

Top Management and Performance Challenges Facing the Department of Commerce

FINAL REPORT NO. OIG-19-004

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November 14, 2018

INFORMATION MEMORANDUM FOR SECRETARY ROSS

FROM: Peggy E. Gustafson
Inspector General

A handwritten signature in black ink, appearing to read "Peggy E. Gustafson".

SUBJECT: *Top Management and Performance Challenges Facing the
Department of Commerce in Fiscal Year 2019*
Final Report No. OIG-19-004

The Office of Inspector General is required by statute¹ to report annually the most serious management and performance challenges facing the Department of Commerce. Attached is our final report on the Department's top management and performance challenges for fiscal year (FY) 2019.

For each challenge identified within this memorandum, please find brief descriptions of the issues discussed in greater detail in the report:

Challenge 1: Successfully Completing 2020 Census Testing and Systems Integration of New Innovations in Time to Deliver a Cost-Effective, Accurate Decennial Census

- Minimizing the challenges associated with incomplete testing of 2020 Census systems and innovations
- Mitigating the risks of unplanned changes
- Preventing further reductions to cost avoidance, reducing cost overruns, and eliminating unaccounted-for costs

¹ 31 U.S.C. § 3516(d).

Challenge 2: Maximizing Efficiencies of Environmental Satellite Programs

- Reducing life-cycle costs of the Polar Weather Satellite program
- Identifying an optimal launch strategy for remaining satellites in the series
- Managing risks in next-in-series satellites
- Planning an optimal next-generation satellite system architecture

Challenge 3: Deploying a Nationwide Public Safety Broadband Network (NPSBN)

- Deploying the NPSBN
- Securing public safety participation
- Ensuring the successful performance of the contract awarded to AT&T
- Ensuring effective and efficient use of proceeds AT&T provides annually to the First Responder Network Authority
- Strengthening operational controls

Challenge 4: Ensuring USPTO Provides High-Quality Intellectual Property Rights

- Ensuring that the Patent Trial and Appeal Board operates fairly and effectively
- Ensuring that examiners perform thorough patent application reviews
- Improving the management of information technology (IT) acquisitions and operations

Challenge 5: Continuing to Improve the Department's Cybersecurity Posture

- Implementing security controls to protect the systems supporting the 2020 Census
- Securing cloud-based systems and assets
- Sustaining Department-wide implementation of the Continuous Diagnostics and Mitigation program
- Maintaining a robust IT workforce to manage an effective IT security program

Challenge 6: Utilizing Resources and Developing Processes to Rebalance Trade Enforcement and Promotion Priorities

- Building staff expertise for the self-initiation of antidumping and countervailing duty cases
- Institutionalizing processes for Section 232 product exclusion request reviews and managing the increased foreign investment review workload
- Managing the downsizing of trade promotion capacity

Challenge 7: Providing Adequate Oversight to Effectively Manage the Significant Increase in Disaster Assistance Funding to the Economic Development Administration

- Following a comprehensive oversight implementation strategy
- Acquiring and maintaining sufficient staff with appropriate proficiency
- Developing a risk management strategy to strengthen internal control

Challenge 8: Addressing Departmental Management Matters Involving Acquisitions

- Improving monitoring of blanket purchase agreements
- Developing and maintaining a competent acquisition workforce to support the Department's mission
- Establishing oversight of mission-support service delivery
- Increasing the pace of National Oceanic and Atmospheric Administration ship acquisitions

We remain committed to keeping the Department's decision-makers informed of problems identified through our audits and investigations so that timely corrective actions can be taken. The final version of the report and the Department's response to it (which appears as an appendix) will be included in the Department's *Annual Financial Report*, as required by law.²

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: Karen Dunn Kelley, Under Secretary for Economic Affairs, Performing the
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² Ibid.

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Cover: Herbert C. Hoover Building main entrance at 14th Street Northwest in Washington, DC. Completed in 1932, the building is named after the former Secretary of Commerce and 31st President of the United States.

Challenge 1: Successfully Completing 2020 Census Testing and Systems Integration of New Innovations in Time to Deliver a Cost-Effective, Accurate Decennial Census

Following the 2010 Census, the Census Bureau (the Bureau) recognized that it needed to address the trend of increasing decennial costs. Early this decade, the Bureau committed to making fundamental changes to the decennial census design in order to complete the 2020 Census at a lower cost than the 2010 Census¹ while maintaining quality. The Bureau also committed to measuring 2020 Census design options with respect to cost and quality by developing improved cost models for operations and applying cost-benefit analyses to all proposed operations. The Bureau's research and testing strategy focused on implementing numerous technological and methodological innovations in four key areas: (1) reengineering address canvassing,² (2) optimizing self-response, (3) utilizing administrative records and third-party data,³ and (4) reengineering field operations with technology. However, throughout the decade, the Bureau has modified its strategy by both reducing the number and scope of tests, citing funding constraints as the primary reason. In addition, technology changes in May 2016 required the Bureau to implement new systems on a condensed time schedule. As a result, with Census Day⁴ less than 2 years away, the Bureau has not fully integrated and tested all of its new, innovative decennial census design solutions—and is quickly running out of time and facing the risk of increasing costs.

