	15,400
Saudi Arabia	6,200	5,750	5,210	5,510	5,510	5,210	5,210

World Barley Production, Consumption, and Stocks
Local Marketing Years – Thousand Metric Tons (Continued)

	1998/99	1999/00	2000/01	12-Sep 2001/02	11-Oct 2001/02	12-Sep 2002/03	11-Oct 2002/03
CONSUMPTION (Continued)							
Syria	950	1,250	800	1,200	1,200	1,250	1,250
Turkey	6,800	6,700	6,900	6,600	6,600	6,900	6,900
Ukraine	5,545	5,650	5,800	7,000	7,000	6,600	6,600
EU	43,237	42,121	46,089	44,481	44,481	42,079	44,100
Eastern Europe	11,151	9,960	8,447	8,930	8,930	8,780	8,830
Others	17,063	15,053	16,540	16,145	16,360	17,545	16,775
Subtotal	132,067	125,989	129,636	130,310	130,474	127,682	128,783
United States	7,207	6,752	6,427	5,669	5,665	5,922	5,487
World Total	139,274	132,741	136,063	135,979	136,139	133,604	134,270
ENDING STOCKS							
Australia	465	387	783	883	1,083	783	383
Canada	2,737	2,838	2,516	1,993	1,993	1,500	1,500
Russia	382	289	1,529	4,629	4,386	3,929	4,586
Turkey	735	564	972	772	772	722	722
Ukraine	750	761	846	1,266	1,266	1,886	1,686
EU	13,733	10,471	8,310	9,635	9,635	11,106	10,035
Others	6,929	6,195	5,290	6,096	6,169	5,691	5,874
Subtotal	25,731	21,505	20,246	25,274	25,304	25,617	24,786
United States	3,084	2,424	2,314	2,021	2,021	1,688	1,583
World Total	28,815	23,929	22,560	27,295	27,325	27,305	26,369

Appendix H: Agricultural Commodities Supply Information

Regional Barley Imports, Production, Consumption, and Stocks Thousand Metric Tons

	1998/99	1999/00	2000/01	12-Sep 2001/02	11-Oct 2001/02	12-Sep 2002/03	11-Oct 2002/03
IMPORTS							
North America ¹	794	879	825	645	725	675	675
Latin America ²	379	411	387	545	545	460	460
EU	91	70	212	1,000	1,000	100	100
Other West. Eur. ³	310	546	478	435	435	425	425
Former Soviet Union	552	1,076	470	380	380	355	355
Eastern Europe ⁴	544	545	796	430	430	450	450
Middle East ⁵	8,039	8,957	6,964	6,800	6,750	7,100	7,000
North Africa ⁶	2,181	1,838	1,654	1,950	2,000	1,800	1,750
Other Africa ⁷	89	118	138	160	160	110	110
South Asia ⁸	0	0	5	5	5	5	5
Other Asia ⁹	3,922	4,125	4,083	4,000	4,000	4,200	4,200
Oceania ¹⁰	60	53	23	50	50	50	50
PRODUCTION							
North America ¹	20,786	19,749	21,177	17,047	17,043	14,150	13,410
Latin America ²	1,392	1,145	1,508	1,246	1,246	1,485	1,485
EU	51,907	48,929	51,659	48,156	48,156	47,950	48,300
Other West. Eur. ³	1,099	1,074	1,074	1,074	1,074	1,074	1,074
Former Soviet Union	21,080	22,433	26,482	36,251	36,265	33,724	34,724
Eastern Europe ⁴	10,696	9,685	7,462	9,806	9,806	9,008	9,208
Middle East ⁵	12,384	9,631	9,703	10,581	10,585	11,336	11,226
North Africa ⁶	3,245	2,651	1,085	2,134	2,134	2,325	2,325
Other Africa ⁷	1,612	1,543	1,831	1,707	1,707	1,717	1,717
South Asia ⁸	2,229	2,008	1,857	1,847	1,847	1,915	1,915
Other Asia ⁹	3,200	3,575	3,260	3,141	3,141	3,030	3,030
Oceania ¹⁰	6,377	5,432	7,596	7,900	7,900	5,900	4,900

Regional Barley Imports, Production, Consumption, and Stocks
 Thousand Metric Tons (*Continued*)

	1998/99	1999/00	2000/01	12-Sep 2001/02	11-Oct 2001/02	12-Sep 2002/03	11-Oct 2002/03
CONSUMPTION							
North America ¹	19,128	18,824	19,152	16,888	16,833	14,765	14,130
Latin America ²	1,746	1,523	1,670	1,535	1,535	1,680	1,680
EU	43,237	42,121	46,089	44,481	44,481	42,079	44,100
Other West. Eur. ³	1,509	1,645	1,508	1,537	1,537	1,537	1,537
Former Soviet Union	23,939	21,667	23,726	27,160	27,160	27,610	27,610
Eastern Europe ⁴	11,151	9,960	8,447	8,930	8,930	8,780	8,830
Middle East ⁵	19,217	17,982	16,857	17,395	17,275	17,620	17,500
North Africa ⁶	5,129	4,497	3,033	3,720	3,720	3,895	3,895
Other Africa ⁷	1,702	1,664	2,008	1,860	1,860	1,832	1,832
South Asia ⁸	2,229	2,008	1,864	1,845	1,845	1,920	1,920
Other Asia ⁹	7,776	7,692	7,280	7,150	7,150	7,200	7,200
Oceania ¹⁰	2,582	2,960	3,600	3,850	3,850	3,650	3,650
ENDING STOCKS							
North America ¹	5,876	5,317	4,932	4,133	4,133	3,327	3,222
Latin America ²	156	148	116	187	187	177	177
EU	13,733	10,471	8,310	9,635	9,635	11,106	10,035
Other West. Eur. ³	479	446	457	429	429	391	391
Former Soviet Union	1,895	2,162	3,571	7,327	7,098	6,996	7,467
Eastern Europe ⁴	1,166	944	332	838	838	816	916
Middle East ⁵	3,348	2,392	2,830	2,141	2,224	1,832	1,925
North Africa ⁶	754	709	214	683	683	813	813
Other Africa ⁷	0	0	2	9	9	4	4
South Asia ⁸	20	20	17	24	24	24	24
Other Asia ⁹	873	880	942	952	928	982	958
Oceania ¹⁰	515	440	837	937	1,137	837	437

NOTES: Imports are reported on an international year basis. All other data are reported using marketing years.

