January 2003

Major Management Challenges and Program Risks

Department of Commerce
A Glance at the Agency Covered in This Report

The Department of Commerce’s programs include:

- conducting the decennial census and over 200 other demographic and economic censuses and surveys;
- monitoring hundreds of international trade agreements and supporting export policies that affect millions of domestic jobs;
- providing assistance to distressed communities;
- helping stop the proliferation of weapons of mass destruction and providing technical assistance to other countries concerning export controls;
- warning the public about severe weather, such as hurricanes and tornadoes;
- supporting the management of living marine resources, including 300 marine species in 2,000,000 square miles of ocean;
- fostering telecommunications policies that promote economic and technical advancement; and
- protecting patents, trademarks, and intellectual property rights.

The Department of Commerce’s Budgetary and Staff Resources

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Source: Budget of the United States Government.

a Budgetary resources include new budget authority (BA) and unobligated balances of previous BA. The 2000 numbers reflect an increase in resources needed for the 2000 Census.

b Budget and staff resources are actuals for FY 1998-2001. FY 2002 are estimates from the FY 2003 budget, which are the latest publicly available figures on a consistent basis as of January 2003. Actuals for FY 2002 will be contained in the President’s FY 2004 budget to be released in February 2003.

This Series

This report is part of a special GAO series, first issued in 1999 and updated in 2001, entitled the Performance and Accountability Series: Major Management Challenges and Program Risks. The 2003 Performance and Accountability Series contains separate reports covering each cabinet department, most major independent agencies, and the U.S. Postal Service. The series also includes a governmentwide perspective on transforming the way the government does business in order to meet 21st century challenges and address long-term fiscal needs. The companion 2003 High-Risk Series: An Update identifies areas at high risk due to either their greater vulnerabilities to waste, fraud, abuse, and mismanagement or major challenges associated with their economy, efficiency, or effectiveness. A list of all of the reports in this series is included at the end of this report.
Why GAO Did This Report

In its 2001 performance and accountability report on the Department of Commerce, GAO identified important trade, export, weather prediction, and other issues facing the department. The information GAO presents in this report is intended to help to sustain congressional attention and a departmental focus on continuing to make progress in addressing these challenges. The majority of these challenges reflect the diverse and complex nature of the department’s work and the difficult, long-term problems the department is working to manage. This report is part of a special series of reports on governmentwide and agency-specific issues.

What GAO Found

Commerce has taken steps to address the challenges that GAO previously identified. Because they reflect the complex nature of Commerce’s work, these challenges continue. In addition, GAO has identified planning and conducting an accurate, cost-effective 2010 census and improving other commerce statistical programs as a new challenge for Commerce.

- **Census 2010 and other statistical programs.** In general, Commerce’s implementation of the 2000 census was consistent with its operational plans. Now it must plan and implement a cost-effective 2010 census of an increasingly large and diverse population as well as ensure the accuracy of its other statistical products.

- **Promoting and liberalizing trade while creating jobs.** Commerce has improved the accuracy and completeness of its trade agreement archive and has met performance targets related to creating jobs. In helping U.S. exporters gain access to foreign markets, Commerce needs to continue to support negotiations on trade agreements, monitor and enforce these agreements, and assist potential exporters. Commerce also needs to continue its assistance in areas of the nation experiencing high unemployment, low income, or severe economic distress.

- **Strengthening export controls while facilitating global enterprise.** In response to GAO’s concerns, Commerce established a group to monitor trends in exports of controlled items to Hong Kong. Commerce needs to continue to control and require licenses for exporting items that may pose a national security risk or foreign policy concern.

- **Improving predictions of weather and climate and management of key natural resources.** Commerce reported that it met many of its performance targets for improving weather predictions and forecasts. Continuing to provide scientific, technical, and managerial expertise to monitor and predict changes in the Earth’s environment and to conserve and manage U.S. marine and coastal resources are important for Commerce.

- **Improving financial management functions.** Commerce has made substantial progress in its financial management activities in recent years. In order to comply with applicable laws and safeguard its assets, Commerce should continue to emphasize improvements in financial management and complete its planned financial system.

What Remains to Be Done

GAO believes that Commerce should continue to

- take steps to maximize achievement of its mission, especially as it relates to statistical programs, trade, exports, job creation, weather prediction, and natural resources; and
- improve its financial management systems and correct its remaining internal control weaknesses.