The Bureau must also operate within statutory and regulatory legal constraints and meet the primary requirements of the decennial census as defined in the U.S. Constitution—to enumerate the population in order to apportion representatives among the states.⁵ To ensure a quality decennial census in 2020, the Bureau must ensure that its innovative systems and methods will allow it to “count everyone once, only once, and in the right place.”⁶ The challenge of conducting a complex and innovative decennial census is compounded by the Bureau's commitment to data quality while honoring privacy and protecting confidentiality.

¹ Per housing unit and adjusted for inflation.

² The address canvassing operation serves two purposes: to deliver a complete and accurate address list and spatial database for enumeration; and to determine the type and address characteristics for each living quarter.

³ The goal of the *administrative records* operation is to use information people have already provided to governmental and nongovernmental entities to improve the efficiency and effectiveness of the 2020 Census, and in particular, to reduce expensive in-person follow-up activities. Administrative record data refers to information from federal and state governments. Third-party data refers to information from commercial sources.

⁴ The 2020 Census will count where the population is living as of Census Day, which is April 1, 2020.

⁵ Decennial census data are also used, for example, to define boundaries for Congressional districts, state legislative districts, school districts, and voting precincts; enforce voting rights and civil rights legislation; and determine the distribution of federal funds to local communities. The data are also used for decisions about U.S. commerce and the economy at local and national levels.

⁶ U.S. Census Bureau, September 2017. *2020 Census Operational Plan: A New Design for the 21st Century*, version 3.0. Washington, DC: Census Bureau.

Last year's top management and performance challenges report⁷ identified several Bureau challenges, including maintaining continuity of leadership. In July 2018, the President nominated a new Director of the Census Bureau for the remainder of a 5-year term; if confirmed, the new Director would provide leadership through the completion of the 2020 Census. However, other challenges remain.

The Office of Inspector General's (OIG's) fiscal year (FY) 2019 top management and performance challenges include these priority areas related to the 2020 Census:

- Minimizing the challenges associated with incomplete testing of 2020 Census systems and innovations
- Mitigating the risks of unplanned changes
- Preventing further reductions to cost avoidance, reducing cost overruns, and eliminating unaccounted-for costs

Minimizing the challenges associated with incomplete testing of 2020 Census systems and innovations

In last year's top management and performance challenges report, OIG noted the Bureau's challenge of ensuring timely implementation of reengineered processes and systems. For the first time, the Bureau is relying on automation to reduce decennial census infrastructure and workload, as well as halt the trend of increasing costs. For these reasons, it developed an ambitious and complex testing strategy designed to test (1) new innovations individually to inform design decisions, and (2) how those innovations work together in the field, in order to finalize the 2020 Census operational design. By design, the strategy was iterative: the results of each test were to inform subsequent tests. Ultimately, the Bureau's goal was to collect empirical evidence over the course of many field tests to inform final decisions about the 2020 Census operational design. Originally, the Bureau planned to conduct 24 field tests that would gradually mature innovations, culminating in a large integration field test in 2014. However, in 2013, the Bureau revised its testing strategy and conducted fewer than half (12) of the original tests scheduled between 2012 and 2017.⁸ The 2018 End-to-End Census Test implemented reengineered processes and system support for significant field data collection components. This large integration test was intended to serve as a mock decennial census—incorporating the entire operational design in order to provide a final opportunity to test and validate the integration of new decennial operations, procedures, systems, and infrastructure.

⁷ U.S. Department of Commerce Office of Inspector General, September 29, 2017. *Top Management and Performance Challenges Facing the Department of Commerce in Fiscal Year 2018*, OIG-17-033. Washington, DC: DOC OIG.

⁸ The Bureau completed the following tests: The 2012 National Census Test; 2013 National Census Contact Test; 2013 Census Test; 2014 Census Test; 2014 Human-in-the-Loop Test; 2015 Address Validation Test; Optimizing Self-Response Test; 2015 Census Test; 2015 National Content Test; 2016 Census Test; 2016 Address Canvassing Test; 2017 Census Test.

