OFFICE OF THE SECRETARY

Top Management Challenges Facing the Department of Commerce

FINAL REPORT NO. OIG-12-003

OCTOBER 24, 2011

U.S. Department of Commerce
Office of Inspector General
Office of Audit and Evaluation

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UNITED STATES DEPARTMENT OF COMMERCE
The Inspector General
Washington, D.C. 20230

October 24, 2011

MEMORANDUM TO THE SECRETARY

FROM: Todd J. Zinser

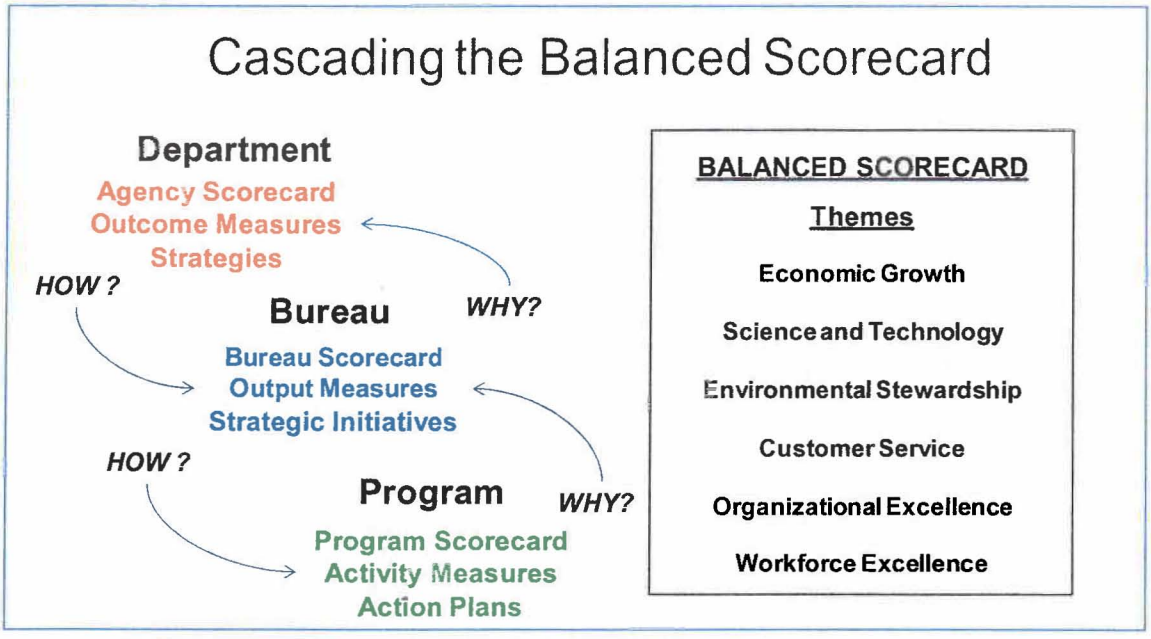
SUBJECT: Top Management Challenges Facing the Department of Commerce in Fiscal Year 2012

Enclosed is our final report on the Department of Commerce's top management challenges for fiscal year (FY) 2012. The Department plays a pivotal role in implementing the President's initiatives for economic recovery and job creation and plans to spend about $10 billion on a wide range of programs in the upcoming year. The report identifies what we consider, from our oversight perspective, to be the most significant management and performance issues facing the Department.

The five major challenges we have identified for FY 2012 represent cross-cutting issues that focus on the President's most important goals. The first two challenges in the report are new additions: challenge 1 discusses the Department's mission *to promote the export of American goods, stimulate economic growth, and create jobs while simultaneously enforcing trade laws and protecting U.S. trade interests*; and challenge 2 explains the Department's need to *reduce operating costs in the face of an extended period of constrained federal budgets.* The remaining three challenges are longstanding departmental concerns: *enhancing IT security across the Department, improving Commerce-wide acquisitions and contracting practices,* and *ensuring NOAA meets its milestones to develop and launch its new environmental satellites while minimizing expected data gaps.* Under the leadership of former Secretary Locke and Acting Secretary Blank, the Department has a solid foundation upon which to make continued improvements when addressing these challenges.

Former Secretary Locke's legacy included adopting a *balanced scorecard* management approach focusing on themes that reflect the Department's priorities. This approach gives a greater emphasis to Commerce's three programmatic themes of Economic Growth, Science and Information, and Environmental Stewardship as well as its management themes of Customer Service, Organizational Excellence, and Workforce Excellence (see diagram, on next page). Since the beginning of FY 2011, the Deputy Secretary has met each quarter with operating unit heads to review the scorecard, which tracks performance and measures progress. This management approach has helped to institutionalize the Department's efforts in working

toward cross-cutting performance goals and to better position the Department to respond promptly and suitably to challenges as they emerge. We would recommend that you continue to exercise these capabilities consistent with your goals and objectives in leading the Department.



Source: OIG, based on the Department's balanced scorecard overview

We remain committed to keeping the Department's decision makers informed of longstanding as well as emerging problems identified through our audits and investigations so that timely corrective actions can be taken. This final report and the Department's response to it (which appears as an appendix) will be included in the Department's *Performance and Accountability Report*, as required by law.[1]

We appreciate the cooperation received from the Department, and we look forward to working with you and the Secretarial Officers in the coming months. If you have any questions concerning this report, please contact me at (202) 482-4661.

cc: Rebecca Blank, Acting Deputy Secretary
Cameron Kerry, General Counsel
Bruce Andrews, Chief of Staff
Scott Quehl, CFO/ASA
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[1] 31 U.S.C. § 3516(d).

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Challenge 1:

Effectively Promote Exports, Stimulate Economic Growth, and Create Jobs

The Department is at the center of the federal government's efforts to promote exports and stimulate economic development, while at the same time regulating exports. The Secretary plays a visible role in carrying out the Department's trade promotion mission, with export- and trade-related activities—such as leading trade missions and representing the United States in bilateral or multilateral meetings—accounting for a significant portion of the Secretary's time. The President also tasked Commerce with leading the government-wide SelectUSA initiative by attracting and retaining domestic and foreign investments. We estimated that Commerce planned to devote approximately $994 million (11 percent) of its FY 2011 budget request to fund direct international programs and activities, most of which is represented by the budgets of the International Trade Administration (ITA) and the Bureau of Industry and Security (BIS).

Implement Administration Initiatives with Effective Interagency Partnerships

Many federal agency missions are related to international trade. We reviewed their missions and found more than 20 performed trade-related functions, such as policy development and negotiation, export promotion, financing, and licensing and regulation (table 1).

Table 1. U.S. Government Agencies with Trade-Related Functions

	Member of		Function			
Agency	**Export Promotion Cabinet**	**Trade Promotion Coordinating Committee**	**Policy Development, Negotiation & Cooperation**	**Export Promotion [a]**	**Finance, Insurance, Grants & Adjustment Assistance**	**Licensing, Inspection & Regulation**
Council of Economic Advisors	●	●	●			
Department of Agriculture	●	●	●	●	●	●
Department of Commerce	●	●	●	●	●	●
Department of Defense		●	●			●
Department of Energy		●	●	●		●
Department of Homeland Security		●	●			●
Department of the Interior		●	●			●
Department of Labor	●	●	●	●	●	
Department of State	●	●	●	●		●
Department of Transportation		●	●			
Department of the Treasury	●	●	●			●
Environmental Protection Agency		●	●			●
Export-Import Bank	●	●			●	
Food and Drug Administration			●			●
National Economic Council	●	●	●			
National Security Council	●	●	●			
Office of Management and Budget	●	●	●			
Office of the U.S. Trade Representative	●	●	●	●		
Overseas Private Investment Corporation	●	●			●	
Small Business Administration	●	●		●	●	
U.S. Agency for International Development		●	●			
U.S. International Trade Commission			●			●
U.S. Trade Development Agency	●	●		●		

Source: OIG analysis of government agency information
[a] Export Promotion includes export counseling and assistance, providing trade leads and market research, conducting feasibility studies, and advocating for U.S. businesses.

The Department has a critical part in the success of the administration's three government-wide initiatives: promote U.S. exports, reform the export control system, and reorganize the federal government's trade promotion responsibilities. The following efforts require the Secretary to work effectively with interagency partners and to marshal and integrate Commerce resources:

- **Increase Collaboration Among Partner Agencies to Implement the National Export Initiative.** In March 2010, the President formalized a government-wide strategy called the National Export Initiative (NEI), which aims to double U.S. exports by 2014 by enhancing the private sector's ability to export goods and services. The NEI is led by a secretarial-level body called the Export Promotion Cabinet that is charged with implementing the initiative's trade-related activities in coordination with the Trade Promotion Coordinating Committee (TPCC; see member agencies in table 1), [2] which is chaired by the Secretary. Historically, collaboration among TPCC agencies on specific trade promotion has not been strong, and the TPCC has not developed any working groups to improve coordination among its members. Despite these limitations the Department reports that, as of August 2011, the efforts of these organizations have resulted in a 17 percent increase in exports since 2009.[3]

- **Work with Partner Agencies to Implement the Export Control Reform Initiative.** The Department, along with the Departments of Defense and State, is a central part of implementing the Export Control Reform Initiative. This initiative envisions more effective export administration and enforcement by consolidating agency efforts and using a single IT system and list of controlled goods and technologies with military and commercial applications. Through this approach, the government would create a single source to help businesses obtain the information they need to export sensitive goods and technology. To date, the Department has succeeded in revising some of its export control regulations and is helping establish an export enforcement coordination center.

- **Support Reorganization of U.S. Government Trade and Export Promotion Functions**. The Office of Management and Budget (OMB) is leading an effort to reduce overlap in government trade-related responsibilities and identify potential cost savings, thereby improving agencies' efficiency and effectiveness. As noted in table 1 and later in table 2, trade functions and responsibilities are spread across multiple federal agencies—and even within the Department's own operating units. Although the plan is not yet public, it is likely that the reorganization will affect the Department significantly; Commerce should be prepared for the possibility of major program changes.

Enhance Commerce Unit Operations to Help Promote Trade and Job Creation

At the same time as it is involved in these government-wide efforts, the Department must continue to enhance its own mission to promote U.S. economic growth and associated job

[2] The TPCC was established in 1993 by Executive Order 12870 under the authority of the Export Enhancement Act of 1992 to coordinate governmental efforts to promote U.S. exports.
[3] OIG has not verified the accuracy of this claim.

gains. Our office analyzed the Department's trade-related responsibilities. The results of our analysis are displayed in table 2, which outlines Commerce's international functions and the missions of responsible operating units.