To view the full report, click on the link above. For more information, contact Thomas J. McCool at (202) 512-8678 or mccoolt@gao.gov.
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January 2003

The President of the Senate
The Speaker of the House of Representatives

This report addresses the major management challenges and program risks facing the Department of Commerce as it seeks to promote job creation and improve living standards for all Americans by creating infrastructure that supports economic growth, technological competitiveness, and sustainable development. The report discusses the actions that Commerce has taken and that are under way to address the challenges that GAO identified in its Performance and Accountability Series 2 years ago, and major events that have occurred and significantly influence the environment in which Commerce carries out its mission. Also, GAO summarizes the challenges that remain, describes new challenges that have emerged, and further actions that GAO believes are needed.

This analysis should help the new Congress and the administration carry out their responsibilities and improve government for the benefit of the American people. For additional information about this report, contact Thomas J. McCool, Managing Director, Financial Markets and Community Investment, at (202)-512-8678 or at mccoolt@gao.gov.

David M. Walker
Comptroller General
of the United States
In January 2001, we reported that the Department of Commerce faced five performance and accountability challenges. These challenges were (1) increasing the access of U.S. businesses to international trade; (2) ensuring that the United States is secure from the proliferation of dual-use commodities and chemical weapons; (3) ensuring that weather forecasts and severe weather warnings are accurate and timely; (4) improving the economy in distressed areas; and (5) addressing other challenges that included improving financial management, completing evaluations of the 2000 Census, and pursuing cost-effective alternatives for managing the research fleet used to acquire marine data.

Since our January 2001 report, the terrorist attacks of September 11, 2001, have had an immediate and long-term impact on Commerce’s operations and Commerce has taken some specific steps to address the agency’s challenges. In its accountability report, Commerce noted that it supported search and recovery efforts at the World Trade Center site and at the Pentagon with mapping, remote sensing, aerial photography, and other technology-related services and expertise available through a number of its bureaus, and provided grants to assist with economic recovery. For the long term, Commerce states that, while the terrorist attacks did not alter its mission, several of its component agencies will have a continued role in protecting U.S. security. For example,

- The National Institute of Standards and Technology is conducting research and standards development projects related to safer structures, secure information systems, threat detection and protection, and law enforcement.

- The Bureau of Industry and Security continues to assist federal agencies with identifying physical and cyber assets that are essential to protecting the national and economic security of the United States and implementing appropriate export controls over those assets.

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3The Bureau of Industry and Security was formerly called the Bureau of Export Administration.
The National Oceanic and Atmospheric Administration (NOAA) provides information to the Coast Guard and others to ensure port and maritime security.

Furthermore, Commerce has made progress in addressing the performance and accountability challenges that it faces. In its fiscal year 2001 accountability report, Commerce indicated that it has initiated steps to address information security weaknesses that we and others had identified, continued to improve its financial management systems, and met or exceeded many of its performance targets for fiscal year 2001. For example, Commerce reported that, among other things, it met or exceeded performance targets for detecting illegal export transactions and assisting firms who exported goods for the first time, creating jobs and making private sector investments in distressed communities, and issuing flash flood warnings. In addition, Commerce has made improvements related to recommendations that we have included in our reports. For example, Commerce implemented actions to improve the accuracy and completeness of its trade agreement archive and established a group to monitor trends in exports of controlled items to Hong Kong.

The majority of Commerce’s performance and accountability challenges reflect the diverse and complex nature of the department’s work and the difficult, long-term problems the department is working to manage. Consequently, these challenges have generally remained the same since our 2001 report. Because of the anticipated cost and planning difficulties associated with the 2010 Census, we have added “planning and conducting an accurate, cost-effective 2010 Census and improving other Commerce statistical programs” as a major challenge. Unless this challenge is aggressively addressed, the 2010 Census may become a high-risk area as happened with the 2000 Census. Three other challenges—those related to export, trade, and weather—encompass four of the challenges that we described in our 2001 report. We combined the challenges of increasing the access of U.S. businesses to international trade and improving the economy in distressed areas into one challenge—promoting and liberalizing trade while creating jobs. In addition, we describe the challenges related to exports and weather more broadly and, thus, include more activities. These changes make the challenges more equivalent to each other in their importance to the agency’s mission and align them with Commerce’s strategic plan. The fifth challenge has been reduced to only include improving financial management because Commerce has nearly completed its efforts related to the 2000 Census and has explored alternatives related to managing its research fleet. While we do not identify them as agency
performance and accountability challenges, this report describes challenges that Commerce faces in the areas that we have identified as governmentwide high-risk areas—strategic human capital management, information security weaknesses, and managing federal real property.