In order to complete a cost-effective and accurate decennial census in 2020, the Bureau must address the challenges created by a number of test-related issues that OIG has observed throughout this decade. First, in 2016 OIG reported that the Bureau had yet to release any of its 43 planned reports for tests conducted between 2012 and 2015, resulting in subsequent tests not benefitting from documented results of prior tests.⁹ Although the Bureau shares 2020 Census planning and testing progress and results through quarterly Program Management Reviews, the materials and presentations lack in-depth discussions of background, methodology, limitations, design, results (including test data), and conclusions and recommendations found in formal, public reports. Next, OIG found that flaws to the design and methodology of the Bureau's tests have hindered its ability to answer research questions and inform subsequent tests.¹⁰ Additionally, OIG reported that the Bureau canceled field operations before beginning the 2017 Census Test and reduced the scope of 2018 End-to-End Census Test field operations, from three locations to one, and did not include a number of operations. In 2019, the Bureau plans to conduct Defect Resolution Testing and Post End-to-End Census Test Performance Testing—but these activities are dependent on funding, as well as timely analysis of the results of the 2018 End-to-End Census Test.

Mitigating the risks of unplanned changes

Unplanned design changes carry a high level of risk. For example, the Bureau submitted its 2020 Census topics to Congress by March 31, 2017, as required. However, on March 26, 2018, the Secretary of Commerce issued a memorandum announcing that a citizenship question will be reinstated to the 2020 decennial census questionnaire to help enforce the Voting Rights Act.¹¹ The addition of a question that has not been tested in a decennial census environment carries a number of risks, such as

- insufficient time to identify and complete operational adjustments to all of the data collection and processing systems,
- a lower participation rate, and
- increasing costs.

Another unforeseen event involved the 2020 Census printing contract awarded in October 2017 by the U.S. Government Publishing Office. In February 2018, the contractor filed for bankruptcy, requiring the Bureau to identify strategies to reduce associated risk. These are just two examples; additional unanticipated changes will likely occur throughout the decennial

⁹ U.S. Department of Commerce Office of Inspector General, June 7, 2016. *2020 Census: The Bureau Has Not Reported Test Results and Executed an Inadequately Designed 2015 Test*, OIG-16-032-A. Washington, DC: DOC OIG.

¹⁰ *Ibid.*

¹¹ DOC OIG, March 26, 2018. *U.S. Department of Commerce Announces Reinstatement of Citizenship Question to the 2020 Decennial Census*, press release [online]. <https://www.commerce.gov/news/press-releases/2018/03/us-department-commerce-announces-reinstatement-citizenship-question-2020> (accessed September 11, 2018).

timeline. Developing a schedule that links milestones for specific activities, the cost of those activities, and actual progress toward completing those activities—is key.

The Bureau has struggled to maintain a useful activity schedule that meets best practices, which may exacerbate risks from future unforeseen events. During the 2010 Census, OIG found that the Bureau lacked complete and reliable information for tracking progress.¹² Last year, the U.S. Government Accountability Office (GAO) reported that the Bureau's 2020 Census and Census Enterprise Data Collection and Processing programs were at risk of failing because they were not aligned, did not integrate interdependent risks, and did not include processes for managing risks.¹³ Additionally, this year, GAO noted some improvements in the three projects reviewed (out of 255, of which 134 were not yet completed) but also identified ongoing weaknesses, such as the lack of resource needs and availability.¹⁴ OIG's ongoing work indicates that the schedule is still not complete and is not fully integrated or resource-loaded. This decade, the Bureau has once again been unable to maintain a schedule that meets best practices, such as calculating the critical path for the 2020 Census.

Preventing further reductions to cost avoidance, reducing cost overruns, and eliminating unaccounted-for costs

At the beginning of the decade, the Bureau reported¹⁵ to Congress that it could avoid costs totaling an estimated \$5.3 billion if it could implement innovations for the 2020 Census. However, OIG and GAO audits¹⁶ identified problems with assumptions that the Bureau used to develop the life-cycle cost estimate. Additionally, last year's top management and performance challenges report noted the development of an accurate 2020 Census life-cycle cost estimate as a significant challenge. In order to address concerns regarding the accuracy of the 2020 Census estimate, the Secretary of Commerce established a task force in May 2017 to conduct a detailed analysis of the Bureau's estimate. It discovered "an overestimation of savings and an underestimation of the difficulty of implementing and integrating technological innovations to

¹² DOC OIG, June 27, 2011. *Census 2010: Final Report to Congress*, OIG-11-030-I. Washington, DC: DOC OIG.

¹³ U.S. Government Accountability Office, February 15, 2017. *High Risk Series: Progress on Many High-Risk Areas, While Substantial Efforts Needed on Others*, GAO-17-317. Washington, DC: GAO.

¹⁴ U.S. Government Accountability Office, July 26, 2018. *Bureau Has Made Progress with Its Scheduling, but Further Improvement Will Help Inform Management Decisions*, GAO-18-589. Washington, DC: GAO.