Table 2. International Function by Commerce Operating Unit [a]

	Commerce Operating Unit								
International Function	**ITA**	**USPTO**	**NIST**	**EDA**	**ESA**	**BIS**	**MBDA**	**NOAA**	**NTIA**
Represent the nation in international forums	●	●	●		●	●		●	●
Formulate policy and negotiate agreements	●	●	●			●		●	●
Manage international cooperation and exchanges	●	●	●		●	●		●	
Promote U.S. exports and commercial advocacy	●	●	●			●		●	●
Promote U.S. international competitiveness	●	●	●	●		●	●		
Promote U.S. standards	●		●						●
Regulate trade and investment	●					●			
Collect, analyze, and disseminate trade data	●				●				
Protect U.S. intellectual property rights	●	●							
Mitigate negative effects of international trade	●			●					
Enforce international law and U.S. treaty obligations						●		●	
Combat unfair trade practices	●								

Source: OIG analysis, based on bureau information
[a] Commerce's operating units are International Trade Administration (ITA), U.S. Patent and Trademark Office (USPTO), National Institute of Standards and Technology (NIST), Economic Development Administration (EDA), Economics and Statistics Administration (ESA), Bureau of Industry and Security (BIS), Minority Business Development Agency (MBDA), National Oceanic and Atmospheric Administration (NOAA), and National Telecommunications and Information Administration (NTIA).

The Department began improving coordination among its operating units by launching the "CommerceConnect" initiative in 2009 to help U.S. businesses be more competitive and create jobs by coordinating and providing a portfolio of government assistance to businesses via the Internet, a national call center, and field offices throughout the country. However, a more structured and broad-based approach is needed to adequately address Commerce-wide coordination efforts and address possible duplication of activities, as reported in a recent Government Accountability Office (GAO) study.[4] The Department also faces the following specific challenges to help promote trade and create jobs:

- **Repatriate Manufacturing Jobs in America.** Repatriation of jobs that have moved abroad will help create U.S. jobs and improve the economy. The House Appropriations Committee has recently proposed tasking the Secretary with establishing a Repatriation Task Force to examine incentives needed to encourage U.S. companies to bring manufacturing and research and development jobs back to the United States. The Senate Appropriations Committee also proposed giving the Department the task of developing a national manufacturing strategy. [5]

- **Appropriately Allocate Resources to Support the NEI**. ITA is involved with both the NEI and the potential reorganization/consolidation of U.S. export promotion

[4] GAO. March 1, 2011. *Opportunities to Reduce Potential Duplication in Government Programs, Save Tax Dollars, and Enhance Revenue*, GAO-11-318SP. Washington, D.C.
[5] See the pending House appropriations bill for FY 2012 (H.R. 2596) and Senate Report 112-78 accompanying the Senate appropriations bill for FY 2012 (S. 1572), as reported by the respective Appropriations Committees.

activities. As part of the NEI, ITA intends to promote U.S. exports by increasing the number of trade specialists, outreach, and guidance to small- and medium-sized businesses capable of entering new markets, as well as the number and size of trade missions. The bureau's proposed FY 2012 budget provides additional funding to carry out NEI activities. With its increased workload, ITA must effectively manage its resources to meet the established goal of doubling U.S. exports by 2014 and must also fulfill congressional reporting requirements.

- **Reduce the Patent Backlog, Improve Processing Times, and Effectively Implement Patent Reform**. USPTO fosters innovation and protects inventors' intellectual property rights by registering trademarks and granting patents. Patents can help make initial investments in an invention worth the effort and expense; a granted patent can help investors secure capital, create or expand businesses, and create jobs. Over the past decade, the patent backlog has doubled, and the completion of patent reviews has increased from an average of 2 years to almost 3 years. Long waits for application decisions could negatively impact innovation, economic development, and job growth. USPTO continues to contend with the large number of patents awaiting review, making it imperative that USPTO maintain its focus and increase its efforts to address these challenges.[6]

  USPTO also faces new administrative and operational challenges in implementing the recently enacted Leahy–Smith America Invents Act (Pub. L. No. 112-29). This act contains many changes to patent laws and USPTO practices, such as moving the United States to a "first-to-file" system, creating new proceedings for review of granted patents, allowing USPTO the authority to set fees, and imposing a 15 percent surcharge on all patent-related fees. These changes—many of which must be made between 10 days and 12 months of the enactment—will require USPTO to issue new regulations, set new fees, modify current business processes, and conduct new studies and report on them to Congress.

- **Improve Technical and Financial Assistance Programs to Promote Job Growth in the United States.** The two departmental operating units that provide assistance to U.S. companies are NIST and EDA. NIST fosters trade through a variety of programs that support business innovation, promote research, and help companies improve their business processes. The $125 million-per-year Manufacturing Extension Partnership, for example, works with small and mid-sized U.S. manufacturers to help create and retain jobs, increase profits, and save time and money through a public/private partnership. In FY 2011, EDA provided approximately $250 million in grants and assistance programs that focus on helping businesses in disadvantaged and distressed communities and mitigating the negative impacts of trade. EDA grants enhance the export potential of U.S. businesses, and increase the competitiveness of

[6] USPTO reports that the backlog of patent applications has decreased from 716,428 in October 2010 to 683,991 in August 2011 (www.uspto.gov/dashboards/patents/kpis/kpiBacklogDrilldown.kpixml).

regions across the country. Our office has identified needs to improve program and grant management in these areas.

- **Ensure the Elimination of Important Surveys Does Not Adversely Affect the Formulation of Vital National Social or Economic Indicators.** Composed of the U.S. Census Bureau and the Bureau of Economic Analysis (BEA), ESA is responsible for collecting and maintaining key statistics on the U.S economy, international trade, and investment. The constrained budget environment may result in an adverse impact on this critical mission. For example, the Department has proposed eliminating the Census Bureau's 2012 Economic Census, which would affect the quality and production of major economic indicators such as BEA's National Income and Product Accounts and Gross Domestic Product, and the Bureau of Labor Statistics' Producer Price Index. The Department and Congress need to ensure that the elimination of these important surveys does not have an adverse effect on the formulation of vital national social or economic indicators.

The entire Department has to effectively and efficiently coordinate efforts and manage resources to meet the goals of the various trade and export initiatives, avoid program duplication, and maximize resources. Workforce planning, program improvements, and well-defined missions can assist with meeting those goals. If all operating units do not successfully manage their programs and coordinate efforts, valuable resources may be wasted, jeopardizing Commerce's ability to help U.S. companies increase exports and strengthen the national economy.

Correct Unfair Trade Practices and Protect Our National Security Through Enforcement Activities

While trade promotion is an essential part of the its mission, the Department must also maintain strong trade enforcement programs so that the United States can thrive in the global marketplace. Long-term, sustainable U.S. economic growth depends on the effective enforcement of trade agreements and laws to ensure U.S. companies can compete fairly in the international arena. ITA's Import Administration works to counteract unfair trade practices by U.S. trading partners, such as dumping and foreign subsidies, while its Market Access and Compliance unit works to ensure compliance by these same trading partners with international trade agreements and to resolve trade disputes.

Additionally, the Department facilitates trade in a manner that protects U.S. national interests. This mission is carried out by BIS, which protects national security interests by regulating the export of controlled goods and technology to prevent their acquisition by our country's adversaries. While each bureau vigorously carries out its respective missions, BIS faces the greatest challenge as it contends with fundamental changes to the country's export control system.

BIS is currently helping to implement the long-term goals of the Export Control Reform Initiative. In the near term, the initiative will result in the transfer of a significant number of export-controlled items from the jurisdiction of the State Department's Directorate of Defense

Trade Controls to BIS. The bureau will need to ensure that its resources are adequate to handle the increased workload. In addition, BIS will need to increase its outreach efforts to educate exporters about changes in export control regulations and provide the necessary guidance to ensure compliance with new regulations. Finally, with more goods and technology shipped under its jurisdiction, BIS will need to increase its enforcement efforts to detect, prosecute, and deter violations of the regulations. Effective administration and enforcement of the revised dual-use export regulations will be critical. Otherwise, U.S. companies risk losing export sales because of delays in processing license applications, and controlled goods and technology may be shipped to unsuitable end users by exporters who willfully or unintentionally violate the regulations.

Improve Regulatory Reviews to Protect and Promote Public Interests

The Department plays a vital role in regulating marine fisheries and protected resources (NOAA), patents and trademarks (USPTO), and the import and export of goods (ITA and BIS). In August 2011, the Department submitted its *Plan for Retrospective Analysis of Existing Rules* in response to Executive Order 13563, *Improving Regulation and Regulatory Review*, issued January 18, 2011. In this order, the President stated:

> Our regulatory system must protect public health, welfare, safety, and our environment while promoting economic growth, innovation, competitiveness, and job creation. It must be based on the best available science….It must take into account benefits and costs…. It must measure, and seek to improve, the actual results of regulatory requirements.

Conducting adequate cost-benefit analyses and identifying meaningful performance measures for regulatory activities are critical to avoid overburdening affected industries, as required by the President's Order. This is especially important for NOAA to consider. In recent years, members of the fishing industry and congressional leaders from the New England region have repeatedly questioned the costs and benefits of certain fishery regulations. Last year, we also reported that balancing NOAA's goals of protecting the environment and supporting the fishing industry was one of the top management challenges facing the Department.

NOAA has committed to working with stakeholders and Congress to improve performance metrics for its U.S. fishery management policies and to revisit previous cost-benefit analyses as part of the retrospective regulatory analysis. USPTO, ITA, and BIS also plan to incorporate cost-benefit analyses as part of their regulatory reviews. To implement the President's Order, the Department needs to ensure the quality of cost-benefit analyses conducted by these regulatory operating units and appropriate actions taken to revise/update regulatory activities.

Challenge 2:

Reduce Costs and Improve Operations to Optimize Resources for a Decade of Constrained Budgets

OMB has issued FY 2013 budget guidance directing federal agencies to provide scenarios with their FY 2013 requests reflecting funding at levels 5 and 10 percent below their FY 2011 enacted budgets. At the same time, OMB encouraged agencies to develop programs supporting economic growth. OMB has stated that it will be difficult, but possible, to find savings to support these investments in growth; agencies have to cut or eliminate low-priority and ineffective programs while consolidating duplicate ones, improve program efficiency by driving down costs, and support fundamental program reforms that will generate the best outcomes per dollar spent.