Performance and Accountability Challenges

- Plan and conduct an accurate, cost-effective 2010 Census and improve other Commerce statistical programs
- Help U.S. exporters gain access to foreign markets, and continue to help generate and retain jobs and stimulate business growth in areas of the nation experiencing high unemployment, low income, or severe economic distress
- Continue to control and require licenses for exporting items that may pose a national security risk or foreign policy concern
- Provide scientific, technical, and managerial expertise to monitor and predict changes in the Earth’s environment and to conserve and manage U.S. marine and coastal resources
- Improve financial management departmentwide and complete implementation of financial systems

Planning and Conducting an Accurate, Cost-Effective 2010 Census and Improving Other Commerce Statistical Programs

Commerce is one of the nation’s principal statistical agencies. The department’s Bureau of the Census (Census) and Bureau of Economic Analysis (BEA), along with its other statistical programs, accounted for about 17 percent of the estimated $4.3 billion spent on federal statistical programs in 2002. Essential for providing demographic, economic, and other data critical to the nation’s well being, several department programs face significant management challenges.

One of our long-standing concerns has been the decennial census. A successful head count is critical because the Constitution requires a census
to reapportion the House of Representatives. Census data are also used to redraw congressional districts, allocate billions of dollars in federal assistance to state and local governments, and for many other public and private sector purposes.

We named the 2000 Census a high-risk area in February 1997 because formidable challenges surrounded key census-taking operations. Although we removed the high-risk designation in 2001 when Census generally implemented the 2000 tally consistent with its operational plans, our addition of the 2010 Census to the current list of performance and accountability challenges reflects our growing concern over the numerous obstacles to a cost-effective head count. Indeed, as Census plans for 2010, it confronts many of the same difficulties it faced in 2000, as well as some newly emerging uncertainties. We will continue to review the planning and execution of the 2010 Census over the remainder of the decade, paying particular attention to how Census responds to these issues. Unless significant progress is made in addressing them, we may again designate the decennial census a high-risk area.

The principal challenge Census faces in 2010 is the near-daunting task of cost-effectively counting an ever-larger and increasingly diverse population with a design that must be responsive to the needs and interests of a broad spectrum of stakeholders that include Congress, federal agencies, state and local governments, advocacy groups, and the scientific community. However, as we reported in December 2001, the cost of the decennial census has escalated dramatically, rising from $13 per housing unit in 1970 to $56 per housing unit for the 2000 Census (in constant fiscal year 2000 dollars).

Further, the $6.5 billion spent on the 2000 Census was nearly double the $3.3 billion spent on the 1990 Census, and initial Census estimates of the cost of the 2010 tally range from $10 billion to $12 billion. Census attributes the cost increase to its efforts to secure a complete count in the face of ever-rising enumeration challenges such as achieving an acceptable response rate to the mail-back questionnaire. Although Census achieved similar response rates in 1990 and 2000 (65 percent in 1990 and 64 percent in 2000), it spent far more money on outreach and promotion in 2000: about $3.19 per household in 2000 compared with $0.88 in 1990 (in constant fiscal year 2000 dollars), an increase of 260 percent. For 2010,

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Census confronts the prospect of having to invest far more resources simply to match the 2000 Census response rates.

Census’s experience in planning the 2000 Census points to areas on which management should focus. Key among them is reaching early agreement with Congress on the design for the 2010 Census to ensure adequate planning, testing, and funding levels. As late as 1995, Census did not have a design sufficiently developed to undergo full-scale testing for the 2000 Census. The various tests that Census conducted in the 1990s, including a “dress rehearsal” in 1998, did not reveal several problems that occurred during the actual census.5 Other procedures were developed too late to test in an operational environment. Moreover, because the administration and Congress disagreed over Census’s planned use of sampling, Census was not able to finalize the 2000 design until 1999, little more than a year before Census Day. Census’s failure to provide Congress with sufficiently detailed data on the impact of sampling added to the controversy.

Adding to its planning difficulties, Census lacks comprehensive data on specific quality measures for the 2000 Census such as the size and nature of the undercount and the quality of its master address list, which could complicate efforts to identify best practices and to target resources for 2010. Census also needs to strategically manage its human capital to meet future requirements. For example, three senior census managers left Census in 2002; in the years ahead, other key employees will become eligible for retirement, making sound succession planning essential.