Appendix H: Agricultural Commodities Supply Information**World Sorghum Trade
October/September Year – Thousand Metric Tons**

	1998/99	1999/00	2000/01	12-Sep 2001/02	11-Oct 2001/02	12-Sep 2002/03	11-Oct 2002/03
EXPORTS							
Argentina	519	671	566	450	400	300	300
Australia	355	761	892	550	550	700	500
China	17	18	19	20	20	20	20
Sudan	167	162	10	0	0	0	0
Others	173	119	93	112	112	45	45
Subtotal	1,231	1,731	1,580	1,132	1,082	1,065	865
United States	5,194	6,297	5,866	6,100	6,000	5,600	5,600
World Total	6,425	8,028	7,446	7,232	7,082	6,665	6,465
IMPORTS							
Brazil	21	258	141	150	150	300	300
Israel	92	180	83	50	50	50	50
Japan	2,453	2,206	1,983	1,900	1,800	1,800	1,600
Mexico	3,291	4,773	4,892	4,800	4,700	4,200	4,200
Sudan	0	0	10	20	20	0	0
Taiwan	29	41	38	40	40	60	60
EU	299	300	9	50	50	50	50
Subtotal	6,185	7,758	7,156	7,010	6,810	6,460	6,260
Other Countries	207	182	97	175	175	95	95
Unaccounted	33	88	193	47	97	110	110
World Total	6,425	8,028	7,446	7,232	7,082	6,665	6,465

World Sorghum Production, Consumption, and Stocks
Local Marketing Years – Thousand Metric Tons

	1998/99	1999/00	2000/01	12-Sep 2001/02	11-Oct 2001/02	12-Sep 2002/03	11-Oct 2002/03
PRODUCTION							
Argentina	3,222	3,350	2,706	2,750	2,750	2,500	2,500
Australia	1,891	2,116	2,109	1,777	1,777	2,200	2,200
Burkina	1,300	1,000	1,000	1,200	1,200	1,200	1,200
China	4,087	3,242	2,582	2,940	2,700	3,000	2,800
Egypt	765	750	750	750	750	750	750
Ethiopia	1,200	1,450	1,800	1,850	1,850	1,850	1,700
India	8,710	8,860	7,716	7,500	8,390	8,000	8,000
Mexico	6,400	6,394	5,665	6,500	6,500	6,850	6,850
Niger	700	485	400	650	650	650	650
Nigeria	7,300	7,500	7,800	7,800	7,800	7,800	7,850
Sudan	4,830	2,350	2,570	3,770	3,500	3,770	4,350
United Republic of Tanzania	590	560	335	400	550	400	500
Venezuela	370	460	390	390	390	390	390
EU	663	557	640	640	640	625	625
Others	4,670	4,470	4,607	4,539	4,574	4,549	4,614
Subtotal	46,698	43,544	41,070	43,456	44,021	44,534	44,979
United States	13,207	15,118	11,952	13,070	13,070	9,761	9,827
World Total	59,905	58,662	53,022	56,526	57,091	54,295	54,806
CONSUMPTION							
Argentina	2,550	2,500	2,480	2,300	2,300	2,200	2,200
Australia	1,381	1,326	1,475	1,300	1,300	1,400	1,600
Burkina	1,300	1,000	1,000	1,200	1,200	1,200	1,200
China	4,134	3,319	2,561	2,900	2,700	2,950	2,750
Egypt	765	750	750	750	750	750	750
Ethiopia	1,200	1,500	1,824	1,850	1,850	1,850	1,700
India	8,690	8,850	7,716	7,500	8,300	8,000	8,100
Japan	2,500	2,200	2,045	1,900	1,800	1,800	1,600
Mexico	9,746	11,100	11,050	11,300	11,200	11,200	11,200
Niger	700	485	400	650	650	650	650

Appendix H: Agricultural Commodities Supply Information**World Sorghum Production, Consumption, and Stocks**
Local Marketing Years – Thousand Metric Tons (Continued)

	1998/99	1999/00	2000/01	12-Sep 2001/02	11-Oct 2001/02	12-Sep 2002/03	11-Oct 2002/03
CONSUMPTION (Continued)							
Nigeria	7,318	7,500	7,800	7,800	7,800	7,800	7,850
Sudan	4,200	2,625	2,550	3,725	3,500	3,700	4,000
Venezuela	330	455	390	390	390	390	390
Others	6,395	7,037	5,768	5,965	6,300	6,292	6,457
Subtotal	51,209	50,647	47,809	49,530	50,040	50,182	50,447
United States	7,798	8,628	6,543	6,606	6,527	4,573	4,573
World Total	59,007	59,275	54,352	56,136	56,567	54,755	55,020
ENDING STOCKS							
Argentina	728	659	446	396	446	396	446
Japan	346	352	290	290	290	290	290
Mexico	1,214	1,281	788	788	788	638	638
Others	1,467	844	882	919	959	1,009	1,229
Subtotal	3,755	3,136	2,406	2,393	2,483	2,333	2,603
United States	1,655	1,661	1,061	1,429	1,508	1,029	1,174
World Total	5,410	4,797	3,467	3,822	3,991	3,362	3,777

Regional Sorghum Imports, Production, Consumption, and Stocks
Thousand Metric Tons

	1998/99	1999/00	2000/01	12-Sep 2001/02	11-Oct 2001/02	12-Sep 2002/03	11-Oct 2002/03
IMPORTS							
North America ¹	3,291	4,773	4,892	4,800	4,700	4,200	4,200
Latin America ²	56	299	148	160	160	310	310
EU	299	300	9	50	50	50	50
Other West. Eur. ³	23	50	40	40	40	40	40
Former Soviet Union	0	0	0	0	0	0	0
Eastern Europe ⁴	0	0	0	0	0	0	0
Middle East ⁵	92	180	83	50	50	50	50
North Africa ⁶	112	0	0	0	0	0	0
Other Africa ⁷	35	86	34	140	140	40	40
South Asia ⁸	0	0	0	0	0	0	0
Other Asia ⁹	2,484	2,252	2,047	1,945	1,845	1,865	1,665
Oceania ¹⁰	0	0	0	0	0	0	0
PRODUCTION							
North America ¹	19,607	21,512	17,617	19,570	19,570	16,611	16,677
Latin America ²	4,951	4,885	4,459	4,426	4,426	4,182	4,182
EU	663	557	640	640	640	625	625
Other West. Eur. ³	0	0	0	0	0	0	0
Former Soviet Union	0	0	0	0	0	0	0
Eastern Europe ⁴	5	5	5	5	5	5	5
Middle East ⁵	600	585	585	585	585	585	585
North Africa ⁶	780	765	765	765	765	765	765
Other Africa ⁷	18,001	15,533	15,898	17,697	17,602	17,701	18,321
South Asia ⁸	8,938	9,090	7,946	7,730	8,620	8,230	8,230
Other Asia ⁹	4,349	3,504	2,843	3,201	2,961	3,261	3,061
Oceania ¹⁰	1,891	2,116	2,109	1,777	1,777	2,200	2,200

Appendix H: Agricultural Commodities Supply Information

Regional Sorghum Imports, Production, Consumption, and Stocks Thousand Metric Tons (Continued)