The pending House appropriations bill for FY 2012, as reported by the Committee on Appropriations, would reduce the Department's appropriations by 6 percent compared with FY 2011—and was almost 20 percent below the administration's FY 2012 budget request. In addition, the Joint Select Committee on Deficit Reduction is seeking $1.5 trillion in government-wide savings over the next 10 years. The Committee could target additional cuts in specific Commerce programs; if the Committee fails to agree on spending reductions, or the Committee's proposal is not enacted by January 15, 2012, across-the-board cuts will begin with the FY 2013 budget. Some Commerce programs, both small and large, have already been deeply affected by constrained budgets:

- The Department requested $22.6 million for two key IT security strategic initiatives intended to enhance system monitoring and detect and respond to cyber attacks. However, due to budget uncertainties, the Department is identifying alternative funding sources internally, and has to carefully prioritize the elements of both initiatives so that funds can be used to implement the most critical elements first. Information technology and cybersecurity are discussed in detail in challenge 3.
- Based on the current FY 2011 funding level, NOAA expects a potential coverage gap between its two new polar weather satellites—the National Polar-orbiting Operational Environmental Satellite System (NPOESS) Preparatory Project, scheduled for launch in October 2011, and the first Joint Polar Satellite System satellite, scheduled for launch in February 2017. According to NOAA's studies, its weather forecasting at 5, 4, and 3 days before weather events could be significantly degraded during the coverage gap. We discuss NOAA's ability to minimize the gap in severe weather forecasting in challenge 5.

As the Department prepares for an extended period of tighter budgets and decreased spending, it is more important than ever to target waste, reduce inefficiency, and ensure that taxpayers' dollars are being spent wisely. OIG has reviewed and recommended improvements in several areas of the Department's operations. Opportunities to save money and optimize efficiency lie in such diverse areas as administrative operations; improper payments; program and grants management; 2020 decennial census planning; and the ongoing renovation of the Department's Washington, D.C., headquarters.

Implement and Expand Initiatives to Improve Operational Efficiency and Economy

In view of the constrained budget environment for FY 2012 and beyond, the Department has already started looking for additional savings by reforming the way it does business.

Commerce has an initiative in place to save $143 million in administrative costs in FY 2011 and 2012 (table 3). Savings will be realized in part through an $86 million reduction in facilities and information technology as well as human resources. For example, Commerce is one of more than 12 federal agencies that have received approval to authorize voluntary early retirement and separation incentives for employees who volunteer to retire from federal service. The Department has also committed to close 22 of its 56 data centers by December 31, 2012, as part of the federal government's long-term plan to lower operating costs by consolidating data centers.[7]

Table 3. Commerce's Cost-Saving Initiatives

Initiatives	Savings in FYs 2011–2012[a]
Acquisition: Strategic Sourcing	$ 25 million
Acquisition: Contract Management	$ 32 million
Other Administrative Activities	$ 86 million
Total Savings	$143 million =========

Source: Department of Commerce
[a] Although some of the initiatives began in FY 2011, the total administrative savings are estimated for FY 2012.

The remaining $57 million in savings will be derived from changes in the Department's acquisition activities. As we discuss in challenge 4, the Department needs to handle acquisitions more effectively and efficiently; it can do so in part by reducing the use of high-risk acquisition contracts. The Department reported it has already saved about $4 million by focusing on strategic sourcing for six services: cellular service, office supplies, personal computers and accessories, print management and energy, small package delivery, and support services. But relentless management attention and active oversight of reported savings are critical to achieving the Department's goal.

The Department demonstrated leadership in taking these cost-saving initiatives; however, the budget environment will require that Commerce continue to search for similar opportunities to optimize efficiency and cut operational costs. For example, in our audit of the Department's motor pool operations, we found that Commerce needed more effective oversight of its vehicle inventory, records, and cost; over 730 fleet credit cards—with transactions totaling over $1 million—could not be matched to a motor pool vehicle. Our recommendations to improve the inventory and use fraud monitoring tools to prevent or detect credit card abuses will improve the economy and efficiency of motor pool operations. In addition, the Census Bureau, in an effort to reduce costs and improve the quality of the hundreds of surveys it executes annually, plans to realign its 12 regional offices into 6. An annual cost saving of $15–18 million is projected once this realignment is complete.

[7] Department of Commerce. September 28, 2011. *2011 Data Consolidation Center Plan and Progress Report* (draft).

Strengthen Oversight of Improper Payments for Additional Recoveries

The Department can increase efforts to implement the Improper Payments Elimination and Recovery Act of 2010 (IPERA) and increase the dollars it recovers from improper payments. The law defines improper payments as payments that either should not have been made or that were made to ineligible recipients or for ineligible goods and services. Our 2011 report on improper payments highlighted the opportunity to test payments for almost $6 billion in FY 2010 grants. Commerce can recover more improper payments by testing more types of payments, lowering its dollar limit for testing payments, beginning testing sooner, and following the guidance of OMB and IPERA to determine which programs may have the most risk of losses due to improper payments.

IPERA expanded the criteria for determining whether a program may be susceptible to improper payments, lowered the review threshold for programs and activities from $500 million to $1 million in payments, and expanded the types of programs required to conduct recovery audits, if cost-effective, to include any contract, grant, or cooperative agreement. OMB also has lower dollar thresholds for testing potential improper payments. For example, according to OMB's updated criteria, single payments of more than $5,000 to an individual or $25,000 to an entity can be tested for high-risk programs. By lowering the threshold for testing, agencies have a better chance of detecting and recovering improper payments. Currently, the Department only tests single payments greater than $100,000. While focusing on a few high-dollar payments addresses the very highest risk, the Department does not have an adequate assessment of the total improper payments.

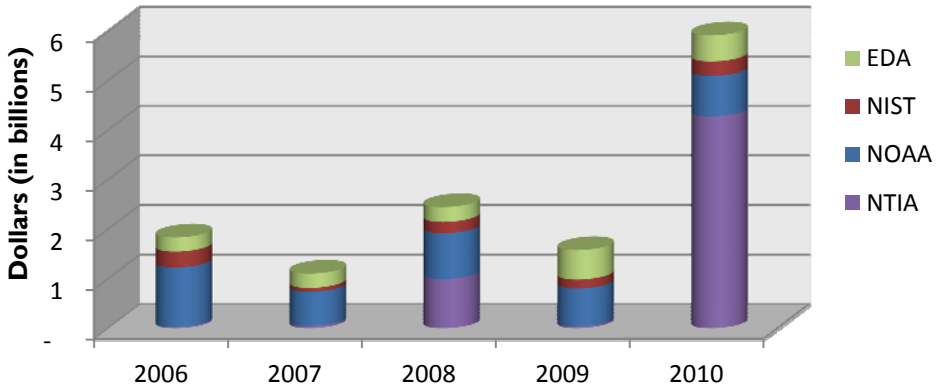
Since FY 2006, OMB guidance on improper payment testing has encouraged, but not required, that grants be included in recovery audits, which are post-payment reviews designed to identify improper payments and return the payments to the Treasury. The Department, however, excludes from these reviews grants, travel payments, bank and purchase cards, procurements with other federal agencies, and procurements with non-federal entities unless the associated contracts have expired. Because the Department did not elect to include grants in its recovery audits from FYs 2006–2010, annual amounts of $1–6 billion were not tested. For these fiscal years, Commerce identified and reported only one contract recovery—for less than $100,000—from a recovery audit. We have recommended that the Department include grant funds in future audits, increasing the chance that significant erroneous payments will be found, reported, and recovered. In response, the Department, beginning in FY 2011, has expanded its payment recapture audits to include grants and other cooperative agreements. An independent contractor is currently performing a Department-wide payment recapture audit of closed grants and other cooperative agreements. The Department should also consider including ongoing grant and procurement activities in its review to ensure timely recovery of any improper payments made. Deferring improper payment reviews until contracts have been closed—years after payments have been made—undercuts IPERA's requirement to give priority to the most recent payments.

Reduce the Risk of Misuse, Abuse, or Waste of Federal Funds Awarded to Grantees

The Department's annual grant obligations increased from approximately $2 billion in FY 2006 to almost $6 billion in FY 2010, as shown below in figure 1 (the additional $4 billion was due to Recovery Act funds). As of June 2011, the Department reported about $10 billion accumulative outstanding obligations, more than half of which were for grants. Strong oversight and program management are needed to ensure responsible spending and timely de-obligation of unneeded funds.

Shrinking grant management budgets will in turn challenge pre- and post-award grant processes. Pre-award application processes need to target for funding only the most highly qualified applicants performing mission-critical functions. Post-award processes have to focus on obtaining the maximum benefit for taxpayer dollars through program office oversight of grant recipients' performance, compliance with program rules, and reporting, as well as ensuring the financial integrity of programs by overseeing expenditures, matching share, and indirect costs.

Figure 1. Grant Awards, 2006–2010[a]



Source: Commerce Office of Acquisition Management, Grants
[a] Office of Secretary, Minority Business Development Agency, and International Trade Administration totals were below $75M and are too small to display on the scale of this graph.

The diversity and duration of Commerce grant programs (grants can have a performance period of 3 years or more) also highlight the Department's need to examine options such as the following to standardize and streamline its management processes:

- Better use of OIG audits and single audit reports (which are performed by independent audit firms) that include financial and compliance testing to evaluate grantees during grant implementation so that emerging issues can be promptly identified and remedied. Examples of these issues include grantees needing better cash management, improved procurement practices, and more accurate financial reporting. Since FY 2009, OIG audits and single audits have identified more than $56 million in questioned costs and funds to be put to better use.

- Consolidation of the Department's three separate grants management systems into a single system to improve efficiency and reduce the need for grants personnel to manually correct errors or inconsistencies. Currently, the Department's grants and contracts personnel have to perform many manual procedures to compensate for errors or inconsistencies in the grants and contracts systems. Updated systems could result in a more efficient use of time and resources, as well as ensure consistently high data quality and lower error rates. This will help the Department meet future requirements of the Government Accountability and Transparency Board that is being formed in response to an Executive Order by the President.

Continue Oversight of the Broadband Technology Opportunities Program

At some $4 billion, the Broadband Technology Opportunities Program (BTOP) represents a significant investment of federal funds to develop and deploy broadband services nationwide. The success of this program depends on the efforts of the National Telecommunications and Information Administration (NTIA)—along with its grant management partners, NOAA and NIST—and the rigor and strength of its oversight. The uncertain funding for BTOP oversight in FY 2012 and beyond raises significant concerns about NTIA's ability to adequately oversee the program in the future. BTOP is a high-risk program that requires continuous, long-term oversight for several reasons. The approximately 230 BTOP awards represent the largest and most complex grant program NTIA has ever overseen. These grants went to a diverse group of recipients, many of them first-time federal award recipients. As of September 30, 2011, only about 19 percent of BTOP funds had been disbursed; the potential for fraud, waste, and abuse associated with such a large dollar amount of awards will increase substantially as recipient spending rises. As a result of the current spending pace, we are concerned that some grantees will not complete projects within three years of the grant issuance date. This completion goal is required by NTIA, as well as a recent memo by OMB requiring agencies to ensure that recipients complete all Recovery Act spending by September 30, 2013. Meeting completion and spending goals will require close monitoring by management.

We have issued several reports on the program underscoring the need to continue active program oversight, and we have provided training and guidance to program staff, contract staff, and grant recipients. We will continue to track BTOP's progress toward achieving program goals and its compliance with statutory and programmatic requirements.