¹⁵ Census Bureau, November 2015. *2020 Census Operational Plan, A New Design for the 21st Century*, version 1.1. Washington, DC: Census Bureau.

¹⁶ See Department of Commerce Office of Inspector General, September 30, 2015. *2020 Census: The 2014 Census Test Misses an Opportunity to Validate Cost Estimates and Establish Benchmarks for Progress*, OIG-15-044-A. Washington, DC: DOC OIG; DOC OIG, February 23, 2016. *The U.S. Census Bureau's Efforts to Ensure an Accurate Address List Raise Concerns over Design and Lack of Cost-Benefit Analysis*, OIG-16-018-A. Washington, DC: DOC OIG; DOC OIG, June 7, 2016. *2020 Census: The Bureau Has Not Reported Test Results and Executed an Inadequately Designed 2015 Test*, OIG-16-032-A. Washington, DC: DOC OIG; DOC OIG, May 21, 2014. *The Census Bureau Lacks Accurate and Informative Cost Data to Guide 2020 Census Research Through a Constrained Budget Environment*, OIG-14-021-A. Washington, DC: DOC OIG; U.S. Government Accountability Office, February 2017. *High-Risk Series: Progress on Many High-Risk Areas, While Substantial Efforts Needed on Others*, GAO-17-317. Washington, DC: GAO.

conduct the Decennial Census.”¹⁷ As a result, the cost avoidance was reduced to \$1.9 billion, resulting in a revised estimate of a \$15.6 billion life-cycle cost for the 2020 Census. According to the Secretary’s October 12, 2017, testimony to the House Committee on Oversight and Government Reform, the revised cost estimate “meets the characteristics of a high-quality estimate and improve [sic] control over how risks and uncertainty are accounted for in the cost estimate.”

Although the Bureau’s updated estimate may be more realistic, the problems that caused the inaccurate estimate may still exist, creating a challenge for the Bureau to achieve even the \$1.9 billion in cost avoidance. For example, OIG audits have noted that the Bureau uses time-and-materials contracts that do not contain contractor cost containment incentives.¹⁸ In addition, the OIG Area Census Office audit¹⁹ found that the estimated workload totals and staffing ratios increased. The increased workload will result in greater costs and schedule implications. These issues, combined with poor cost accounting practices, will challenge the Bureau’s ability to estimate its costs—and recognize and report cost overruns, should they occur.

¹⁷ House Committee on Oversight and Government Reform, Hearing on the 2020 Census, October 12, 2017. Written Statement: Wilbur Ross, Secretary of Commerce [online]. <https://oversight.house.gov/wp-content/uploads/2017/10/Written-SWLR-HOGR-Testimony-FINAL.pdf> (accessed August 27, 2018).

¹⁸ OIG work has identified significant cost increases associated with these contracts. See U.S. Department of Commerce Office of Inspector General, December 3, 2014. *The U.S. Patent and Trademark Office’s Awarding and Administering of Time-and-Materials and Labor-Hour Contracts Needs Improvement*, OIG-15-012-A. Washington, DC: DOC OIG. Also see DOC OIG, November 8, 2013. *The Department’s Awarding and Administering of Time-and-Materials and Labor-Hours Contracts Needs Improvement*, OIG-14-001-A. Washington, DC: DOC OIG, and DOC OIG, February 27, 2018. *2020 Census: The Bureau’s Background Check Office Is Not Fully Prepared for the 2020 Census*, OIG-18-015-A. Washington, DC: DOC OIG.

¹⁹ DOC OIG, April 30, 2018. *2020 Census: The Number and Location of Area Census Offices May Not Reflect NRFU Workload Demands and Will Not Result in Projected Cost Savings*, OIG-18-018-A. Washington, DC: DOC OIG.

Challenge 2: Maximizing Efficiencies of Environmental Satellite Programs

Satellite data and imagery are essential to National Oceanic and Atmospheric Administration's (NOAA's) capability to understand, predict, and track weather and other environmental phenomena. NOAA's primary sources of these observations are satellites in geostationary and polar orbits.

NOAA's constellation of Geostationary Operational Environmental Satellites (GOES) maintains a constant watch over the Western hemisphere for tracking and forecasting severe storms. NOAA's Joint Polar Satellite System (JPSS) and other polar satellites circle above Earth from pole to pole, observing the entire globe approximately twice a day. Their data provide important input for numerical weather prediction systems' 3–7 day forecasts. Beyond its own satellites and those of international and intergovernmental partners, NOAA has a pilot program seeking to leverage capabilities in the emerging sector of commercial space services.