To help address these challenges facing Census, in our recent report on lessons learned for planning a more cost-effective 2010 Census, we recommended that the Secretary of Commerce direct Census to document in its future funding requests critical planning information such as

- specific performance goals for the 2010 Census and how key procedures and projects would contribute to those goals;
- detailed information on project feasibility, priorities, and potential risks;
- key implementation issues and decision milestones; and

• performance measures.

Commerce agreed with our recommendation.\(^6\)

Other Commerce statistical programs face challenges as well. For example, the new Census American Community Survey (ACS), estimated to cost $120 million to $150 million a year, is to provide more timely household information than previously obtained every 10 years by the census long-form questionnaire. Census believes that replacing the long form with ACS will improve overall participation in the census because, historically, the long form has had a lower response rate compared to the short form. Consequently, Census believes a short-form-only census in 2010 would produce better quality data while holding down the cost of following up with nonrespondents.

Additionally, federal agencies that rely on census data for distributing funds and determining program eligibility would benefit because information for states and other large geographic areas would be available annually, and information for the smaller areas would be available every 5 years. Although the information will be more timely, because of a smaller sample size, it will be less accurate than that produced by the long form. Indeed, Census has been testing ACS since 1996, but has not yet analyzed ACS quality based on comparisons with corresponding data from the 2000 Census to determine that ACS quality will meet federal program and state and local government needs. If these needs are not met, Census may not be able to justify the elimination of the long form in 2010. In September 2002, we recommended that, in order to facilitate the transition by federal agencies from the use of 2000 decennial census data to the ACS, the Secretary of Commerce direct Census to revise and expand the quality-testing and evaluation component of the ACS development program. While Census generally agreed with the direction of our recommendation, it expressed a number of concerns about some of the detailed findings.\(^7\)

Commerce also faces challenges in improving other statistical products such as BEA’s national economic accounts. BEA’s recent revisions to

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preliminary estimates of gross domestic product (GDP), personal income, and corporate profits have indicated a significantly different picture of U.S. economic activity since the end of the twentieth century. This year’s regular annual revision paints a picture of a much weaker economy, raising concerns about the reliability and integrity of BEA’s preliminary estimates. For example, in its midyear reestimation of earlier forecasts of federal government receipts and expenditures, the Congressional Budget Office noted several consequences of this year’s annual GDP revisions: among them, an almost 1-percent lower projection for GDP in 2012 and a reduction in revenues due to a lower national income attributable to wages and salaries as well as to profits. Because of these and other critical uses of GDP, the reliability of BEA’s estimates warrants continued focus by Commerce.

As the largest importer and exporter of both goods and services in the world, the United States has a major stake in building and maintaining a system of open markets. With U.S. exports growing more than twice as fast as total U.S. output (see figure 1), exports have become increasingly important to the U.S. economy. Commerce is responsible for helping U.S. exporters gain access to foreign markets. The range of Commerce’s activities includes (1) supporting negotiations on market-opening trade agreements, (2) monitoring and enforcing such trade agreements, and (3) assisting potential exporters, especially small- and medium-sized businesses, to take advantage of export opportunities. In addition, through its Economic Development Administration (EDA), Commerce has both an agency-level and a governmentwide responsibility for improving the economy in distressed areas by, among other things, supporting job creation and retention and stimulating industrial and commercial growth in rural and urban areas of the nation experiencing high unemployment, low income, or severe economic distress.
Figure 1: Growth in U.S. Exports Compared to Overall Output (Gross Domestic Product)

Index, 1970=100

Source: GAO calculation based on International Monetary Fund data.
Promoting and Liberalizing Trade

Commerce supports the negotiation of trade agreements in part by co-administering, with the U.S. Trade Representative, the majority of private-sector trade advisory committees, authorized in the Trade Act of 1974 to provide industry input needed for trade negotiations. In a September 2002 report, we identified the need to revise this system.\(^8\) We noted that the system has not been updated to reflect changes in U.S. trade policy and the economy, with the result that the system has gaps in its coverage of industry sectors, trade issues, and stakeholders. We also noted that the leadership and administrative support provided by Commerce and the U.S. Trade Representative has not been sufficient to ensure that the system works reliably. Commerce’s limited staff, for example, have needed to focus on processes for rechartering the advisory committees and appointing members and have not been able to meet their responsibilities to attend all of the advisory committees’ meetings. We made several recommendations aimed at making the system’s private sector consultation process more meaningful and reliable. While Commerce characterized the report as thorough and fair, it urged us to make a number of modifications with which we generally disagreed.\(^9\)