	1998/99	1999/00	2000/01	12-Sep 2001/02	11-Oct 2001/02	12-Sep 2002/03	11-Oct 2002/03
CONSUMPTION							
North America ¹	17,544	19,728	17,593	17,906	17,727	15,773	15,773
Latin America ²	4,293	4,457	4,190	4,286	4,286	4,042	4,042
EU	873	750	640	873	675	680	680
Other West. Eur. ³	23	50	40	40	40	40	40
Former Soviet Union	0	0	0	0	0	0	0
Eastern Europe ⁴	5	5	5	5	5	5	5
Middle East ⁵	692	765	668	635	635	635	635
North Africa ⁶	892	765	765	765	765	765	765
Other Africa ⁷	17,419	15,817	15,863	17,742	17,692	17,651	17,991
South Asia ⁸	8,918	9,080	7,946	7,730	8,530	8,230	8,330
Other Asia ⁹	6,920	5,827	4,896	5,096	4,796	5,076	4,676
Oceania ¹⁰	1,381	1,326	1,475	1,300	1,300	1,400	1,600
ENDING STOCKS							
North America ¹	2,869	2,942	1,849	2,217	2,296	1,667	1,812
Latin America ²	792	724	500	450	500	450	500
EU	46	40	39	49	49	39	39
Other West. Eur. ³	0	0	0	0	0	0	0
Former Soviet Union	0	0	0	0	0	0	0
Eastern Europe ⁴	0	0	0	0	0	0	0
Middle East ⁵	13	13	13	13	13	13	13
North Africa ⁶	40	40	40	40	40	40	40
Other Africa ⁷	793	320	340	370	360	440	710
South Asia ⁸	120	130	130	130	220	130	120
Other Asia ⁹	577	488	450	470	430	500	460
Oceania ¹⁰	160	100	106	83	83	83	83

NOTES: Imports are reported on an international year basis. All other data are reported using marketing years.

**World Oats Trade
October/September Year – Thousand Metric Tons**

	1998/99	1999/00	2000/01	12-Sep 2001/02	11-Oct 2001/02	12-Sep 2002/03	11-Oct 2002/03
EXPORTS							
Argentina	1	16	19	20	10	20	10
Australia	241	158	86	150	150	150	150
Canada	1,155	1,383	1,402	850	850	950	950
EU	511	481	740	600	600	900	1,000
Eastern Europe	25	0	5	20	15	35	35
Others	24	40	63	65	65	65	65
Subtotal	1,957	2,078	2,315	1,705	1,690	2,120	2,210
United States	24	20	33	35	35	25	25
World Total	1,981	2,098	2,348	1,740	1,725	2,145	2,235
IMPORTS							
Canada	2	4	27	30	30	5	100
Ecuador	5	5	0	10	10	5	5
Japan	82	86	78	80	80	85	85
Mexico	30	43	67	60	60	50	50
Russia	20	25	4	0	0	0	0
South Africa	0	0	24	30	30	30	30
EU	9	33	25	10	10	10	10
O.W. Europe	46	55	60	45	45	45	45
Eastern Europe	0	0	24	6	6	5	5
United States	1,599	1,675	1,825	1,300	1,300	1,750	1,750
Subtotal	1,793	1,926	2,134	1,571	1,571	1,985	2,080
Other Countries	51	38	49	40	40	40	40
Unaccounted	137	134	165	129	114	120	115
World Total	1,981	2,098	2,348	1,740	1,725	2,145	2,235

Appendix H: Agricultural Commodities Supply Information

World Oats Production, Consumption, and Stocks Local Marketing Years – Thousand Metric Tons

	1998/99	1999/00	2000/01	12-Sep 2001/02	11-Oct 2001/02	12-Sep 2002/03	11-Oct 2002/03
PRODUCTION							
Argentina	383	555	642	678	678	580	580
Australia	1,798	1,118	1,131	1,222	1,222	1,275	1,275
Brazil	250	250	330	330	330	330	330
Belarus	501	368	520	600	600	450	450
Canada	3,958	3,641	3,389	2,691	2,691	3,100	2,900
Chile	201	248	345	280	280	285	285
China	650	600	600	600	600	600	600
Hungary	132	175	100	150	150	150	150
Kazakstan	75	200	80	218	218	100	100
Mexico	100	100	100	100	100	100	100
Poland	1,460	1,446	1,070	1,305	1,305	1,320	1,400
Romania	350	375	350	350	350	350	350
Russia	4,600	4,400	6,000	7,700	7,700	6,000	6,000
Turkey	310	250	250	250	250	250	250
Ukraine	778	760	881	1,100	1,100	1,000	1,000
EU	6,147	6,059	6,847	6,298	6,298	6,750	7,000
O.W. Europe	431	447	447	447	447	447	447
Others	1,177	986	935	990	990	1,053	1,023
Subtotal	23,301	21,978	24,017	25,309	25,309	24,140	24,240
United States	2,409	2,122	2,171	1,696	1,699	2,070	1,729
World Total	25,710	24,100	26,188	27,005	27,008	26,210	25,969

Appendix H: Agricultural Commodities Supply Information

**World Oats Production, Consumption, and Stocks
Local Marketing Years – Thousand Metric Tons (Continued)**

	1998/99	1999/00	2000/01	12-Sep 2001/02	11-Oct 2001/02	12-Sep 2002/03	11-Oct 2002/03
CONSUMPTION							
Argentina	385	500	650	650	650	600	600
Australia	1,548	982	1,046	1,125	1,125	1,100	1,100
Brazil	250	257	345	345	345	345	345
Canada	2,553	2,263	2,158	2,140	2,136	2,150	2,045
Chile	203	225	325	250	250	300	300
China	600	600	600	602	602	600	600
Hungary	132	175	100	125	125	125	125
Kazakstan	55	180	79	200	200	95	95
Mexico	130	143	170	160	160	150	150
Poland	1,435	1,446	1,075	1,250	1,250	1,325	1,405
Romania	350	375	350	350	350	350	350
Russia	5,570	5,378	5,525	7,100	7,100	6,400	6,400
Ukraine	890	720	840	1,040	1,040	950	950
EU	5,684	5,568	6,289	5,651	5,651	5,749	5,749
O.W. Europe	486	505	505	495	495	530	530
Others	2,196	1,808	1,970	1,873	1,860	2,098	2,143
Subtotal	22,467	21,125	22,027	23,356	23,339	22,867	22,887
United States	4,133	3,872	4,021	3,448	3,451	3,858	3,494
World Total	26,600	24,997	26,048	26,804	26,790	26,725	26,381
ENDING STOCKS							
Australia	216	217	216	163	163	188	188
Canada	1,088	1,122	854	365	365	370	370
Russia	1,053	100	579	1,179	1,179	779	779
Eu	723	758	709	866	866	927	1,027
Others	426	489	516	641	658	528	525
Subtotal	3,506	2,686	2,874	3,214	3,231	2,792	2,889
United States	1,181	1,104	1,056	917	917	824	847
World Total	4,687	3,790	3,930	4,131	4,148	3,616	3,736