OIG's past top management and performance challenges reports have emphasized NOAA's challenge mitigating the risk of satellite data gaps. In FY 2018, NOAA made some progress by (a) transitioning GOES-16 and JPSS-1 into operations (the latter, now providing data that forecast models assimilate, helps reduce risk of data gaps from the polar orbit); (b) addressing issues and risks in the acquisition and development of the next-in-series satellites (system testing and key instrument acquisition/development still present risk); (c) receiving full funding for revised Polar Follow-On (PFO) program baselines; and (d) delaying its reporting and further assessment of the viability of using commercial data in weather forecasts. However, other challenges remain.

While continuing to ensure the continuity of its environmental satellite observations, NOAA must maximize efficiencies in its established satellite programs and further explore opportunities to augment its capabilities through data obtained from new sources. OIG's FY 2019 top management and performance challenges include these priority areas related to NOAA's satellite programs:

- Reducing life-cycle costs of the Polar Weather Satellite (PWS) program
- Identifying an optimal launch strategy for remaining satellites in the series
- Managing risks in next-in-series satellites
- Planning an optimal next-generation satellite system architecture

Reducing life-cycle costs of the PWS program

NOAA's FY 2019 budget announced the planned consolidation of JPSS and PFO in the PWS program,²⁰ which better positions the National Environmental Satellite Data and Information Service (NESDIS) to maintain cost efficiencies it planned for the JPSS-3 and JPSS-4 missions.²¹

According to NOAA,²² the merging of JPSS and PFO will result in increased cost and programmatic efficiencies, including the following:

- Elimination of duplicative management costs that existed from managing JPSS and PFO as separate programs
- Improvement in the program's reserves posture
- Improvement in creating critical synergies among JPSS-2, -3, -4 and protecting against catastrophic events (e.g., impacts to supply chain, launch failure, on-orbit failure) by minimizing time and management effort necessary to swap instruments and reserves across programs
- Spares, hardware, software, staff, and other JPSS capacity that become available can be deployed seamlessly, efficiently, and effectively across programs to reduce costs and avoid launch delay if necessary, as experienced with the GOES-R series

However, the proposed PWS program's current life-cycle cost estimate (\$18.9 billion), as identified in NOAA's FY 2019 budget request, is simply the sum of life-cycle cost baselines of the two separate programs (\$11.3 billion for JPSS; \$7.6 billion for PFO). It does not account for cost and programmatic efficiencies NOAA claims it will realize from the merger. Further, OIG notes that NOAA's framing of the merger may overstate the extent to which it alone will contribute to savings, since both JPSS and PFO program budgets were already managed by a single program entity—that is, the JPSS program. Therefore, NOAA management faces a challenge to reduce costs significantly and identify new efficiencies for the PWS program.

Identifying an optimal launch strategy for remaining satellites in the series

Reanalyze JPSS-2, -3, and -4 launch readiness plans and dates

The JPSS program delayed the launch of JPSS-1 (now known as NOAA-20) to November 18, 2017—8 months beyond its commitment date—primarily to address problems with its Advanced Technology Microwave Sounder, a key instrument.

Technical issues with JPSS-2 instruments and its spacecraft reduced schedule reserves, putting its launch commitment in the first quarter of FY 2022 at risk. Some factors contributing to

²⁰ National Oceanic and Atmospheric Administration. *Budget Estimates Fiscal Year 2019, Congressional Submission*. Washington, DC: NOAA, NESDIS-53.

²¹ DOC OIG, July 9, 2018. *Polar Follow-On: NOAA Must Maintain Cost Efficiencies and Refine Launch Strategy for JPSS-3 and JPSS-4 Missions*, OIG-18-021-A. Washington, DC: DOC OIG, finding I.E., 5–6.

²² NOAA, *Budget Estimates Fiscal Year 2019, Congressional Submission*, NESDIS-53.

these issues included (1) a break in manufacturing between Suomi National Polar-orbiting Partnership (Suomi NPP) and JPSS-1 instruments, (2) a reduced number of suppliers, (3) parts obsolescence, and (4) a new spacecraft design. The development of instruments for JPSS-2, -3, and -4 is scheduled in a “heel-to-toe” fashion, meaning one instrument’s development closely follows its predecessor. As a result, development delays in one instrument potentially threaten the completion schedule of the next.²³ In September 2018, NOAA announced that it had delayed the launch commitment to the first quarter of FY 2023.