Apply Lessons Learned from 2010 Decennial to Planning for the 2020 Census to Avoid Cost Overruns

While decennial field operations were successfully completed in 2010, if the next census uses the same design its life-cycle cost estimate ranges from a low of $22 billion to a high of $30 billion. Given these projections, Census has to fundamentally change the design, implementation, and management of the decennial census to obtain a quality count for a reasonable sum of money.

The decade's early years are critical for deciding on a design and for implementing these changes. According to the bureau, the research and testing phase determines how much change can be made to decennial operations; this phase has to occur early in the decade to reduce cost and risk. With funding constraints likely, the bureau needs to prioritize its research and testing to determine the feasibility, cost, and data quality impacts of proposed census design changes.

> *"Our historical review had found that the census costs will have escalated by more than 600 percent over the period 1960–2010, even after adjusting for inflation and the growth in housing units."*
>
> National Research Council
> *Envisioning the 2020 Census (2010)*

This summer, we issued our final report to Congress on the 2010 decennial. In the report, we outlined several challenges the Census Bureau has to effectively address in time for the 2020 Census:

1. revamp cost estimation and budget processes to increase accuracy, flexibility, and transparency;
2. use the Internet and administrative records to contain costs and improve accuracy;
3. implement a more effective decennial test program using existing surveys as a test environment;
4. effectively automate field data collection;
5. avoid a massive end-of-decade field operation through continuous updating of address lists and maps; and
6. implement improved project planning and management techniques early in the decade.

Protect Against Cost Overruns and Schedule Slippages for Headquarters Renovation

For the first time in its 79-year history, the Herbert C. Hoover Building (HCHB)—Commerce's Washington, D.C., headquarters—is undergoing a comprehensive renovation. The project, currently scheduled for completion in 2021, has a budgeted cost of $958 million. Although the General Services Administration (GSA) owns the building, the Department is responsible for funding tenant improvements, such as

- upgrading all mechanical, electrical, and safety systems to alleviate code deficiencies, conform to industry standards, meet GSA guidelines, and extend the building's useful life;
- increasing usable space;
- increasing energy and environmental efficiencies; and
- incorporating security improvements.

The President's FY 2012 budget included over $16 million for Commerce to fund tenant improvements. However, the pending House appropriations bill for FY 2012 would reduce the Department's requested appropriation for the renovation by almost $1.2 million. This

reduction, along with budget cuts to meet OMB's FY 2013 guidance and a decade of restricted spending, will increase the risk of delays and could cause the project to miss the scheduled completion date. We will continue our ongoing review of construction activities and decisions critical to the renovation's success.

Commerce also needs to continue to work closely with GSA as an advocate for the operating units housed in HCHB since the project has the potential to disrupt Commerce operations and adversely affect its workforce. We are overseeing how effectively Commerce is working with GSA, and we will examine the project's cost schedules, performance, and any health or safety issues that may emerge as the renovation continues.

Challenge 3:

Strengthen Department-Wide Information Security to Protect Critical Information Systems and Data

The Department of Commerce—along with other government agencies, private industry, and the public—relies on its 280 IT systems to perform critical actions and provide vital information. The Department's varied IT functions include processing census and economic data, managing patent and trademark applications, developing trade information, delivering meteorological information and severe weather alerts, modeling atmospheric conditions for weather and climate forecasting, and controlling weather satellites.

In recent years, the federal government—and the Department in particular—have increasingly taken advantage of Internet-based technologies to interconnect IT systems and conduct business with the public. According to the Department's June 2011 green paper,[8] today the Internet has become central to the nation's mission to "promote growth and retool the economy for sustained U.S. leadership in the 21st century." As this trend continues, cyber attacks on Internet commerce, vital business sectors, and government agencies have grown exponentially. In 2010, an estimated 55,000 new viruses, worms, spyware, and other threats bombarded the Internet daily; according to OMB's FY 2010 Federal Information Security Management Act of 2002 (FISMA) report to Congress, the number of cyber incidents reported for federal systems alone in FY 2010 had increased by approximately 39 percent over FY 2009.

To address cybersecurity threats, the Department is playing a leading role in developing public policies and private-sector standards and practices that can markedly improve the United States' overall cybersecurity posture. For instance, the President's National Strategy for Trusted Identities in Cyberspace has tasked the Department this year to coordinate federal government and private-sector efforts to raise the level of trust associated with the identities of individuals, organizations, networks, services, and devices involved in online transactions.

But Commerce's own IT systems are constantly exposed to an increasing number of cyber attacks, which are becoming more sophisticated and more difficult to detect. And clearly, cybersecurity threats are exacerbated by the globally interconnected and interdependent architecture of today's computing environment. As a result, security weaknesses in one area may provide opportunities for exploitations elsewhere. With this in mind, the Department must continue to improve the effectiveness of its security measures to protect the confidentiality, integrity, and availability of critical systems and information.

Continue Working to Improve IT Security by Addressing Ongoing Security Weaknesses

For our FY 2010 FISMA audit report, we evaluated 18 Commerce IT systems and concluded that the Department's information security program and practices have not adequately secured

[8] *Cybersecurity, Innovation and the Internet Economy*, The Department of Commerce Internet Policy Task Force, June 2011.

Department systems. The report presented major findings that required senior management attention, as shown in table 4.

Table 4. OIG's FY 2010 FISMA Findings Show Significant Weaknesses in Commerce's Systems

Measure	Finding
High-risk vulnerabilities identified	Extensive vulnerabilities in system software suggest considerable likelihood of a security breach; patch management and vulnerability scanning practices are not effective. Scans identified significantly more high-risk vulnerabilities than were previously known.
Configuration settings defined and documented	Only 4 of 18 systems (1 high-impact) adequately defined and documented secure settings for operating systems and major applications. This is a long-standing deficiency in a crucial security practice.
Configuration settings securely implemented	Only 1 of 18 systems securely configured settings for its operating systems.
Security weaknesses and corrective actions adequately reported and tracked	Most systems exhibited significant deficiencies in reporting and tracking security weaknesses. As a result, the information about corrective action that the Department is using for performance measurement is inaccurate and inconsistent.
Contingency plans adequately tested	Six of 18 systems' contingency plans were inadequately tested, including 2 systems that support the primary mission-essential weather forecasting function; testing of these 2 systems' contingency plans had not been done since FY 2007.
Alternate processing sites arranged	Five systems that are required to have alternate processing sites do not have them, including three systems—two high-impact and one moderate-impact—that support weather forecasting. Documents attribute the lack of alternate sites primarily to budget constraints.

Source: OIG, 2010 FISMA report

According to OMB's FY 2010 FISMA report to Congress, while the Department reported spending more than $165 million on IT security, its standing related to IT security posture is generally lower compared to other federal agencies (table 5).

Table 5. Summary of OMB FY 2010 FISMA Report to Congress (Selected IT Security Key Metrics) [a]

Key Metrics	Commerce's Standing Among 24 Agencies (From the Top)
Smartcard issuance	19
IT assets with automated inventory capability	18
IT assets with automated vulnerability management capability	20
Portable computers with encryption	10
Security training for users with significant security responsibilities	16
Security training for new users	15

Source: OMB

[a] Information in the table is based on data provided to OMB by the agencies, not agency inspectors general.

Last year, we recommended that Commerce revise its IT security policy by providing specific implementation guidance that will ensure more effective and consistent practices across the

Department. Further, we recommended the Department increase management attention to ensure that the deficiencies we identified are rectified Department-wide.

In responding to our recommendations, the Department developed an action plan to address the security weaknesses we identified; in the past year, the Department has taken several steps toward improving IT security. It has continued to enhance IT security workforce training, has increased collaboration between Department and operating unit chief information officers, and is currently revising its IT security program policy to address recommendations from our FY 2010 FISMA audit report. The Department has also taken the significant step of including information security measures in the Deputy Secretary's quarterly balanced scorecard review with bureau heads during FY 2011.

While we believe these efforts should strengthen the Department's IT security program, much more needs to be done. Until the Department successfully implements the items in its action plan, we can expect to find recurring security weaknesses—in both agency and contractor systems—that undermine the Department's ability to defend its systems and information, and that require greater attention and commitment from the Department's senior management. In fact, our ongoing FY 2011 FISMA work continues to find significant security weaknesses in Department and contractor systems. Our review of the Department's web applications identified significant security weaknesses that put them at risk of cyber attack, and our assessment of the selected Department IT systems found continued lapses in implementing critical security controls related to secure configuration settings, auditing and monitoring, and controlling access.

Implement Security Policy Effectively Through Consistent, Proactive Management

Our findings this year reaffirm the need for increased management attention by the Department's Chief Information Officer, senior operating unit leadership, and senior program officials to ensure security policy and practices, including the associated performance evaluation, are applied consistently and effectively across the Department. For example, in 2010, the Department's Office of the Chief Information Officer and the Office of Human Resources issued joint memorandums to address performance management and accountability issues identified in our 2009 IT security workforce audit. These memorandums provided specific performance requirements to be incorporated in performance plans for individuals holding critical IT security roles within the Department. If fully implemented, this would be a positive step toward increasing management accountability to the Department's IT security posture. However, we reviewed a sample of FY 2010 and FY 2011 performance plans for authorizing officials, system owners, and other individuals holding critical IT security roles in two operating units, and found that specific requirements for these roles are not consistently incorporated in some of the performance plans. We found plans that did not incorporate any of the requirements and other plans that incorporated only some. The Department, therefore, needs to determine the extent to which operating units are incorporating these requirements into their performance plans and whether the incorporation is producing the desired effect.

The Department also faces the challenge of transitioning from a traditional certification and accreditation process, which assessed a system's security controls every 3 years, to NIST's

current risk management framework, which emphasizes continuous monitoring of security controls. The Department is modifying its policy to adapt to the risk management framework and taking two critical initiatives to secure Commerce's cyber infrastructure:

- In response to a mandate by OMB, the Department is planning to strengthen its networks' peripheral security protection with Trusted Internet Connections (TICs) equipped with monitoring devices provided by the Department of Homeland Security. Commerce has identified hundreds of Internet connection points that need to be secured. Currently, the majority of operating units have awarded a contract to implement TIC protection during 2011 or 2012; however, NOAA's timetable for implementing TIC protection extends all the way to 2014. Considering the vulnerabilities that we have identified in Commerce systems and increased threats on the Internet, management should strive to accelerate the TIC implementation timetable.
- The Department is planning to implement two key elements of its IT security strategic plan developed in FY 2010: enterprise continuous monitoring capability and an enterprise cybersecurity center. These initiatives are critical to proactively protecting Commerce networks. However, as we discuss in challenge 2, Department management needs to carefully prioritize the elements of these initiatives so that the limited funds that are available can be used to implement the most critical elements first.