Commerce also faces challenges in helping to monitor and enforce the several hundred trade-related agreements already on the books. In March 2000, we reported that the creation of a vast array of U.S. trade agreements since the early 1980s had caused dramatic increases in the trade monitoring and enforcement workloads at Commerce and other trade agencies.\(^10\) We also found that these agencies’ ability to monitor and enforce trade agreements was limited due to a lack of sufficient staff with appropriate expertise, inadequate support from other agencies, and difficulty obtaining comprehensive input from the private sector. Since our report was issued, Commerce has received significant increases in funding for staff to monitor and enforce trade agreements. However, due to the recent nature of the increases, we believe it is too early to determine fully whether these additions have been effective in resolving these issues.


\(^9\)For a more complete description of the comments see GAO–02–876.

Commerce is also the lead federal agency in conducting export promotion programs aimed at helping U.S. businesses sell their products and services abroad, with about 2,500 people stationed throughout the United States and in 84 countries. Eight other federal agencies also play important roles in the export process, and the Secretary of Commerce, as Chairman of the interagency Trade Promotion Coordinating Committee, has a mandate to coordinate these agencies’ varied activities. Among other tasks, the Secretary is to (1) develop an annual, governmentwide strategic plan for carrying out federal export promotion and financing programs, and (2) identify areas of overlap and duplication among federal export activities. However, our work evaluating the coordination of export promotion services has indicated that Commerce has been inconsistent in its leadership role, and that it is unclear whether the agencies are using export promotion resources most productively. In September 2002, we reported that the committee’s annual strategic plans have provided neither clear guidance concerning export agencies’ specific goals and responsibilities nor an assessment of progress made from year to year, and we recommended that the committee undertake such actions. In the same report, we noted that some of the committee’s long-standing recommendations regarding the provision of export services remain to be implemented, and we recommended that the committee regularly analyze progress in these areas. In response, the committee noted its intention to address our recommendations and to make periodic reports to Congress on the implementation of the committee’s recommendations.

11The Export Enhancement Act of 1992 created the Trade Promotion Coordinating Committee to coordinate the delivery of federal export promotion services and to eliminate the areas of overlap and duplication among federal export promotion programs. The U.S. Departments of Agriculture, Commerce, Defense, Energy, the Interior, Labor, State, Transportation, and the Treasury; the Agency for International Development; the Council of Economic Advisers; the Environmental Protection Agency; the U.S. Export-Import Bank; National Economic Council; the Office of Management and Budget; the Overseas Private Investment Corporation; the Small Business Administration; the U.S. Trade and Development Agency; and the U.S. Trade Representative comprise the Trade Promotion Coordinating Committee.

In its export assistance programs, Commerce seeks to increase the number of small- and medium-sized businesses participating in international trade by identifying export-capable firms and providing them with export training. Our September 2001 report on small business export training programs noted that Commerce has experienced difficulties in recruiting qualified training participants and in following their progress in the export process.\textsuperscript{13} It also noted that Commerce and the Small Business Administration were providing virtually identical export training programs and that the Trade Promotion Coordinating Committee had not fully met its mandate to eliminate duplication of export programs. We recommended that these programs be combined and that Commerce follow up on training participants’ progress to assess exporter needs and consider program adjustments. Commerce has since acted to combine the two export training programs and has stated its intention to begin conducting follow-up surveys of training participants.

Creating Jobs

Through EDA, Commerce has both an agency-level and a governmentwide responsibility for improving the economy in distressed areas. Specifically, EDA was created to generate jobs, help retain existing jobs, and stimulate industrial and commercial growth in rural and urban areas of the nation experiencing high unemployment, low income, or severe economic distress. EDA provides grants to economically distressed communities for specific projects. In addition, through legislation and accompanying reports, the Congress has urged EDA to aggressively pursue efforts to increase the efficiency of the federal response to distressed communities by working with other agencies.