Further, NOAA intended that the JPSS-3 and -4 missions include a flexible launch strategy, which included early launch readiness and scheduled launch dates but for which policy and plans were incomplete.²⁴ These factors led OIG to recommend that NOAA use its constellation availability analysis to reassess its planned launch dates for JPSS-2, -3, and -4.²⁵

Reanalyze GOES-T and -U launch readiness dates

In February 2017, NOAA delayed the planned launch of GOES-T, over a year, to June 2020 (later changed to May 2020 due to a conflict with another mission at the same launch site). This decision came after the successful launch of GOES-R and an assessment of the health of the GOES constellation. However, because of an Advanced Baseline Imager (ABI) issue on GOES-17, the GOES-R Series program postponed environmental testing of GOES-T, originally scheduled for June 2018, until its investigation of the GOES-17 issue is completed. In light of the degraded performance of ABI on GOES-17 and the need for design changes to the ABIs on GOES-T and -U, NOAA will need to reexamine those missions’ planned launch dates.

Managing risks in next-in-series satellites

Manage cost and schedule risks for JPSS-2, -3, and -4

The JPSS program reassessed its confidence in the cost and schedule for JPSS-2 in September 2018. Technical issues have complicated the completion of two of JPSS-2’s three key instruments—the Advanced Technology Microwave Sounder and the Cross-track Infrared Sounder. In addition, the program must manage other risks to the completion of the new spacecraft. As OIG reported in July, the program had issued six engineering change proposals for the JPSS-2 spacecraft with an additional cost of \$17.6 million. Further, despite plans that the spacecraft for JPSS-3 and JPSS-4 be the same as JPSS-2’s, typical product line changes over time (e.g., due to parts obsolescence or modifications to manufacturing processes) can require additional engineering and increase cost.²⁶

Management of the JPSS Common Ground System contract transitioned from the National Aeronautics and Space Administration (NASA) to NOAA in August 2018. A NASA project team within the JPSS program managed the contract for the development phase of the

²³ OIG-18-021-A, finding I.D., 5.

²⁴ *Ibid.* Finding I.C. and recommendation 3, 4–5 & 6.

²⁵ *Ibid.* Recommendation 4, 6.

²⁶ OIG-18-021-A, finding I.A., 3–4.

Common Ground System, during which a major system upgrade effort encountered numerous problems and took nearly 2 years longer than planned.²⁷ In addition, OIG identified the need for improvement in the performance management of the cost-plus-award-fee contract.²⁸ NOAA must effectively manage this large contract for a complicated ground system that, in addition to on-orbit satellites, will support launches of JPSS-2, -3, and -4.

Mitigate performance anomalies in GOES-17's ABI

The GOES-R program has convened two review teams to examine a thermal system issue on the GOES-17 ABI that affects 13 of its 16 imagery channels for a portion of the day. One team was trying to determine the cause and potential corrective actions. A second team was developing options to optimize ABI's performance. The outcome from these teams will help NOAA in deciding how to account for GOES-17's reduced performance and what changes to make on GOES-T and -U.

Complete GOES-T environmental testing

The GOES-R program will have to determine whether hardware, software, or testing modifications will be needed for GOES-T and -U ABIs. Some modifications could require the program to remove the ABI from the GOES-T spacecraft, ship it to the instrument vendor to complete the modifications and re-test the instrument, and then ship it back to re-integrate it with the spacecraft before satellite-level environmental testing could begin. This would likely significantly delay the schedule for the completion of GOES-T and put its May 2020 launch planning date at risk.

Planning an optimal next-generation satellite system architecture

In FY 2018, NESDIS completed a study of potential future NOAA satellite observing system architectures to inform decisions for its space systems beyond the currently planned missions of the JPSS and GOES-R programs. Given the time it takes to develop new capabilities, NOAA must make decisions on its next generation systems soon.²⁹

According to the study report, NESDIS considered nearly 100 prototype constellations based on different configurations of instruments and orbits.³⁰ Preliminary conclusions from the study included that hybrid architecture options—combining some traditional missions with new alternatives—provide opportunities to meet NOAA's future needs with greater agility and

²⁷ DOC OIG, August 2, 2018. *The Joint Polar Satellite System: Program Must Use Realistic Schedules to Avoid Recurrence of Ground Project Delays and Additional Cost Increases*, OIG-18-024-A. Washington, DC: DOC OIG, finding I., 2.

²⁸ *Ibid.* Finding II., 9.

²⁹ OIG-18-021-A, finding III, 9–10.