Appendix H: Agricultural Commodities Supply Information

Regional Oat Imports, Production, Consumption, and Stocks Thousand Metric Tons

	1998/99	1999/00	2000/01	12-Sep 2001/02	11-Oct 2001/02	12-Sep 2002/03	11-Oct 2002/03
IMPORTS							
North America ¹	1,631	1,722	1,919	1,390	1,390	1,805	1,900
Latin America ²	20	23	23	35	35	30	30
EU	9	33	25	10	10	10	10
Other West. Eur. ³	46	55	60	45	45	45	45
Former Soviet Union	20	40	15	0	0	0	0
Eastern Europe ⁴	0	0	24	6	6	5	5
Middle East ⁵	0	0	6	5	5	5	5
North Africa ⁶	34	5	9	8	8	10	10
Other Africa ⁷	0	0	24	30	30	30	30
South Asia ⁸	0	0	0	0	0	0	0
Other Asia ⁹	82	86	78	82	82	85	85
Oceania ¹⁰	2	0	0	0	0	0	0
PRODUCTION							
North America ¹	6,467	5,863	5,660	4,487	4,490	5,270	4,729
Latin America ²	869	1,088	1,352	1,323	1,323	1,230	1,230
EU	6,147	6,059	6,847	6,298	6,298	6,750	7,000
Other West. Eur. ³	431	447	447	447	447	447	447
Former Soviet Union	6,289	5,948	7,775	9,871	9,871	7,806	7,806
Eastern Europe ⁴	2,497	2,535	1,966	2,312	2,312	2,380	2,430
Middle East ⁵	310	250	250	250	250	250	250
North Africa ⁶	130	70	38	74	74	80	80
Other Africa ⁷	45	45	45	45	45	45	45
South Asia ⁸	0	0	0	0	0	0	0
Other Asia ⁹	652	602	602	601	601	602	602
Oceania ¹⁰	1,873	1,193	1,206	1,297	1,297	1,350	1,350

Regional Oat Imports, Production, Consumption, and Stocks
Thousand Metric Tons (Continued)

	1998/99	1999/00	2000/01	12-Sep 2001/02	11-Oct 2001/02	12-Sep 2002/03	11-Oct 2002/03
CONSUMPTION							
North America ¹	6,816	6,278	6,349	5,748	5,747	6,158	5,689
Latin America ²	888	1,033	1,361	1,300	1,300	1,295	1,295
EU	5,684	5,568	6,289	5,651	5,651	5,749	5,749
Other West. Eur. ³	486	505	505	495	495	530	530
Former Soviet Union	7,351	6,879	7,238	9,193	9,193	8,143	8,143
Eastern Europe ⁴	2,482	2,545	1,963	2,213	2,213	2,365	2,445
Middle East ⁵	310	250	250	250	250	260	260
North Africa ⁶	164	75	46	81	81	90	90
Other Africa ⁷	45	45	69	75	75	75	75
South Asia ⁸	0	0	0	0	0	0	0
Other Asia ⁹	686	685	680	686	686	685	685
Oceania ¹⁰	1,623	1,057	1,121	1,200	1,200	1,175	1,175
ENDING STOCKS							
North America ¹	2,276	2,233	1,913	1,285	1,285	1,197	1,220
Latin America ²	73	130	113	141	151	76	96
EU	723	758	709	866	866	927	1,027
Other West. Eur. ³	136	133	123	120	120	82	82
Former Soviet Union	1,098	161	669	1,282	1,282	890	890
Eastern Europe ⁴	57	47	75	160	167	145	122
Middle East ⁵	0	0	0	5	5	0	0
North Africa ⁶	0	0	1	1	1	1	1
Other Africa ⁷	0	0	0	0	0	0	0
South Asia ⁸	0	0	0	0	0	0	0
Other Asia ⁹	108	111	111	108	108	110	110
Oceania ¹⁰	216	217	216	163	163	188	188

NOTES: Imports are reported on an international year basis. All other data are reported using marketing years.

Appendix H: Agricultural Commodities Supply Information

World Rye Trade October/September Year – Thousand Metric Tons

	1998/99	1999/00	2000/01	12-Sep 2001/02	11-Oct 2001/02	12-Sep 2002/03	11-Oct 2002/03
EXPORTS							
Canada	77	78	87	60	60	25	25
Russia	0	0	0	5	5	5	5
Ukraine	278	73	1	300	300	200	200
EU	1,161	2,144	940	750	750	900	975
Eastern Europe	104	25	2	10	10	25	0
Others	53	0	57	25	25	0	0
Subtotal	1,673	2,320	1,087	1,150	1,150	1,155	1,205
United States	2	10	8	4	4	4	4
World Total	1,675	2,330	1,095	1,154	1,154	1,159	1,209
IMPORTS							
Belarus	93	220	10	10	10	100	100
China	367	25	0	5	5	5	5
Japan	391	397	337	350	350	400	400
Korea, South	175	476	57	125	125	200	200
Russia	306	416	63	0	0	0	0
EU	2	0	1	300	300	5	5
Eastern Europe	8	323	420	75	75	150	200
United States	75	76	81	120	120	125	150
Subtotal	1,417	1,933	969	985	985	985	1,060
Other Countries	42	254	99	116	116	96	96
Unaccounted	216	143	27	53	53	78	53
World Total	1,675	2,330	1,095	1,154	1,154	1,159	1,209

World Rye Production, Consumption, and Stocks
Local Marketing Years – Thousand Metric Tons

	1998/99	1999/00	2000/01	12-Sep 2001/02	11-Oct 2001/02	12-Sep 2002/03	11-Oct 2002/03
PRODUCTION							
Belarus	1,384	929	1,450	1,600	1,600	1,700	1,700
Canada	398	387	260	228	228	130	130
Czech Republic	261	200	150	154	154	148	125
Latvia	120	89	111	100	107	110	110
Lithuania	349	261	311	234	234	234	234
Poland	5,664	5,181	4,003	4,863	4,863	4,200	4,000
Russia	3,300	4,800	5,450	6,600	6,600	7,000	7,000
Turkey	237	250	250	250	250	250	250
Ukraine	1,140	919	966	1,800	1,800	1,400	1,400
EU	6,345	5,488	5,411	6,276	6,276	4,785	4,760
O.W. Europe	36	31	31	31	31	31	31
Others	533	484	537	597	597	521	521
Subtotal	19,767	19,019	18,930	22,733	22,740	20,509	20,261
United States	309	280	213	177	177	191	177
World Total	20,076	19,299	19,143	22,910	22,917	20,700	20,438
CONSUMPTION							
Belarus	1,477	1,149	1,410	1,585	1,585	1,700	1,700
Canada	228	310	270	201	201	114	114
China	367	25	0	5	5	5	5
Czech Republic	267	220	200	200	200	200	200
Japan	391	397	337	350	350	400	400
Korea, South	175	476	57	125	125	200	200
Latvia	150	89	110	100	107	110	110
Lithuania	330	300	330	270	270	270	270
Poland	5,704	5,486	4,580	4,700	4,700	4,400	4,275
Russia	5,006	5,264	5,550	5,800	5,800	6,200	6,200
Turkey	184	396	250	270	270	250	250
Ukraine	1,062	852	960	1,350	1,350	1,275	1,275
EU	3,984	4,100	4,320	4,350	4,350	4,650	4,650