Challenge 4:

Manage Acquisition and Contract Operations More Effectively to Obtain Quality Goods and Services in a Manner Most Beneficial to Taxpayers

The Department's acquisition and contract operations are critical to its ability to effectively fulfill its mission. In FY 2010, the Department obligated nearly $4 billion through more than 26,000 contract actions[9] to acquire a wide range of goods and services to support mission-critical programs, including satellite acquisitions, intellectual property protection, broadband technology opportunities, management of coastal and ocean resources, information technology, and construction and facilities management. Table 6 illustrates the growing dollar amounts that Commerce's operating units have obligated through contracts in recent years.

Table 6. Contract Actions by Operating Unit, FY 2008 Through 2010 [a]

	FY 2008		FY 2009 [b]		FY 2010 [b]	
Commerce Acquisition Office	**Contract actions**	**Dollars (in millions)**	**Contract actions**	**Dollars (in millions)**	**Contract actions**	**Dollars (in millions)**
NOAA	15,625	$990	16,831	$1,159	16,087	$1,624
Census	2,267	$681	3,332	$1,308	3,187	$1,312
USPTO	1,794	$489	1,776	$384	1,619	$431
NIST	4,481	$233	4,768	$286	4,992	$505
Office of Secretary	903	$79	768	$63	870	$53
Total	25,070	$2,472	27,475	$3,200	26,755	$3,925

Source: Department of Commerce Office of Acquisition Management
[a] Dollar amounts are rounded.
[b] FY 2009 and 2010 include $361 million and $754 million, respectively, in contract actions obligated under the American Recovery and Reinvestment Act. These years also reflect significant contract spending related to the 2010 decennial census.

In order to maximize its investments, the Department needs to strengthen its acquisition and contract management practices. Acquisition management is not just the act of awarding a contract; while a contract is a product of an acquisition, there is an entire process that begins with identifying a mission need and developing a comprehensive strategy to fulfill that need through a thoughtful, balanced approach that considers cost, schedule, and performance. While the Department has made some progress in this important area, our audits continue to find weaknesses in how the Department plans, administers, and oversees its contracts and acquisitions.

Commerce has made important efforts to address these challenges. In June 2010, the Secretary, in an effort to strengthen and improve the quality of Commerce's acquisitions, initiated a comprehensive review of the Department's acquisition processes. The study found fragmented, overlapping, and inadequate departmental oversight and unclear roles and responsibilities of the offices involved in acquisitions. These problems allowed the operating units to initiate large acquisitions without the benefit of Department-level governance and insight. While the Department has established working teams to develop and implement solutions to these

[9] Contract actions include contracts, delivery orders, task orders, and contract modifications.

problems, it is early in the process. Commerce hopes to have a framework in place for a Department-wide acquisition improvement project by the end of October 2011. However, developing the framework is just the first step in implementing solutions to the problems identified in the Secretary's acquisition study. Commerce must follow through on the Secretary's commitment—as well as take other needed actions to address the weaknesses we have identified—to establishing an efficient and effective acquisition process.

Develop and Retain a Qualified Acquisition Workforce

The Department needs to maintain an acquisition workforce that can effectively oversee its expanding and increasingly complex contract practices. As we reported in our September 2010 memorandum on Commerce's Recovery Act contracts and grants workforce, the Department claimed that almost all contracting personnel have met the Office of Federal Procurement Policy's requirements for job-related certifications and continuous learning. Nonetheless, recruitment, training, and retention still pose risks to the Department's ability to meet its increasing acquisition workload. For example, in FY 2010, the Department's attrition rate was 15 percent for contracting officers and 6 percent for contracting officer representatives and project managers. The Department estimates that maintaining a sufficient number of contract staff will require a 41 percent increase in contracting positions, a 56 percent increase in contracting officer representatives, and a 77 percent increase in project managers over the next 4 years.

In addition to staff lost through attrition, between FYs 2009 and 2019, 54 percent of the senior-level acquisition employees in the Department's contracting series will be eligible to retire. According to the Department, it lacks a sufficient pipeline of entry- to mid-level professionals with the knowledge and leadership skills to adequately sustain operations during the projected retirement wave. As experienced professionals leave the Department, Commerce must implement a strategy to keep its workforce at the needed size and skill levels to support its mission.

> *By 2019, the Department expects to lose **over half** of its senior acquisitions work force to retirement.*

Ensure High Ethical Standards in the Acquisition Workforce and in Procurement Practices

Prevention and deterrence of ethical violations in any organization depends upon internal controls, oversight, and robust ethics awareness and training programs. Government contracting is risky by nature, and Commerce employees in contract-related positions represent the first—and best—line of defense in ensuring program integrity by promptly recognizing and reporting ethics violations and fraud indicators. Their vigilance, along with effective internal controls, is essential to combating fraud.

Because federal acquisition professionals have considerable control over how and to whom contracts are awarded, the profession has an inherent need for strong ethics monitoring and effective internal controls. Ethics training should include discussions of actual ethics violations

and "what-if" scenarios illustrating situations to avoid. Staff should also receive training on how to avoid the appearance of a conflict of interest. As an added safeguard, Commerce ethics officials should periodically review the ethics programs of contractors to help identify and prevent conflicts or violations.

Historically, our investigations have identified the need for more vigilant oversight and stronger process controls to detect and prevent procurement fraud, waste, and abuse within the Department and among its fund recipients and contractors. The following examples of OIG investigative findings illustrate the need for Commerce's continued attention to procurement integrity issues:

- questionable sole sourcing practices by local program officials against advice of counsel,
- regional officials steering contracts to acquaintances,
- improper splitting of purchase card transactions to circumvent spending limits, and
- improper communications with unsuccessful contract bidders.

Another control that the Department needs to strengthen is its suspension and debarment program, which would help to ensure Commerce awards contracts and grants only to responsible parties. In January 2011, we reported that the Department's ability to safeguard itself against awarding contracts and grants to improper parties was limited by delays in its suspension and debarment decisions. The Government Accountability Office has also recently issued a report disclosing that the Department needed to improve its suspension and debarment practices.

In April 2011, the Department made its first decision to debar a contractor (or any other party) in over 15 years. In this case, we recommended debarment to Commerce's senior procurement officials because the contractor had been convicted of conspiracy to commit money laundering and sentenced to 9 years in prison. But a more than 3-year lapse between our initial recommendation to bureau officials and the Department's final action highlights the problems with the Department's approach to suspensions and debarments. Commerce's current Suspending and Debarring Official has begun to develop the processes and policies that form the foundation of a successful suspension and debarment program but, despite this recent progress, creating an efficient and durable program remains a challenge.

Strengthen Processes to Govern the Appropriate Use of High-Risk Contracts and to Maximize Competition

Recent OMB contracting initiatives promote agency use of competition and fixed-price contracts and require agencies to effectively analyze prices to mitigate risks for noncompetitive contract awards. In FY 2010, the Department obligated over $473 million under contracts considered to be high risk. High-risk contracts increase the risk of loss to the government because they

> *OMB defines **high-risk contracts** as contracts awarded noncompetitively or in which only one bid was received in response to a solicitation; cost-reimbursement contracts; and time-and-materials and labor-hour contracts.*

provide fewer incentives for contractors to control costs while requiring more government resources for oversight. New high-risk contracts awarded by Commerce represented 39.5 percent of the total dollar value of all new awards made in FY 2010. The Department was required to reduce the amount obligated for new awards of high-risk contracts by at least 10 percent in FY 2010. [10] However, our recent work illustrates that the Department needs to further improve its controls over high-risk contracts.

In our ongoing work, we have found that the Department has reduced its ratio of new high-risk contracts to total new contracts by over 15 percent. However, it did not report any FY 2010 cases to OMB in which a high-risk contract was reduced or eliminated. In fact, the dollar value of high-risk contracts actually *increased* significantly from 2008 to 2010. Specifically, total dollars obligated for new high-risk contracts in FY 2010 increased by $143 million (more than 43 percent) from FY 2008. Although there were no reported reductions or eliminations of high-risk contracts in FY 2010, operating unit acquisition officials have taken actions that should result in more extensive use of competitive fixed-priced contracts in FY 2011 and beyond.

Further, without strong oversight, cost-plus-award-fee (CPAF) contracts can represent an additional risk of loss to the Department. The award fee in CPAF contracts is intended to motivate excellence in contractor performance and can also serve as a tool to control program risk and cost. However, the monitoring and evaluation of contractor performance necessary under a CPAF contract requires additional administrative effort and cost; federal regulations provide that such a contract is suitable only when the expected benefits of the contract are sufficient to warrant the added effort and cost. As we noted in our FY 2011 report, *Top Management Challenges Facing the Department of Commerce*, during 2010 decennial operations, the Census Bureau paid contractors millions of dollars in contract award fees that were not sufficiently designed or administered as required by regulations. For instance, for the Field Data Collection Automation (FDCA) contract, there were award fees that were excessive and not supported by technical assessments of the contractor's performance. Our 2009 review of two FDCA contract performance periods revealed that the contractor received over 90 percent of the available fees despite serious performance problems noted by Census's technical reviewers. Furthermore, the fee determination process lacked key features—such as qualitative measures and midpoint assessments—for ensuring awards were appropriate.

Achieve Efficiency and Savings in Acquiring Goods and Services, and Improve Oversight and Tracking of Contract Savings

OMB's contracting initiatives require agencies to improve oversight of contractors and focus on cutting contract costs by using smarter buying practices. The Department was required to develop an acquisition savings plan to review its existing contracts and acquisition practices and reduce contract spending by 3.5 percent in FY 2010 and an additional 7 percent by the end of FY 2011. Commerce had claimed cost savings of several million dollars resulting from the implementation of several initiatives in its November 2009 acquisition savings improvement plan; however, we found that the actual amount of cost savings achieved to date is uncertain because many of the amounts reported by the operating units are unsupported or

[10] OMB Memorandum M-09-25, July 29, 2009. *Improving Government Acquisition*.

overestimated, and controls used to develop the methods for estimating savings are not adequate or well defined. Several factors contributed to this problem, including the lack of effective coordination, monitoring, and verification processes. For example, the Department's Office of Acquisition Management did not verify a nearly $18 million savings claim by the Census Bureau for its bulk purchase of scanners. We disagreed with the bureau's calculation of its claimed savings, which was based on list prices; a more realistic value for the savings would have been the difference between what Census would have spent for the scanners in the absence of the savings initiative—based on prices it would have received for smaller-quantity, regional purchases—and what it ultimately paid as a result of pursuing the initiative to consolidate the acquisitions into a single nationwide action.

The Department has taken steps to improve its monitoring and verification of the cost savings reported by the operating units' procurement offices. Specifically, it is developing a process to standardize the contract savings reporting among the procurement offices and also requiring each office to report monthly on its actual contract savings; the Department will validate a sample of the reported savings each quarter. While such efforts to improve reporting represent real progress, continued attention will be needed to meet the level of accountability called for by OMB. In challenge 2, we describe additional departmental actions to achieve cost savings by eliminating improper payments.