³⁰ NOAA, May 31, 2018. *The National Oceanic and Atmospheric Administration (NOAA) Satellite Observing System Architecture Study, Building a Plan for NOAA's 21st Century Satellite Observing System*. Washington, DC: NOAA, 4. <https://www.regulations.gov/docket?D=NOAA-NESDIS-2018-0053> (accessed August 23, 2018).

within reasonable costs. NOAA intends to reconcile its analysis with other external guidance, including the National Academy of Sciences Decadal Survey.³¹

The NESDIS study also considered use of data as a service provided by commercial enterprises. Relatedly, NOAA has a Commercial Weather Data Pilot (CWDP) project to calibrate and evaluate commercial weather data in accordance with requirements in the Weather Research and Forecasting Innovation Act of 2017.³² NOAA must submit a report to Congress detailing its determination of the viability of using commercial data that it has studied under pilot contracts.³³ However, NOAA faces challenges stemming from the actual capabilities of the nascent commercial weather data industry (the extent to which it can provide sufficient amounts of data and more than one type), potential restrictions on data redistribution, and the ramifications these may have for the eventual operational use of commercial data.

NOAA's CWDP has consisted of two rounds of projects to evaluate radio occultation data and a third round request for information. For the first round, only one vendor was able to provide a very limited set of radio occultation data by April 30, 2017.³⁴ NOAA had to delay its round two request for proposals nearly a year, to April 2018, because vendors were not ready to respond. In May 2018, NOAA issued its round three request for information on existing and planned commercial data services that will be available in the FY 2019 through FY 2021 timeframe.

Further, the NESDIS study notes that NOAA's data is currently freely available to the public and private sectors. If NOAA were to purchase data with restricted redistribution rights, it could affect international data sharing arrangements and downstream Impact-based Decision Support Services.

³¹ The survey may be found at: National Academies of Sciences, Engineering, and Medicine, January 19, 2018. *Thriving on Our Changing Planet: A Decadal Strategy for Earth Observation from Space* [online]. Washington, DC: The National Academies Press. <https://doi.org/10.17226/24938> (accessed July 30, 2018).

³² The Weather Research and Forecasting Innovation Act of 2017 may be found at: Pub. L. No. 115-25 § 302(c)(2) (2017).

³³ *Id.* at § 302(c)(2)(B).

³⁴ OIG-18-021-A, finding III, 9.

Challenge 3: Deploying a Nationwide Public Safety Broadband Network (NPSBN)

The Middle Class Tax Relief and Job Creation Act of 2012 established the First Responder Network Authority (FirstNet) as an independent authority within the National Telecommunications and Information Administration (NTIA) to build, deploy, and operate a NPSBN dedicated to first responders. On March 30, 2017, FirstNet entered into a 25-year contract with AT&T for the construction and operation of the NPSBN. FirstNet's partnership with AT&T involves (a) an initial obligation of up to \$6.5 billion in funds to the private company to deploy the network, (b) AT&T's use of dedicated broadband spectrum, and (c) payments from AT&T to FirstNet over the life of the contract. FirstNet is to use these proceeds to support its operations and to fund future upgrades to the network.

Although FirstNet has made progress in implementing the Middle Class Tax Relief and Job Creation Act's requirements since its 2012 enactment, FirstNet continues to face challenges as it deploys and operates the NPSBN.

OIG's FY 2019 top management and performance challenges include these priority areas related to FirstNet:

- Deploying the NPSBN
- Securing public safety participation
- Ensuring the successful performance of the contract awarded to AT&T
- Ensuring effective and efficient use of proceeds AT&T provides annually to FirstNet
- Strengthening operational controls

Deploying the NPSBN

A top challenge for FirstNet is the deployment of the NPSBN through 2022 and ensuring its sustainability. As discussed in OIG's FY 2018 top management and performance challenges report, FirstNet broadly defines its network in several distinct layers: (1) the **core network** for interfacing with first responders in all 56 U.S. states, territories, and the District of Columbia; (2) the **transport backhaul** that carries user traffic to the core network; (3) the **Radio Access Network (RAN)**, or the state infrastructure that links to user devices; and (4) the **public safety devices** that the NPSBN is expected to support.

In March 2018, FirstNet made progress addressing challenges by launching its core network and awarding the task order to execute the plan to build, operate, maintain, and improve the RAN in each state. In addition, AT&T allows first responders to immediately take advantage of AT&T's long-term evolution (LTE) spectrum bands and maintains a list of certified devices. However, questions about initial deployment and beyond remain. FirstNet's initial deployment of the NPSBN consists of five phases. It is critical that both AT&T and FirstNet meet their contractually agreed upon milestones. In addition, they must address future coverage, the ability

to operate reliably and continually during severe conditions, and the continuous improvements the network will require.

Public safety users require high levels of reliability, redundancy, and security in performing their missions. These essential elements will be critical to ensure continued network operations during and after events requiring effective first responder performance. In addition, FirstNet must also gain the confidence of the public safety user base.