Appendix H: Agricultural Commodities Supply Information**World Rye Production, Consumption, and Stocks**
Local Marketing Years – Thousand Metric Tons (Continued)

	1998/99	1999/00	2000/01	12-Sep 2001/02	11-Oct 2001/02	12-Sep 2002/03	11-Oct 2002/03
CONSUMPTION (Continued)							
O.W. Europe	69	61	55	52	52	52	52
Others	512	644	793	646	646	649	624
Subtotal	19,906	19,769	19,222	20,004	20,011	20,475	20,325
United States	349	382	295	314	314	287	298
World Total	20,255	20,151	19,517	20,318	20,325	20,762	20,623
ENDING STOCKS							
Canada	166	161	77	49	49	45	45
Poland	405	375	169	357	357	232	232
Russia	200	200	293	1,099	1,099	1,894	1,894
Ukraine	200	100	122	281	281	211	211
EU	5,292	4,621	4,440	5,936	5,936	5,196	5,096
Others	205	181	173	160	160	242	219
Subtotal	6,468	5,638	5,274	7,882	7,882	7,820	7,697
United States	62	40	30	14	14	14	14
World Total	6,530	5,678	5,304	7,896	7,896	7,834	7,711

Regional Rye Imports, Production, Consumption, and Stocks
Thousand Metric Tons

	1998/99	1999/00	2000/01	12-Sep 2001/02	11-Oct 2001/02	12-Sep 2002/03	11-Oct 2002/03
IMPORTS							
North America ¹	76	81	86	125	125	130	155
Latin America ²	0	0	0	0	0	0	0
EU	2	0	1	300	300	5	5
Other West. Eur. ³	33	30	24	21	21	21	21
Former Soviet Union	407	713	143	80	80	170	170
Eastern Europe ⁴	8	323	420	75	75	150	200
Middle East ⁵	0	142	0	20	20	0	0
North Africa ⁶	0	0	0	0	0	0	0
Other Africa ⁷	0	0	0	0	0	0	0
South Asia ⁸	0	0	0	0	0	0	0
Other Asia ⁹	933	898	394	480	480	605	605
Oceania ¹⁰	0	0	0	0	0	0	0
PRODUCTION							
North America ¹	707	667	473	405	405	321	307
Latin America ²	88	138	144	99	99	89	89
EU	6,345	5,488	5,411	6,276	6,276	4,785	4,760
Other West. Eur. ³	36	31	31	31	31	31	31
Former Soviet Union	6,373	7,057	8,399	10,450	10,457	10,535	10,535
Eastern Europe ⁴	6,267	5,645	4,412	5,376	5,376	4,666	4,443
Middle East ⁵	237	250	250	250	250	250	250
North Africa ⁶	0	0	0	0	0	0	0
Other Africa ⁷	3	3	3	3	3	3	3
South Asia ⁸	0	0	0	0	0	0	0
Other Asia ⁹	0	0	0	0	0	0	0
Oceania ¹⁰	20	20	20	20	20	20	20

Appendix H: Agricultural Commodities Supply Information

Regional Rye Imports, Production, Consumption, and Stocks Thousand Metric Tons (Continued)

	1998/99	1999/00	2000/01	12-Sep 2001/02	11-Oct 2001/02	12-Sep 2002/03	11-Oct 2002/03
CONSUMPTION							
North America ¹	577	692	565	515	515	401	412
Latin America ²	88	138	144	99	99	89	89
EU	3,984	4,100	4,320	4,350	4,350	4,650	4,650
Other West. Eur. ³	69	61	55	52	52	52	52
Former Soviet Union	8,113	7,760	8,514	9,266	9,273	9,691	9,691
Eastern Europe ⁴	6,311	5,973	5,052	5,250	5,250	4,918	4,793
Middle East ⁵	184	396	250	270	270	250	250
North Africa ⁶	0	0	0	0	0	0	0
Other Africa ⁷	3	3	3	3	3	3	3
South Asia ⁸	0	0	0	0	0	0	0
Other Asia ⁹	933	898	394	480	480	605	605
Oceania ¹⁰	20	20	20	20	20	20	20
ENDING STOCKS							
North America ¹	228	201	107	63	63	59	59
Latin America ²	0	0	0	0	0	0	0
EU	5,292	4,621	4,440	5,936	5,936	5,196	5,096
Other West. Eur. ³	0	0	0	0	0	0	0
Former Soviet Union	524	400	510	1,459	1,459	2,268	2,268
Eastern Europe ⁴	466	436	227	418	418	291	268
Middle East ⁵	0	0	0	0	0	0	0
North Africa ⁶	0	0	0	0	0	0	0
Other Africa ⁷	0	0	0	0	0	0	0
South Asia ⁸	0	0	0	0	0	0	0
Other Asia ⁹	20	20	20	20	20	20	20
Oceania ¹⁰	0	0	0	0	0	0	0

NOTES: Imports are reported on an international year basis. All other data are reported using marketing years.

**World Rice Trade
Calendar Year – Thousand Metric Tons**

	1999	2000	2001	12-Sep 2002	11-Oct 2002	12-Sep 2003	11-Oct 2003
EXPORTS							
Argentina	674	332	363	350	350	300	300
Australia	667	617	618	400	400	500	500
Burma	57	159	670	1,200	1,100	1,500	1,500
China	2,708	2,951	1,847	1,500	1,500	2,250	2,250
Egypt	320	500	705	500	500	500	500
Guyana	252	167	175	150	150	175	175
India	2,752	1,449	1,936	5,500	6,500	4,000	4,000
Pakistan	1,838	2,026	2,417	1,250	1,500	800	1,000
Thailand	6,679	6,549	7,521	7,000	6,500	7,500	7,500
Uruguay	681	642	806	650	600	650	650
Vietnam	4,555	3,370	3,528	2,800	2,800	3,500	3,800
EU	348	308	264	275	275	325	325
Others	766	929	1,051	564	864	564	564
Subtotal	22,297	19,999	21,901	22,139	23,039	22,564	23,064
United States	2,644	2,847	2,541	3,100	3,100	3,100	3,100
World Total	24,941	22,846	24,442	25,239	26,139	25,664	26,164
IMPORTS							
Bangladesh	1,220	638	402	275	275	500	500
Brazil	781	700	673	600	600	400	400
Canada	248	250	262	265	265	270	270
China	178	278	267	225	225	400	400
Colombia	38	60	163	75	75	100	100
Costa Rica	56	48	41	75	75	75	75
Cote D'ivoire	600	450	654	575	575	600	600
Cuba	431	415	481	550	550	550	550
El Salvador	28	30	76	75	75	75	75
Ghana	125	186	211	210	210	225	225
Guinea	300	275	325	275	275	300	300
Haiti	235	245	250	260	260	265	265
Honduras	75	80	96	75	75	80	80
Indonesia	3,729	1,500	1,500	3,250	3,500	3,250	3,250
Iran	1,313	1,100	735	1,000	1,000	1,500	1,500