Deliver Cost Savings and Efficiency on Major IT Investments

The Department spends about 25 percent of its annual budget ($2.5 billion) on IT investments (excluding satellite spacecraft)—one of the highest percentages among all federal agencies. With such a large amount being spent on technology, the Department must watch for any opportunity to save money, improve efficiency, and prevent setbacks to these important projects.

> *The Department spends about **25 percent** of its annual budget on IT investments—one of the highest percentages among federal agencies.*

For instance, OMB requires agencies to compile the cost and schedule variances of major IT investment projects, the results of which are posted publicly on the government's IT Dashboard website for accountability and transparency. In its results, the Department reported serious cost and schedule problems concerning four NOAA IT investment projects, totaling $265 million of Commerce's annual investments. NOAA management also expressed concerns that these IT system deficiencies, if not properly resolved, could result in serious disruptions to its 24/7 weather forecasting capability or satellite support operations.

In addition, USPTO has embarked on its Patent End-to-End (PE2E) acquisition initiative to significantly improve or replace nearly all of its aging patent processing systems. At a cost of $130 million (by USPTO's current estimate), PE2E is the largest, most complex multi-year IT investment USPTO has undertaken in several years. In evaluating USPTO's management of the acquisition, we have identified challenges and offered recommendations related to improving long-term technical and acquisition planning, as well as strengthening USPTO's oversight of the project.

Challenge 5:

Manage the Development and Acquisition of NOAA's Environmental Satellite Systems to Avoid Launch Delays and Coverage Gaps

For the past 50 years, NOAA, in partnership with the National Aeronautics and Space Administration (NASA), has been responsible for developing and operating polar and geostationary environmental satellite systems. NOAA's environmental satellite operations and weather forecasting are designated primary mission-essential functions of the Department of Commerce because they directly support government functions the President has deemed necessary to lead and sustain the nation during a catastrophe. But NOAA's current constellation of polar and geostationary operational environmental satellites is aging, and its capabilities will degrade over time. As a result, the risk of gaps in critical satellite data is increasing.

> *"Polar-orbiting satellites are the backbone of all model forecasts at three days and beyond. . . . NOAA is faced with a nearly 100% chance of a data gap in the U.S. civilian polar orbit, on which both civilian and military users rely, by late 2016 to early 2017."*
>
> Dr. Kathryn D. Sullivan, Assistant Secretary of Commerce for Environmental Observation and Prediction and Deputy Administrator of NOAA, in July 28, 2011, written testimony to the U.S. Senate Committee on Appropriations, Subcommittee on Financial Services and General Government

Between 1995 and early 2010, NOAA partnered with the Department of Defense and NASA in the development of the National Polar-orbiting Operational Environmental Satellite System (NPOESS), which was at that time the planned replacement system for NOAA's Polar Operational Environmental Satellite System and Defense's Defense Meteorological Satellite Program. The original NPOESS program was to develop six satellites, with first launch planned for 2009 and an estimated life-cycle cost of $6.5 billion through 2018. By late 2009, however, the program had reduced its scope to four satellites, with the first launch delayed until 2014, while its life-cycle cost estimate had escalated to $14 billion through 2026.

In February 2010, the White House's Office of Science and Technology Policy announced its decision to have NOAA, in partnership with NASA, establish the Joint Polar Satellite System (JPSS) program as part of the restructuring of NPOESS due to its long history of cost overruns and schedule delays. At that time, the JPSS program planned to launch two satellites—at an estimated cost of $11.9 billion—to collect data for short- and long-term weather and climate forecasting through 2026. But in order to be included in the FY 2011 President's budget request, the JPSS budget estimate had to be developed so quickly that, while NOAA had existing NPOESS requirements in place, it did not have time to formally approve high-level requirements for JPSS.[11]

[11] In a September 23, 2011, hearing before the House Subcommittees on Investigations and Oversight and Energy and Environment, Committee on Science, Space, and Technology, the Assistant Secretary of Commerce for Environmental Observation and Prediction and Deputy Administrator of NOAA stated that NOAA has recently completed high-level JPSS requirements, refining its cost estimate, and will incorporate updated baselines (cost, schedule, and performance) in the upcoming FY 2013 budget submission.

The second system, the Geostationary Operational Environmental Satellite-R Series (GOES-R), is intended to offer uninterrupted short-range severe weather warning and "now-casting" through 2036. With an estimated cost of $10.9 billion for four satellites, this program experienced projected cost changes and reduced capabilities, which occurred while GOES-R was in the midst of defining the system architecture. Working with NASA, NOAA is responsible for managing the entire program and for acquiring the ground segment, which is used to control satellite operations and to generate and distribute instrument data products.

Given their histories, both of these critical satellite programs require strong program management and close oversight to minimize further delays and prevent any interruptions in satellite coverage. Our work has identified three near-term priorities for NOAA as it manages JPSS and GOES-R:

1. timely launch and complete the data checkout for the NPOESS Preparatory Project (NPP);
2. strengthen program management and systems engineering to mitigate JPSS coverage gaps; and
3. maintain robust program management and systems engineering to prevent GOES-R coverage gaps.

Prevent a Near-Term Polar Satellite Coverage Gap Between NOAA-19 and NPP

The first JPSS satellite (JPSS-1) will be preceded in orbit by the NPP satellite, originally a NASA-led risk reduction effort to test NPOESS' new instruments in flight. Scheduled for an October 28, 2011, launch, NPP will now be used operationally to maintain continuity of climate and weather forecast data (used, for example, in the prediction of heavy snowstorms and flooding) between NOAA's current polar-orbiting operational environmental satellite (NOAA-19) and JPSS-1. Recent efforts by NASA's NPP team (including contractors) have put the satellite on track to launch in late October, but late development of the ground system has compressed the mission schedule and delayed the schedule for data product availability after launch.

After the launch, NOAA originally planned to make NPP operationally ready in 18 months, which coincides with the end of the design life of NOAA-19 (approximately March 2013). This plan left little room for contingencies. Both NOAA and OIG have identified a number of risks that, if not properly mitigated, could cause further delays in NPP operational readiness and degradation of NOAA's weather and climate forecasting capability:

- According to the ground system's contractor, Raytheon, the ground system will not be able to support the validation of a significant number of data records until after a system upgrade, planned for March 2012. In addition, NOAA has not finalized coordination between the NPP/JPSS program and NOAA's Center for Satellite Applications and Research (STAR), which is critical to transferring satellite observation into operations. Consequently, NOAA has extended its projection for readiness from 18 to 24 months after launch, which could lead to a coverage gap between NOAA-19 and NPP if NOAA-19 stops functioning properly at the end of its design life.

- We also observed that, unlike NOAA's existing operational satellite systems, NPP has only a single mission management center for controlling the satellite, and NPP's ground station has the system's only science data downlink (the means to transmit a signal from the satellite to the ground station). JPSS program officials told us they have commissioned studies to develop an alternate mission management center and hope to have one ready well in advance of the JPSS-1 launch. They also told us that the ground station has redundancy in terms of antennas and equipment. However, while there is redundancy, the use of a single ground station in a single geographic location is not consistent with NOAA's existing polar and geostationary operational environmental satellite systems, in which more than one location is used.

- NASA conducted two ground system/NPP satellite compatibility tests in 2011; the first test had been delayed when ground system software builds took longer than expected to produce. Both tests experienced further delays and compressed the remaining work schedule for the October 2011 NPP launch. NASA has had to postpone analysis of some test results and requirements verification until after NPP's launch. Also, in response to an independent review team's recommendations, the project has completed a stress test in late September and early October to evaluate NPP's operational readiness. Any system fixes required to mitigate concerns identified during the stress test would add to the postlaunch data production workload.

In order to reduce the risk of a data gap between NOAA-19 and NPP, NOAA management needs to provide sufficient oversight to enable communication and coordination between the JPSS program and STAR as well as ensure additional resources are available after launch to support activities needed for data production. NOAA should also determine the feasibility of establishing an alternate mission management center and an additional science data downlink for NPP as soon as possible.

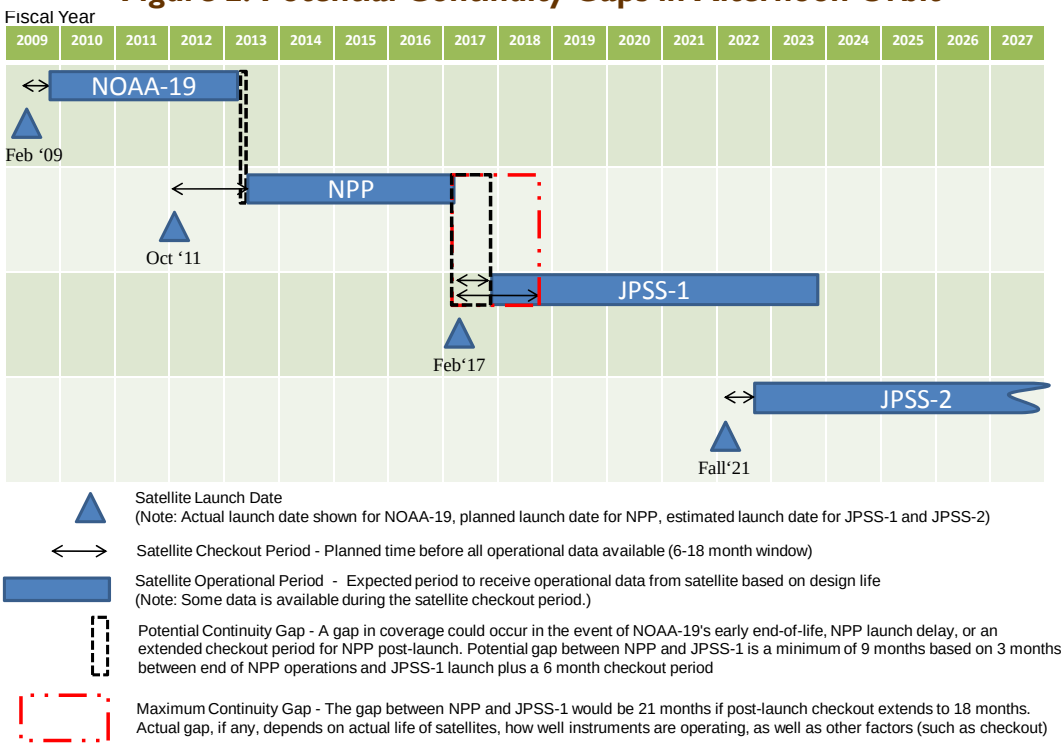
Ensure Solid Program Management and Systems Engineering Principles Are Applied to Mitigate JPSS Coverage Gaps

NOAA expects a gap in weather and climate observations between NPP's end of design life and the operational date of JPSS-I. NPP's projected end of design life is November 2016, NOAA plans to launch JPSS-1 in the first quarter of 2017,[12] and there is a minimum 6-month checkout period before key data products from JPSS-1 can be used operationally. We believe that, due to continued budget uncertainty and probable FY 2012 funding somewhat below the President's budget request, the JPSS-1 launch date will be no earlier than February 2017. Based on a February 2017 launch, the gap would last at least 9 months (3 months from November to February, plus the additional 6 months for checkout). Should checkout take 18 months (as NPP's is projected to do), the gap would extend a total of 21 months (figure 2, next page). NOAA's studies have found that its weather forecasting at 5, 4, and 3 days before an event could be significantly degraded during the coverage gap period.