EDA has made some progress in meeting the two fiscal year 2001 performance goals related to improving the economy in distressed areas—promoting private enterprise and job creation in economically distressed communities and building local capacity to achieve and sustain economic growth. For example, EDA reported that it met its targets for state and local dollars committed to EDA-funded projects that are intended to create jobs and exceeded its target for the percentage of EDA investments in areas of highest distress. EDA stated that it will discontinue reporting on

EDA also has taken steps to coordinate its work with that of other agencies. In particular, Commerce's fiscal year 2003 performance plan identifies other agencies—both inside and outside of Commerce—that share crosscutting issues with EDA. However, EDA has not yet taken the important next step of collaborating with other agencies to develop common or complementary goals for improving performance in addressing crosscutting issues.\textsuperscript{14} Commerce's responsibilities in this area derive from a mandate in the Economic Development Administration and Appalachian Regional Development Reform Act of 1998 (Pub. L. 105-393, 112 Stat. 3596), which requires that other federal agencies cooperate with Commerce in its efforts to assist distressed communities. Furthermore, the Senate report accompanying the legislation states that EDA should aggressively pursue efforts to increase the efficiency of the federal response to distressed communities by working with other agencies. As we reported in September 2000, at least nine agencies other than the Department of Commerce fund economic development activities.\textsuperscript{15} These include the Departments of Agriculture, Housing and Urban Development, Defense, Health and Human Services, Interior, and Transportation; as well as the Environmental Protection Agency, the Small Business Administration, and the Appalachian Regional Commission. These agencies, along with EDA, operate over 70 programs that can be used to support economic development by funding activities that include constructing roads, streets, water and sewer systems, nonresidential buildings, and industrial parks.

\textsuperscript{14}The June 2002 Office of Management and Budget Circular No. A-11, \textit{Preparation, Submission, and Execution of the Budget}, which provides guidance to executive branch agencies for, among other things, preparing performance plans, states that some general goals may relate to cross-agency functions, programs, or activities. In such instances, the circular notes that agencies may have a shared responsibility for defining and achieving general goals for these crosscutting areas and states that agencies should ensure that appropriate and timely consultation occurs with other agencies during development of strategic plans with crosscutting goals.

At the same time that it encourages trade, Commerce, through the Bureau of Industry and Security, is one of two primary agencies that administer the nation’s export control system.\textsuperscript{16} Under U.S. law, the President has the authority to control and require licenses for exporting items that may pose a national security risk or foreign policy concern. The risk level can vary depending on the item being exported and the country of destination; therefore, exports of some items involve less risk than other items and exports to some countries involve less risk than to other countries.

Among other things, the Bureau of Industry and Security helps administer the nation’s export control system by processing license applications for exports of items having both military and civilian applications, such as chemical, biological, nuclear, and missile technology items. Our reports have consistently identified numerous problems in the administration of this system, including noncompliance with the law, a weak analytical basis for making licensing decisions, and increased processing times. In one of these reports, we recommended that the Secretary of Commerce use available immigration data to identify foreign nationals who could be subject to deemed export licensing requirements and work with the other departments to develop a risk-based program for monitoring compliance with deemed export licenses.\textsuperscript{17} Commerce stated that it would explore the practicality of our recommendation. In another report, we recommended that the Secretaries of Commerce, State, and Defense improve the transparency, consistency, and timeliness of the commodity classification and commodity jurisdiction processes.\textsuperscript{18} While Commerce disagreed with our findings and conclusions, it agreed to work with other agencies and companies to implement our recommendations.

\textsuperscript{16} The State Department licenses defense items through its Office of Defense Trade Controls.


Our August 2002 report on high-performance computers found that the President’s justification for raising export control thresholds did not fully meet the requirements of law and was based on inaccurate information provided by the computer industry and an inadequate assessment of national security issues.19 Thus, we concluded that the decision to raise the export control threshold was analytically weak and premature, given market conditions. Similarly, in April 2002, we found that the U.S. agencies had not conducted the analyses necessary to create a sound basis for its licensing decisions on exports of advanced semiconductor manufacturing equipment to China.20 Our report stated that U.S. policies and practices to control the export of advanced semiconductor technology to China are unclear and inconsistent, leading to uncertainty among U.S. industries about the rationale for some licensing decisions. We concluded that the current export control system needs to be reexamined because it has not slowed China's ability to obtain billions of dollars worth of advanced semiconductor equipment. Consequently, we recommended that the Secretaries of Commerce, Defense, and State reassess, document, and update U.S. policy and practices on exporting semiconductor manufacturing equipment and materials to China. The agencies disagreed with our recommendation, stating that their current policies and practices are sufficient for making export licensing decisions to China. However, we disagreed because U.S. export regulations governing China contain inherent inconsistencies and are based on outdated government assessments of the availability of technology from non-U.S. sources, and our recommendation remained unchanged.