Appendix H: Agricultural Commodities Supply Information

World Rice Trade Calendar Year – Thousand Metric Tons (*Continued*)

	1999	2000	2001	12-Sep 2002	11-Oct 2002	12-Sep 2003	11-Oct 2003
IMPORTS (<i>Continued</i>)							
Iraq	779	1,274	959	1,000	1,250	1,100	1,100
Jamaica & Dep	71	75	75	75	75	75	75
Japan	633	656	680	650	650	650	650
Korea, North	159	400	537	150	400	450	450
Korea, South	137	151	99	150	150	150	150
Malaysia	617	596	633	600	600	600	600
Mexico	342	415	388	500	500	500	500
Nigeria	950	1,250	1,738	1,500	1,500	1,500	1,500
Nicaragua	88	60	117	100	100	100	100
Peru	116	86	62	40	40	40	40
Philippines	1,000	900	1,175	1,200	1,200	650	800
Russia	580	400	247	275	275	350	350
Saudi Arabia	750	992	1,053	900	900	1,000	1,000
Senegal	700	502	863	900	900	750	750
Singapore	421	354	444	375	375	375	375
South Africa	514	523	572	650	650	650	650
Sri Lanka	205	18	35	80	80	100	100
Syria	200	150	172	150	150	150	150
Taiwan	5	3	23	125	125	125	125
Turkey	321	309	231	250	275	250	250
Uzbekistan	40	30	142	175	175	175	175
Uae	75	75	75	80	80	80	80
Yemen	217	210	202	200	200	250	250
EU	784	852	923	800	700	850	850
O.W. Europe	50	50	55	50	50	50	50
Eastern Europe	361	343	381	357	357	358	358
United States	358	308	413	400	400	415	415
Subtotal	19,830	17,237	18,430	19,517	20,192	20,333	20,483
Other Countries	3,458	3,841	4,175	4,305	4,305	4,220	4,220
Unaccounted	1,653	1,768	1,837	1,417	1,642	1,111	1,461
World Total	24,941	22,846	24,442	25,239	26,139	25,664	26,164

**World Rice Production, Consumption, and Stocks
Local Marketing Years – Thousand Metric Tons**

Milled	1998/99	1999/00	2000/01	12-Sep 2001/02	11-Oct 2001/02	12-Sep 2002/03	11-Oct 2002/03
PRODUCTION							
Australia	974	787	1,259	930	930	751	751
Bangladesh	19,854	23,066	25,086	25,500	25,500	26,000	26,000
Brazil	7,876	7,768	7,062	7,250	7,250	7,150	7,150
Burma	9,280	9,860	10,771	10,440	10,440	10,440	10,440
China	139,100	138,936	131,536	124,320	124,306	123,200	123,200
Egypt	2,645	3,787	3,965	3,575	3,575	3,800	3,800
India	86,000	89,700	84,871	91,600	91,600	78,000	78,000
Indonesia	31,853	33,445	32,548	32,422	32,422	32,500	32,500
Japan	8,154	8,350	8,636	8,242	8,242	8,200	8,100
Korea, South	5,100	5,263	5,291	5,515	5,515	5,200	5,000
Pakistan	4,674	5,156	4,700	3,740	3,882	3,500	3,850
Philippines	6,674	7,772	8,135	8,450	8,450	8,300	8,300
Taiwan	1,311	1,349	1,342	1,245	1,245	1,197	1,197
Thailand	15,589	16,500	16,901	16,500	16,500	16,500	16,500
Vietnam	20,108	20,926	20,473	20,670	20,670	20,500	20,500
EU	1,749	1,751	1,567	1,620	1,620	1,792	1,792
Others	27,322	28,424	27,381	27,584	27,561	27,447	27,531
Subtotal	388,263	402,840	391,524	389,603	389,708	374,477	374,611
United States	5,798	6,502	5,941	6,668	6,668	6,456	6,633
World Total	394,061	409,342	397,465	396,271	396,376	380,933	381,244
CONSUMPTION							
Bangladesh	21,854	23,766	25,790	26,250	26,250	26,250	26,250
Brazil	7,955	7,956	7,956	7,958	7,958	8,000	8,000
Burma	9,276	9,330	9,350	9,400	9,400	9,475	9,475
China	133,570	133,763	134,356	134,595	134,581	134,800	134,800
Egypt	2,771	2,856	3,015	3,150	3,150	3,275	3,275
India	81,154	82,670	75,851	88,401	87,651	83,100	83,250
Indonesia	35,033	35,400	35,877	36,358	36,358	36,790	36,790
Iran	2,913	3,019	3,050	3,075	3,075	3,100	3,100
Japan	9,100	9,450	9,000	9,000	9,000	9,000	9,000
Korea, North	1,559	2,000	1,837	1,500	1,750	1,950	1,950
Korea, South	5,021	4,986	5,000	5,100	5,100	5,100	5,100

Appendix H: Agricultural Commodities Supply Information

World Rice Production, Consumption, and Stocks Local Marketing Years – Thousand Metric Tons (*Continued*)