[12] According to NOAA, JPSS-1 could launch in the first quarter of FY 2017 with (1) the program receiving the full President's budget request for FY 2012 ($1.07 billion) and beyond and (2) no FY 2012 continuing resolution beyond the first quarter of FY 2012.

A checkout period longer than 6 months will be necessary to achieve full operational capability (versus an interim capability to produce key data products). Full checkout may take longer because JPSS-1 instruments will have manufacturing changes from the models flown on NPP and, in all probability, NPP will no longer be operational when JPSS-1 is on-orbit, thus leaving the JPSS-1 mission without a direct, and more efficient, means for comparison.

Figure 2. Potential Continuity Gaps in Afternoon Orbit



Source: OIG analysis of NOAA data, as of August 22, 2011

We have identified the following areas that require senior management attention to help ensure JPSS-1 operational readiness and minimize the potential impact of the coverage gap:

- **Prioritize all JPSS requirements, develop reliable cost estimates to support future funding requests, and systematically communicate planned actions and progress with decision makers**. NOAA is currently developing a revised life-cycle cost estimate. Additionally, NOAA tasked NASA with developing contingencies that prioritize some of the most important requirements and maintain a launch readiness date no later than February 2017. We believe the JPSS program should formally prioritize all of its requirements, not just the subset in this contingency exercise, so that it can efficiently adjust the program's performance capabilities or launch dates, if needed, in response to year-to-year funding variances. Further, the program should develop a plan to accommodate requirements that may have to be removed or relaxed when annual funding falls short of the program's budget but could be recouped in future appropriations. Finally, due to the importance and complexity of the JPSS program, NOAA must ensure that a program baseline (cost, schedule, and requirements) is established as soon as possible, and keep the Department and

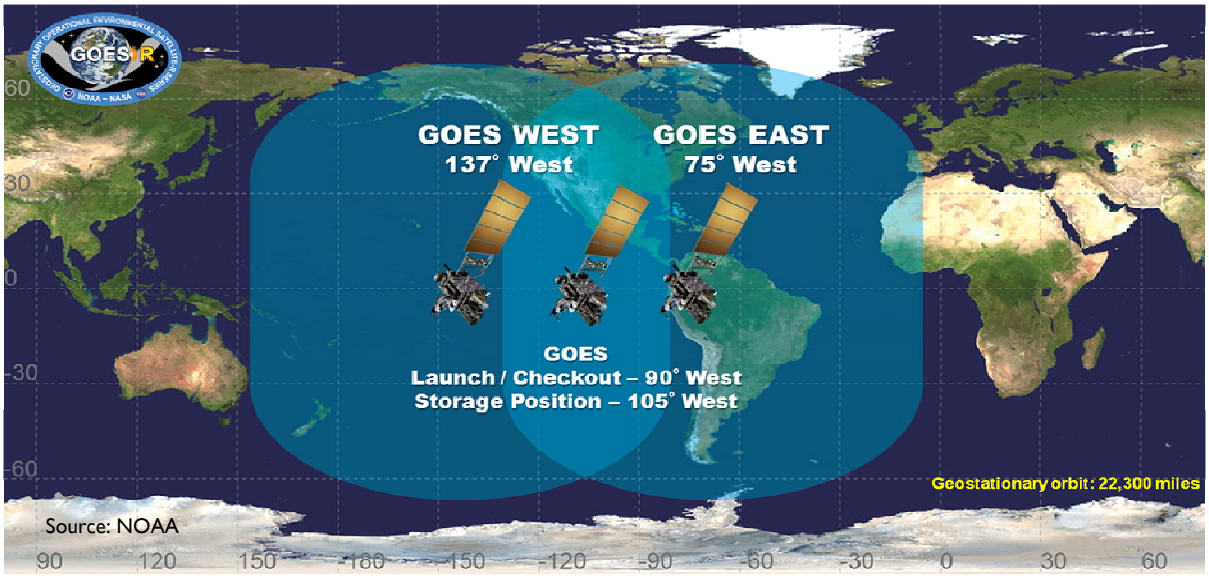
Congress informed of its planned actions and progress against this baseline to facilitate decision making.

- **Coordinate NOAA response, in case NPP does not live through its 5-year design life.** The NPP spacecraft was designed to last 5 years and carries enough fuel to last 7 years. However, most of its instruments were managed and developed under the NPOESS contract, which received limited government oversight and had a history of technical issues. Additionally, NASA lacked technical oversight during the instrument development, manufacturing, and testing phases, creating uncertainty about the instruments' ability to operate for the length of the spacecraft's design life. For these reasons, NASA's revised criteria for NPP mission success called for only 3 years of operability. Although NOAA's current analysis assumes that NPP will have a 5-year operational life, NOAA understands that a residual risk of a shorter life expectancy remains due to the lack of oversight during the development of most of NPP's instruments. In order to sufficiently prepare for an expected gap in polar satellite data from the afternoon orbit, NOAA should coordinate efforts from across its line offices to minimize the degradation of weather and climate forecasting during gaps in coverage.

Maintain Robust Program Management and Systems Engineering Disciplines to Prevent Geostationary Coverage Gaps

NOAA's policy for its geostationary satellites is to have three satellites in orbit—two operational satellites (GOES-East and GOES-West) and one on-orbit spare that is ready for use operationally should either of the active satellites fail (figure 3).

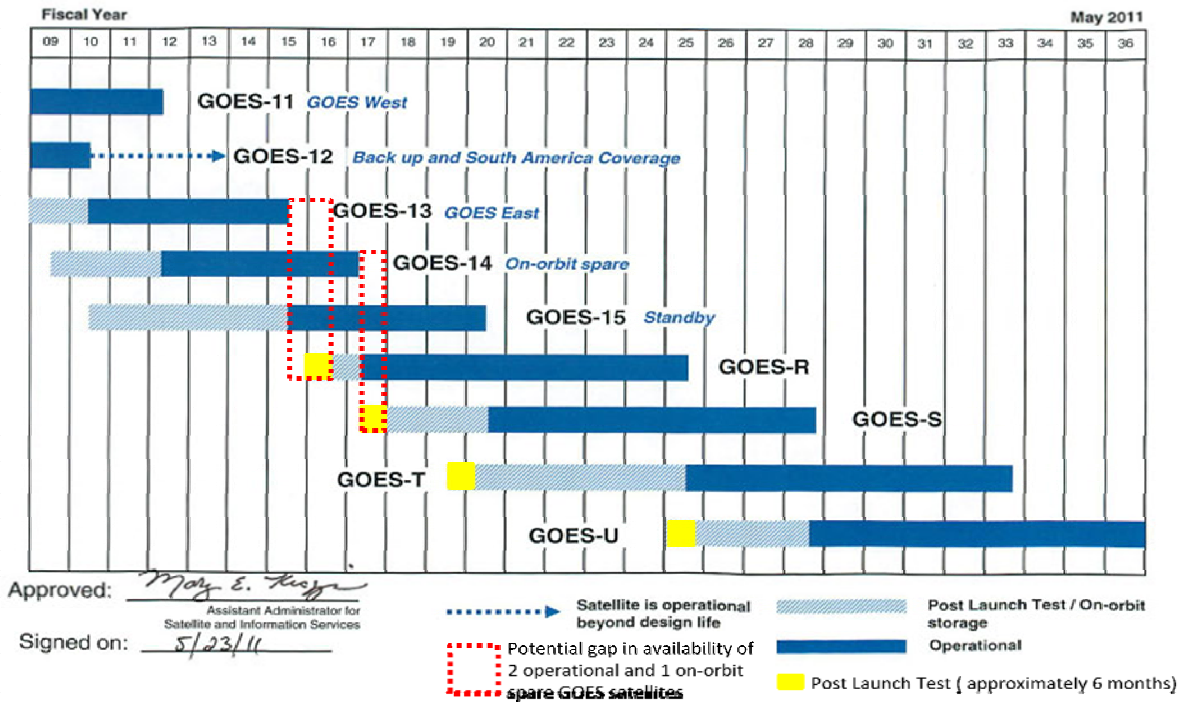
Figure 3. GOES-R Orbital Coverage



When GOES-R is launched in October 2015, NOAA may not be able to meet its policy of having an on-orbit spare because GOES-13 will have exceeded its operational life (figure 4, next page). Until GOES-R completes its 6-month postlaunch test, there would be only two

operational satellites (GOES-14 and GOES-15). A similar lack of an on-orbit spare will occur when the next GOES satellite, GOES-S, is launched in February 2017 (only GOES-15 and GOES-R would be operational).[13]

Figure 4. Continuity of GOES Operational Satellite Programs



Source: OIG analysis of NOAA data

GOES-R development is proceeding towards its next key technical milestone (critical design) in the 4th quarter of FY 2012. According to August 2011 program documentation, the GOES-R program's overall schedule and technical development remain on track; however, the ground project's development is being modified to control costs. The program is changing the ground segment's security architecture and has chosen not to implement some optional data products. The program is also revising the ground segment's schedule to a more incremental development approach—which will increase schedule flexibility, as well as better align the delivery schedule for GOES-R spacecraft, instruments, documentation and other flight-to-ground segment dependencies. In light of these developments, NOAA should ensure that solid program management and system engineering principles are effectively implemented to control costs, keep schedules on track, and maintain required technical performance.

[13] The launch dates for GOES-R and GOES-S are based on NOAA's current projections.