In addition, our June 2001 report assessing Commerce processing times found that license applications that took more than the maximum 90 days\(^{21}\) to review increased from about 7 percent of total applications in fiscal year 1997 to about 13 percent in fiscal year 2000.\(^{22}\) In May 2001, we reported that Commerce’s regulations regarding U.S. licensing requirements for missile-related exports to Canada had been inconsistent with the amended Export Administration Act for over 10 years.\(^{23}\) We recommended that Commerce revise its regulations or seek a statutory change to specifically allow for licensing exemptions. Commerce did not agree with our recommendation, but said it would consult with other departments and its congressional authorizing committees on the usefulness of revising its regulations in light of pending legislation. Since the issuance of this report, Commerce has solicited input to proposed changes to its regulations, but has not yet finalized the changes.

NOAA provides scientific, technical, and managerial expertise to monitor and predict changes in the Earth’s environment and to conserve and manage U.S. marine and coastal resources. Its goals include improving short-term weather warnings and forecasts, improving the use of fishery resources, and preserving marine biological diversity by balancing the use of natural resources with the management of protected species.

Almost two decades ago, NOAA's National Weather Service (NWS) decided to improve its weather warnings and forecasts through a nationwide modernization program to upgrade weather observing systems such as satellites and radars, design and develop advanced computer workstations for forecasters, and reorganize its field office structure. NWS recognized that improved warnings and forecasts were essential to enhancing public safety and our nation’s economic productivity. However, the initial

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\(^{21}\) Executive Order 12981 requires that the license review process be completed in 90 days, but allows the review “clock” to be stopped at certain points such as when more information is needed from the applicant.


modernization effort faltered because of schedule delays, cost overruns, and technical problems on key systems. In reviewing these efforts in the mid- to late-1990s, we made numerous recommendations to address these difficulties, and NWS has acted to implement them. For example, in response to our recommendations, NWS established an overall systems architecture, improved the availability of its Next Generation Weather Radar, and enhanced its Advanced Weather Interactive Processing System software development processes.

Through modernization, NWS has achieved improvements in the accuracy and timeliness of some weather warnings. For example, in October 1998, we reported that the accuracy and timeliness of flash flood warnings improved in Ventura and Los Angeles counties in California after the Next Generation Weather Radar program was commissioned in 1996.\(^24\) For fiscal year 2001, NWS reported that the lead time for flash flood warnings increased by 3 minutes over the lead time in fiscal year 2000, and that the accuracy of winter storm warnings increased by 5 percent over the accuracy in fiscal year 2000.

Since 2001, NWS has made plans to further improve weather forecasts and warnings through upgrades to its supercomputer and future enhancements to weather satellites. In addition, for fiscal year 2003, NWS has increased some key targets for lead times and accuracy rates and lowered or maintained targets for false alarm rates. These goals will continue to challenge the agency as it moves to implement new weather-observing technologies and strives to effectively use increased volumes of weather data. For example, in July 2002, we reported on challenges in effectively incorporating future volumes of satellite data into weather models.\(^25\) While NWS plans to build its capacity to handle increased volumes of data, more can be done to coordinate and focus these plans.

Management of Key Natural Resources

Part of NOAA’s mission is to conserve and manage the U.S. marine and coastal resources. NOAA’s efforts in this area are centered around three performance goals: building sustainable fisheries, sustaining healthy


In the financial management area, Commerce has made substantial progress in recent years, but continues to face challenges in both financial statement reporting and financial management systems. Specifically, in 1996, Commerce's Inspector General issued a disclaimer of opinion on Commerce's financial statements due to management's inability to support certain account balances and deficiencies noted in Commerce's internal controls. The auditors identified 39 reportable conditions that represented significant deficiencies in the design or operation of the internal control structure, of which 37 were considered to be material internal control weaknesses. In contrast, Commerce received an unqualified audit opinion on its financial statements for fiscal year 2001—the third year in a row it received an unqualified opinion. In addition, Commerce officials strengthened Commerce's internal control structure so that the number of reportable conditions identified by the auditors dropped to two for fiscal year 2001, of which one was a material weakness. Despite this progress, Commerce's auditors identified financial management and reporting weaknesses at three Commerce bureaus. Commerce's Chief Financial Officer has agreed that a diligent effort is needed to continue to receive unqualified audit opinions on future Commerce financial statements and to resolve the remaining internal control weaknesses.