Milled	1998/99	1999/00	2000/01	12-Sep 2001/02	11-Oct 2001/02	12-Sep 2002/03	11-Oct 2002/03
CONSUMPTION (<i>Continued</i>)							
Philippines	8,000	8,400	8,750	8,900	8,900	9,105	9,105
South Africa	525	535	550	575	575	625	625
Taiwan	1,325	1,315	1,265	1,150	1,150	1,150	1,150
Thailand	8,900	9,300	9,400	9,500	9,500	9,600	9,600
Vietnam	15,763	16,771	17,275	17,400	17,400	17,700	17,600
EU	2,113	2,190	2,207	2,215	2,215	2,190	2,225
Others	36,858	40,855	42,209	41,893	41,843	42,001	42,506
Subtotal	383,690	394,562	392,738	406,420	405,856	403,211	403,801
United States	3,587	3,846	3,676	3,784	3,811	3,949	3,918
World Total	387,277	398,408	396,414	410,204	409,667	407,160	407,719
ENDING STOCKS							
Brazil	1,157	1,513	1,327	1,219	1,219	869	869
Burma	203	574	1,325	1,165	1,265	630	730
China	96,000	98,500	94,100	82,550	82,550	69,100	69,100
India	12,000	17,716	25,051	23,000	23,000	14,000	13,850
Indonesia	6,828	6,373	4,544	3,858	4,108	2,818	3,068
Korea, South	980	1,355	1,739	2,299	1,999	2,544	2,044
Pakistan	359	811	432	222	164	222	264
Philippines	1,965	2,002	2,797	3,447	3,447	3,217	3,317
Thailand	1,060	1,711	1,691	1,691	2,191	1,091	1,591
Vietnam	350	1,175	885	1,395	1,395	735	535
Others	12,065	12,823	11,403	10,693	10,843	9,471	9,386
Subtotal	132,617	143,378	144,409	130,144	130,786	103,962	104,219
United States	694	867	887	1,219	1,219	1,174	1,311
World Total	133,311	144,245	145,296	131,363	132,005	105,136	105,530

NOTES: All data are reported on a milled basis.

Regional Rice Imports, Production, Consumption, and Stocks
Thousand Metric Tons

	1999	2000	2001	12-Sep 2002	11-Oct 2002	12-Sep 2003	11-Oct 2003
IMPORTS							
North America ¹	948	973	1,063	1,165	1,165	1,185	1,185
Latin America ²	2,263	2,103	2,348	2,255	2,255	2,095	2,095
EU	784	852	923	800	700	850	850
Other West. Eur. ³	50	50	55	50	50	50	50
Former Soviet Union	712	507	479	583	583	658	658
Eastern Europe ⁴	361	343	381	357	357	358	358
Middle East ⁵	4,024	4,469	3,826	4,010	4,285	4,760	4,760
North Africa ⁶	218	162	201	275	275	275	275
Other Africa ⁷	4,706	5,034	6,414	6,082	6,082	5,907	5,907
South Asia ⁸	1,552	978	717	670	670	890	890
Other Asia ⁹	7,344	5,236	5,783	7,175	7,675	7,125	7,275
Oceania ¹⁰	326	371	415	400	400	400	400
	1998/99	1999/00	2000/01	2001/02	2001/02	2002/03	2002/03
PRODUCTION							
North America ¹	6,111	6,771	6,156	6,853	6,853	6,651	6,828
Latin America ²	14,701	14,739	13,738	13,865	13,865	13,890	13,890
EU	1,749	1,751	1,567	1,749	1,620	1,792	1,792
Other West. Eur. ³	0	0	0	0	0	0	0
Former Soviet Union	730	789	740	641	641	724	724
Eastern Europe ⁴	33	35	35	35	35	35	35
Middle East ⁵	2,240	1,905	1,632	1,598	1,598	1,692	1,692
North Africa ⁶	2,686	3,828	4,006	3,616	3,616	3,841	3,841
Other Africa ⁷	6,733	7,116	6,961	7,222	7,199	7,226	7,310
South Asia ⁸	115,076	122,521	119,168	125,260	125,402	112,000	112,350
Other Asia ⁹	243,028	249,100	242,203	234,631	234,617	232,331	232,031
Oceania ¹⁰	974	787	1,259	930	930	751	751
Consumption							
North America ¹	4,439	4,717	4,588	4,724	4,751	4,919	4,888
Latin America ²	14,221	14,654	14,809	15,052	15,052	15,182	15,182
EU	2,113	2,190	2,207	2,215	2,215	2,190	2,225
Other West. Eur. ³	50	53	55	53	53	53	53

Appendix H: Agricultural Commodities Supply Information

Regional Rice Imports, Production, Consumption, and Stocks Thousand Metric Tons (Continued)

	1998/99	1999/00	2000/01	2001/02	2001/02	2002/03	2002/03
PRODUCTION (Continued)							
Former Soviet Union	1,150	1,222	1,231	1,291	1,291	1,399	1,399
Eastern Europe ⁴	402	380	427	374	374	392	392
Middle East ⁵	6,008	6,260	6,531	6,696	6,696	6,811	6,811
North Africa ⁶	2,984	3,059	3,246	3,416	3,416	3,541	3,541
Other Africa ⁷	10,945	11,641	12,142	13,132	13,109	13,535	13,519
South Asia ⁸	110,382	113,836	109,118	122,251	121,501	116,985	117,185
Other Asia ⁹	233,376	237,068	238,735	239,685	239,921	240,794	240,694
Oceania ¹⁰	608	670	706	723	723	730	730
ENDING STOCKS							
North America ¹	814	1,062	1,046	1,360	1,360	1,282	1,419
Latin America ²	2,420	2,900	2,524	2,506	2,506	2,169	2,169
EU	821	888	889	859	769	1,036	911
Other West. Eur. ³	16	13	8	10	10	7	7
Former Soviet Union	289	328	296	209	209	162	162
Eastern Europe ⁴	0	0	0	0	0	0	0
Middle East ⁵	3,095	2,967	1,763	790	1,040	311	561
North Africa ⁶	200	631	887	862	862	937	937
Other Africa ⁷	1,366	1,774	1,736	2,183	2,173	1,960	2,050
South Asia ⁸	13,532	19,527	26,389	23,538	23,480	14,698	14,590
Other Asia ⁹	110,551	114,070	109,315	98,496	99,046	82,128	81,743
Oceania ¹⁰	207	85	443	550	550	446	446

NOTES: All data are reported on a milled basis.

Major Oilseeds: World Supply and Distribution
Million Metric Tons

	1998/99	1999/00	2000/01	Estimated 2001/02	Projected 2002/03
PRODUCTION					
Soybean	159.82	159.90	175.10	183.74	184.83
Cottonseed	32.62	32.93	33.53	36.58	33.43
Peanut	29.77	28.99	31.12	33.11	32.17
Sunflowerseed	26.63	27.22	23.29	21.35	23.40
Rapeseed	35.89	42.47	37.52	35.96	32.53
Copra	4.38	5.46	5.90	5.26	5.30
Palm Kernel	5.62	6.41	6.91	7.26	7.41
Total	294.72	303.37	313.37	323.25	319.06
EXPORTS					
Soybean	38.72	46.68	55.07	55.96	60.23
Cottonseed	1.02	1.33	1.39	1.41	1.19
Peanut	1.31	1.65	1.39	1.64	1.53
Sunflowerseed	4.45	3.39	3.48	2.24	2.29
Rapeseed	9.31	11.25	9.45	7.44	6.22
Copra	0.25	0.26	0.19	0.19	0.18
Palm Kernel	0.06	0.07	0.08	0.06	0.06
Total	55.10	64.63	71.04	68.93	71.70
IMPORTS					
Soybean	40.72	47.97	54.93	55.90	60.08
Cottonseed	0.97	1.31	1.30	1.39	1.20
Peanut	1.35	1.46	1.38	1.58	1.48
Sunflowerseed	4.34	3.48	3.20	2.01	2.30
Rapeseed	9.09	10.94	9.34	7.43	6.17
Copra	0.29	0.27	0.19	0.18	0.14
Palm Kernel	0.05	0.05	0.05	0.05	0.02
Total	56.80	65.45	70.39	68.53	71.39