Acronym List

BEA	Bureau of Economic Analysis
BIS	Bureau of Industry and Security
BTOP	Broadband Technology Opportunities Program
CPAF	cost-plus-award-fee
EDA	Economic Development Administration
ESA	Economics and Statistics Administration
FDCA	Field Data Collection Automation
FISMA	Federal Information Security Management Act
FY	fiscal year
GAO	Government Accountability Office
GOES-R	Geostationary Operational Environmental Satellite-R Series
GSA	General Services Administration
HCHB	Herbert C. Hoover Building
IPERA	Improper Payments Elimination and Recovery Act
ITA	International Trade Administration
JPSS	Joint Polar Satellite System
MBDA	Minority Business Development Agency
NASA	National Aeronautics and Space Administration
NEI	National Export Initiative
NIST	National Institute of Standards and Technology
NOAA	National Oceanic and Atmospheric Administration
NPOESS	National Polar-orbiting Operational Environmental Satellite System
NPP	NPOESS Preparatory Project
NTIA	National Telecommunications and Information Administration
OIG	Office of Inspector General
OMB	Office of Management and Budget
PE2E	Patent End-to-End
STAR	Center for Satellite Applications and Research
TIC	Trusted Internet Connections
TPCC	Trade Promotion Coordinating Committee
USPTO	U.S. Patent and Trademark Office

Appendix A: Related OIG Publications

This list presents OIG's past and current work related to FY 2012's top management challenges. Challenges 3, 4, and 5 are ongoing challenges that were also featured in FY 2011's *Top Management Challenges Facing the Department of Commerce* (OIG-11-015, December 20, 2010). These products can be viewed at www.oig.doc.gov. If the product contains information that cannot be released publicly, a redacted version or an abstract will be available on the website.

Challenge 1: Trade and Export Promotion

BUREAU OF ECONOMIC ANALYSIS (BEA)

- FY 2008 FISMA Assessment of BEA Estimation Information Technology System (BEA-015) (OSE-19001, September 22, 2008)

INTERNATIONAL TRADE ADMINISTRATION (ITA)

- Greater Interagency Involvement and More Effective Strategic Planning Would Enhance National Export Strategy (IPE-18589, September 25, 2007)
- Commerce Can Further Assist U.S. Exporters by Enhancing Its Trade Coordination Efforts (IPE-18322, March 30, 2007)
- CS Brazil Is Operating Well Overall but Needs Management Attention in Some Areas (IPE-18114, March 30, 2007)
- Commercial Service Operations in Argentina and Uruguay Are Mostly Sound but Financial Processes Need Attention (IPE-18111, September 29, 2006)
- CS China Generally Performs Well but Opportunities Exist for Commerce to Better Coordinate Its Multiple China Operations (IPE-17546, March 31, 2006)

ECONOMIC DEVELOPMENT ADMINISTRATION (EDA)

- Aggressive EDA Leadership and Oversight Needed to Correct Persistent Problems in RLF Program (OA-18200, March 30, 2007)
- EDC Fund, Inc. Revolving Loan Fund EDA Grant No. 01-39-01829 (ATL-17285, January 11, 2006)

BUREAU OF INDUSTRY AND SERCURITY (BIS)

- Briefing on Issues Related to BIS Budget and Responsibilities for International Treaty Implementation and Compliance (October 7, 2008)

- U.S. Dual-Use Export Controls for India Should Continue to Be Closely Monitored (IPE-18144, March 30, 2007)
- U.S. Dual-Use Export Controls for China Need to Be Strengthened (IPE-17500, March 30, 2006)
- Export Licensing Process for Chemical and Biological Commodities Is Generally Working Well, but Some Issues Need Resolution (IPE-16946, March 31, 2005)

U.S. PATENT AND TRADEMARK OFFICE (USPTO)

- Status of USPTO Initiatives to Improve Patent Timeliness and Quality (OIG-11-032-I, September 29, 2011)
- Stronger Management Controls Needed over USPTO's Projection of Patent Fee Collections (OIG-11-014-A, December 14, 2010)
- USPTO Patent Quality Assurance Process (OIG-11-006-I, November 5, 2010)
- Overseas Intellectual Property Rights Attaché Program Is Generally Working Well, but Comprehensive Operating Plan Is Needed (IPE-19044, July 17, 2008)

The following reviews are in progress:

- USPTO's Largest Telework Program—Patent Hoteling Program

Challenge 2: Operating Effectively in a Constrained Budget Environment

- Census 2010: Final Report to Congress (OIG-11-030-I, June 27, 2011)
- Commerce Has Procedures in Place for Recovery Act Recipient Reporting, but Improvements Should Be Made (OIG-11-031-A, July 29, 2011)
- Commerce Needs to Strengthen Its Improper Payment Practices and Reporting (OIG-11-021-A, March 25, 2011)
- IG's Testimony on Recovery Act Broadband Spending: House Committee on Energy and Commerce (OIG-11-019-T, February 10, 2011)
- Commerce Should Strengthen Accountability and Internal Controls in Its Motor Pool Operations, OIG-11-004-A (October 27, 2010)
- Inspector General's Semiannual Reports to Congress (September 2010 and March 2011)
- Management of the Herbert C. Hoover Building Renovation (OAE-19885, August 5, 2010)

The following reviews are in progress:

- Review of 2020 Census Planning Efforts
- Review of the Effectiveness of NTIA's Monitoring of BTOP Grant Awards
- Review of NTIA BTOP Grantees' Match

Challenge 3: IT Security

- Improvements Are Needed For Effective Web Security Management (OIG-12-002-A, October 21, 2011)
- Federal Information Security Management Act Audit Identified Significant Issues Requiring Management Attention (OIG-11-012-A, November 15, 2010)
- Respondent Data Safeguards in the Decennial Response Integration System (DRIS) (OAE-19888, September 24, 2010)
- FY 2009 FISMA Assessment of the Environmental Satellite Processing Center (OAE-19730, January 11, 2010) [abstract only]
- FY 2009 FISMA Assessment of the Enterprise UNIX Services System (OAE-19729, November 20, 2009)
- FY 2009 FISMA Assessment of the Patent Cooperation Treaty Search Recordation System (OAE-19731, November 20, 2009)
- FY 2009 FISMA Assessment of the Field Data Collection Automation System (OAE-19728, November 20, 2009)
- FY 2009 FISMA Assessment of BIS Information Technology Infrastructure (OSE-19574, September 30, 2009)
- FY 2009 FISMA Assessment of Bureau Export Control Cyber Infrastructure, Version 2 (OSE-19575, September 30, 2009)

The following reviews are in progress:

- Effectiveness of IT Security Controls Implemented in Department Systems

Challenge 4: Contracts and Acquisitions

- Commerce's Office of Acquisition Management Must Continue to Improve Its Ongoing Oversight of Acquisition Savings Initiatives (OIG-12-001-A, October 6, 2011)
- Patent End-to-End Planning and Oversight Need to Be Strengthened to Reduce Development Risk (OIG-11-033-A, September 29, 2011)

- 2010 Census: Contract Modifications and Award-Fee Actions on the Decennial Response Integration System (DRIS) Demonstrate Need for Improved Contracting Practices (OIG-11-020-A, February 15, 2011)
- Census 2010: Revised Field Data Collection Automation Contract Incorporated OIG Recommendations, but Concerns Remain Over Fee Awarded During Negotiations (CAR-18702, March 3, 2009)

The following reviews are in progress:

- Department of Commerce's Acquisition Workforce
- NOAA's Management of Cost-Plus-Award-Fee Contracts
- NIST Oversight of Recovery Act Construction Grants
- NIST's Oversight of Recovery Act Construction Contracts

Challenge 5: Satellites

- Audit of JPSS: Challenges Must Be Met to Minimize Gaps in Polar Environmental Satellite Data (OIG-11-034-A, September 30, 2011)
- IG Memorandum, NOAA's Joint Polar Satellite System Audit Observations (OIG-11-029-M, June 10, 2011)
- IG Testimony before the Appropriations Subcommittee on Commerce, Justice, Science, and Related Agencies, United States House of Representatives (OIG-11-018-T, February 9, 1011)
- IG Testimony before the Subcommittee on Commerce, Justice, Science, and Related Agencies, Committee on Appropriations, United States Senate (March 4, 2010)
- Inspector General's Semiannual Reports to Congress (March 2009–September 2010)

Appendix B: Comparison of FY 2011 Challenges to FY 2012

FY 2012 Challenges	FY 2011 Challenges
1. Effectively Promote Exports, Stimulate Economic Growth, and Create Jobs[a]	5. Improving USPTO's Patent Processing Times, Reducing Its Pendency and Backlogs, and Mitigating Its Financial Vulnerabilities 6. Effectively Balancing NOAA's Goals of Protecting the Environment and Supporting the Fishing Industry
2. Reduce Costs and Improve Operations to Optimize Resources for a Decade of Constrained Budgets[a]	4. Enhancing Accountability and Transparency of the American Recovery and Reinvestment Act's Key Technology and Construction Programs 8. Effectively Planning the 2020 Decennial 7. Protecting Against Cost Overruns and Schedule Delays for the Commerce Headquarters Renovation
3. Strengthen Department-Wide Information Security to Protect Critical Information Systems and Data	1. Strengthening Department-Wide Information Security
4. Manage Acquisition and Contract Operations More Effectively to Obtain Quality Goods and Services in a Manner Most Beneficial to Taxpayers	3. Managing Acquisition and Contract Operations More Effectively to Obtain Quality Goods and Services at Reasonable Prices and on Schedule
5. Effectively Manage the Development and Acquisition of NOAA's Environmental Satellite Systems to Avoid Launch Delays and Coverage Gaps	2. Effectively Managing the Development and Acquisition of NOAA's Environmental Satellite Programs

[a] The FY 2012 challenge is cross-cutting and broad-based. The FY 2011 challenge was bureau-specific and could be traced as a subset under the corresponding FY 2012 challenge.

Appendix C: Management Response to OIG Draft Report

UNITED STATES DEPARTMENT OF COMMERCE
The Secretary of Commerce
Washington, D.C. 20230

OCT 20 2011

MEMORANDUM FOR Todd J. Zinser
Inspector General

FROM: Rebecca M. Blank
Acting Secretary of Commerce

SUBJECT: Response to OIG Report on Top Management Challenges

Thank you for the opportunity to review the Office of Inspector General's report, "Top Management Challenges Facing the Department of Commerce." Every day the Department's bureaus work with American businesses, communities, and private citizens to promote innovation, entrepreneurship, competitiveness, and stewardship—and we want to do that in the most effective and efficient way possible. As you stated in your report, one of our challenges, which we are working to meet head-on, is to reduce costs and improve operations to optimize resources for a decade of constrained budgets. In fact, having adequate resources is a common theme throughout the report.

We are aware that we have challenges in all of the areas discussed in your report, and we realize these areas require continued oversight, planning, and work. We look forward to working with you to address those challenges during fiscal year 2012.

We value your opinions and the hard work of your staff to provide audits and investigations that keep Departmental and bureau leadership apprised of both longstanding and emerging issues. Thank you for recognizing our hard work in many of our mission areas, including promoting exports and stimulating economic growth, and for acknowledging the tough decisions that went into finding cost-saving initiatives. As you mentioned in your memorandum, we are continuing to use the balanced scorecard approach to track performance and measure progress on the Department's priorities. This approach will help ease the transition to our new Secretary.

(011200000129)