In the financial systems area, Commerce's auditors continue to report the lack of a single, integrated financial system as a material weakness. Furthermore, the auditors reported that their testing of Commerce's financial management systems disclosed instances where the systems did not substantially comply with requirements of the Federal Financial Management Improvement Act. Commerce recognizes the shortcomings of its financial management systems. In its fiscal year 2001 accountability report, Commerce noted that, taken as a whole, Commerce's financial systems do not comply with GAO principles and standards, Chief Financial
Officers Act requirements, Joint Financial Management Improvement Program requirements, or Office of Management and Budget requirements. The accountability report further noted that Commerce’s existing systems are not sufficiently integrated, lack security controls, and do not provide reliable and timely information. Commerce reports that it has made progress in addressing this material weakness and will continue its efforts to improve in this area. Specifically, Commerce plans to continue its phased implementation of the Commerce Administrative Management System, which it expects to complete by October 2003. In order to comply with applicable laws and safeguard its assets against waste, loss, unauthorized use, or misappropriation, Commerce must continue to emphasize financial management improvements and correct the remaining internal control weaknesses.

Governmentwide Challenges

Commerce also faces challenges in the areas that we have identified as governmentwide high-risk areas—strategic human capital management, information security weaknesses, and managing federal real property. In general, we identified these areas as high-risk either because of their greater vulnerabilities to waste, fraud, abuse, and mismanagement or because of major challenges associated with their economy, efficiency, or effectiveness.

Strategic Human Capital Management

In addition to the human capital issues related to trade and the census, we have identified human capital issues in other areas of Commerce. Specifically, in our 2002 report on the telecommunications spectrum, we noted that Commerce’s National Telecommunications and Information Administration is facing serious staffing problems. Specifically, the agency has vacancies in 21 of its 122 staff positions for spectrum management, and 40 percent of its staff are eligible for retirement by 2006. We recommended that the agency develop a strategy for enhancing its oversight of federal spectrum use and define its human capital needs for carrying out this strategy. Commerce generally agreed with our recommendation, and said that it would review its human capital needs and

current resources in spectrum management and develop a strategy for addressing any shortcomings.

In its fiscal year 2001 accountability report, Commerce acknowledges that it must take steps to ensure that it retains vital knowledge, skills, and management capabilities in an era where many existing employees will be eligible to retire, and new employees are hard to attract and retain. Commerce states that, among other things, it has developed a departmentwide approach to analyzing workforce needs and planning recruitment and outreach efforts and will continue to focus on this area in the future.

Information Security Weaknesses

In our August 2001 report on computer security at Commerce, we identified significant and pervasive computer security weaknesses in the information systems of seven of Commerce’s bureaus. We also identified weaknesses in the management of Commerce’s overall information security program and noted that these computer security weaknesses put Commerce’s data and operations at serious risk. Based on our findings, we recommended that Commerce develop and execute a centrally managed information security program that includes a risk-based approach, up-to-date security policies, security awareness and training, and continuous monitoring of the bureaus’ compliance with established policies and the effectiveness of implemented controls. We also recommended that Commerce bureaus address the logical access control weaknesses identified during the audit. Our follow-up work indicates that Commerce has made significant progress in implementing our recommendations. Agency officials told us that they plan to address all of our recommendations within fiscal year 2003.

In its fiscal year 2001 accountability report, Commerce included inadequate controls in information technology security as a new material weakness. As a result, Commerce reports that it has taken a number of corrective actions. For example, the Secretary initiated actions that led to a framework for addressing information technology security issues, issuing security alerts for specific problems, and establishing a compliance group to define parameters for reviewing programs and systems on a continuing basis.

Managing Federal Real Property

Commerce still faces ongoing physical infrastructure problems. As we reported in April 2001, a heating, ventilation, and air conditioning system that is incapable of providing proper air circulation or maintaining desired temperatures plagues the Census Bureau’s Federal Office Building 3, located in Suitland, Maryland.\textsuperscript{28} The building contains levels of carbon dioxide that exceed industry standards, thereby exposing tenants to unacceptable conditions. Also, the water in the building is not drinkable due to the building’s deteriorated infrastructure. We recommended that the Administrator of the General Services Administration, which manages the building, ensure that sufficient priority consideration is given to projects that would effectively prevent or resolve significant health and safety concerns. The General Services Administration generally agreed with the recommendation.

Commerce plans to focus on the modernization of the facilities used by the National Institute of Standards and Technology. According to Commerce, new facilities and equipment are needed in order for this agency to meet stringent industry measurement requirements. Consequently, Commerce has completed or planned new facilities such as the Advanced Chemical Sciences Laboratory in Gaithersburg, Maryland (which is completed), and the Advanced Measurement Laboratory, also located in Gaithersburg, (scheduled for completion in 2004).

## GAO Contacts

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