Appendix H: Agricultural Commodities Supply Information**Major Oilseeds: World Supply and Distribution**
Million Metric Tons (Continued)

	1998/99	1999/00	2000/01	Estimated 2001/02	Projected 2002/03
CRUSH					
Soybean	135.85	136.28	146.95	157.85	163.23
Cottonseed	24.98	25.05	24.50	26.54	24.74
Peanut	14.79	13.63	14.17	15.71	14.93
Sunflowerseed	23.01	23.94	20.87	18.83	20.74
Rapeseed	31.86	37.09	35.19	33.52	30.90
Copra	4.44	5.45	5.84	5.19	5.20
Palm Kernel	5.58	6.34	6.82	7.18	7.30
Total	240.50	247.77	254.34	264.82	267.03
ENDING STOCKS					
Soybean	27.26	27.91	30.80	30.61	25.35
Cottonseed	0.50	0.39	0.53	0.49	0.46
Peanut	0.79	0.73	0.76	0.84	0.73
Sunflowerseed	1.42	1.75	0.89	0.53	0.50
Rapeseed	2.23	4.06	2.79	2.13	1.40
Copra	0.04	0.04	0.03	0.03	0.02
Palm Kernel	0.13	0.12	0.14	0.15	0.15
Total	32.38	35.00	35.93	34.77	28.61
PRODUCTION					
United States	74.60	72.22	75.06	78.67	72.28
Brazil	31.30	34.20	39.00	43.50	48.00
Argentina	20.00	21.20	27.80	29.50	31.00
China	15.15	14.29	15.40	15.41	15.60
India	6.00	5.20	5.25	5.40	5.00
Paraguay	3.05	2.90	3.52	3.10	3.70
Other	9.72	9.89	9.07	8.16	9.25
Total	159.82	159.90	175.10	183.74	184.83

Major Oilseeds: World Supply and Distribution
Million Metric Tons (Continued)

	1998/99	1999/00	2000/01	Estimated 2001/02	Projected 2002/03
EXPORTS					
United States	21.90	26.54	27.10	28.99	23.13
Brazil	8.93	11.16	15.47	15.30	21.30
Argentina	3.23	4.13	7.42	6.60	10.00
Paraguay	2.35	2.12	2.55	2.11	2.70
Other	2.30	2.73	2.54	2.97	3.10
Total	38.72	46.68	55.07	55.96	60.23
IMPORTS					
European Union	16.79	15.66	18.92	19.92	20.17
Germany	4.10	3.44	4.57	4.65	4.65
Netherlands	5.01	5.26	5.66	6.00	6.00
Spain	3.05	2.74	3.17	3.35	3.40
Italy	0.72	0.80	0.84	0.82	0.90
Bel-Lux	1.24	1.20	1.43	1.64	1.63
Portugal	0.64	0.62	0.90	1.05	1.12
Eastern Europe	0.14	0.06	0.16	0.23	0.23
Fsu-12	0.33	0.10	0.08	0.26	0.23
Asia	15.18	22.43	25.54	23.81	27.73
China	3.85	10.10	13.25	10.30	14.00
Japan	4.81	4.91	4.77	5.00	4.90
Korea, Rep Of	1.40	1.61	1.39	1.45	1.50
Taiwan	2.15	2.30	2.33	2.40	2.40
Indonesia	1.13	1.42	1.26	1.58	1.65
Mid-East/N Afr	1.56	1.86	2.24	2.62	2.86
Latin America	5.86	6.65	6.91	7.42	7.64
Mexico	3.76	3.95	4.37	4.70	5.05
Brazil	0.60	1.00	0.90	0.90	0.90
Other	0.86	1.20	1.08	1.65	1.23
Total	40.72	47.97	54.93	55.90	60.08

Appendix H: Agricultural Commodities Supply Information

Major Oilseeds: World Supply and Distribution Million Metric Tons (*Continued*)

	1998/99	1999/00	2000/01	Estimated 2001/02	Projected 2002/03
CRUSH					
United States	43.26	42.93	44.63	46.27	45.59
Latin America	44.59	44.89	47.05	52.59	57.56
Brazil	21.01	21.20	22.62	24.50	27.20
Argentina	17.51	17.08	17.30	20.50	22.25
Mexico	3.95	4.10	4.45	4.75	5.15
European Union	16.24	14.43	16.75	17.66	17.67
Fsu-12	0.51	0.41	0.48	0.63	0.63
Eastern Europe	0.41	0.45	0.38	0.53	0.57
Asia	26.89	28.80	33.16	35.30	36.10
Japan	3.70	3.75	3.78	3.89	3.83
China	12.61	15.07	18.90	20.31	21.25
Taiwan	1.90	1.99	2.13	2.15	2.13
India	5.40	4.40	4.53	4.63	4.27
Other	3.95	4.38	4.52	4.87	5.11
Total	135.85	136.28	146.95	157.85	163.23
ENDING STOCKS					
United States	9.48	7.90	6.74	5.31	4.37
Brazil	7.51	8.64	8.38	10.80	8.87
Argentina	6.03	5.52	7.93	9.54	7.22
Other	4.24	5.85	7.75	4.96	4.90
Total	27.26	27.91	30.80	30.61	25.35
U.S. Season Avg.Price (\$/Bu)	4.93	4.63	4.54	4.35	5.15 - 6.05

Endnotes

¹**North America:** Canada, Mexico, and the United States.

²**Latin America:** Central America, the Caribbean, and South America.

³**Other Western Europe:** Azores, Cyprus, Iceland, Malta & Gozo, Norway, and Switzerland.

⁴**Eastern Europe:** Albania, Bosnia-Herzegovina, Bulgaria, Croatia, Czech Republic, Hungary, Macedonia, Poland, Romania, Serbia, Slovakia, Slovenia.

⁵**Middle East:** Bahrain, Iran, Iraq, Israel, Jordan, Kuwait, Lebanon, Oman, Qatar, Saudi Arabia, Syria, Turkey, United Arab Emirates, and Yemen.

⁶**North Africa:** Algeria, Egypt, Libya, Morocco, and Tunisia.

⁷**Other Africa:** all other African countries except North Africa.

⁸**South Asia:** Afghanistan, Bangladesh, Bhutan, India, Nepal, Pakistan, and Sri Lanka.

⁹**Other Asia:** all other Asian countries except South Asia.

¹⁰**Oceania:** Australia, Fiji, New Zealand, and Papua New Guinea.