Preparation for launching the NPSBN included clearing existing users from the spectrum that had been set aside for the network. In March 2018, OIG reported on FirstNet's management and oversight of the Band 14 Incumbent Spectrum Relocation Grant Program, established to remove those users. In that report, OIG states that they "generally found FirstNet's processes for managing Band 14 grants to be reasonable; however, [OIG] identified opportunities to address control weaknesses and improve management of this grant program."³⁵

Securing public safety participation

By the end of January 2018, the chief executives of the 56 states, territories, and the District of Columbia decided that their state or territory would "opt-in"—that is, choose FirstNet to deploy a public safety broadband RAN (the system needed to connect devices to FirstNet's nationwide network) within their jurisdictions. However, even though the states and territories have opted in, public safety entities are not required to subscribe to the network.

Many public safety agencies already use broadband services through commercial providers and networks. As OIG has noted before, the NPSBN must meet the public safety community's requirements at an affordable cost.³⁶ Success relies upon AT&T's ability to acquire and retain public safety customers in a competitive market.

FirstNet and AT&T face competition to serve the public safety community. This may adversely affect subscription rates to the FirstNet network.

Ensuring the successful performance of the contract awarded to AT&T

As discussed in OIG's FY 2018 top management and performance challenges report:

Under the contract awarded to AT&T, FirstNet will provide AT&T up to \$6.5 billion in payments and the exclusive use of high-value, telecommunications spectrum, in exchange for the implementation and operation of the NPSBN. The value and complexity of the contract presents significant challenges to FirstNet and the Department.³⁷

³⁵ DOC OIG, March 21, 2018. *Strengthening Grant Processes Will Improve the Management of the Band 14 Incumbent Spectrum Relocation Grant Program*, OIG-18-016-A. Washington, DC: DOC OIG.

³⁶ OIG-17-033, 19.

³⁷ *Ibid.*

FirstNet's oversight of the contract is critical to ensure continued progress and operation of the network. OIG's initial audit of FirstNet³⁸ noted weaknesses associated with contracting practices in what was then a smaller, start-up organization. FirstNet subsequently engaged the U.S. Department of the Interior (DOI) to procure services for the building, deployment, and operation of the NPSBN on its behalf.

FirstNet employed an objectives-based contract acquisition model, as distinct from a more typical requirements-based model. FirstNet's request for proposal (RFP) identified minimum requirements and allowed potential contractors the latitude to propose solutions. Additionally—and atypical of a government contract—FirstNet's RFP specified that proposals include payments to FirstNet to maintain FirstNet's sustainability, which is a Middle Class Tax Relief and Job Creation Act of 2012 requirement.³⁹ The resulting contract with AT&T is complex and will require effective oversight.

As a new organization still building capacity, FirstNet turned to the U.S. Department of the Interior (DOI) for support on its acquisition needs. However, FirstNet now supports its own contracting and acquisition function. As such, contract administration for the NPSBN was transferred from the DOI to FirstNet, effectively making FirstNet fully responsible for executing contract management and administration to support contract activities for the full 25-year period of performance. FirstNet has reported that it will use mechanisms within the contract—such as subscriber adoption targets, milestones for infrastructure buildouts, and disincentive fees—to oversee the contract and ensure AT&T delivers innovation, technology, and customer care. OIG is currently performing an audit to determine whether FirstNet is effectively administering a contract task order to build, operate, and maintain the core of the NPSBN.⁴⁰

In developing customized solutions for each of the 56 jurisdictions, FirstNet and AT&T will no doubt face an array of challenges of concern to network users, such as the extent of rural coverage and network reliability. FirstNet must exercise effective oversight of the AT&T contract if it is to succeed.

Ensuring effective and efficient use of proceeds AT&T provides annually to FirstNet

Meeting the evolving needs of first responders will require system upgrades. The Middle Class Tax Relief and Job Creation Act of 2012 requires that lease fees related to network capacity be invested back into the network for improvements. To meet this requirement, FirstNet will collect annual payments from AT&T over the life of the contract to support its administrative and operating costs and provide funding to reinvest in network upgrades. FirstNet has told us that it has received the first two AT&T payments and developed a process to determine how the funds will be used in constructing, maintaining, operating, or improving the NPSBN.

³⁸ DOC OIG, December 5, 2014. *FirstNet Must Strengthen Management of Financial Disclosures and Monitoring of Contracts*, OIG-15-013-A. Washington, DC: DOC OIG.

³⁹ Pub. L. No. 112-96 § 6208, 47 U.S.C. § 1428.

⁴⁰ In May 2018, OIG initiated an audit of FirstNet's oversight of the contract awarded to develop the NPSBN. The audit's objective is to determine whether FirstNet properly administered Task Order Number 3, Deployment, Operation, and Maintenance of the Nationwide Core.

FirstNet must ensure that it efficiently and effectively manages funds it receives to upgrade the network and sustain the continued commitment of the public safety community.

Strengthening operational controls

FirstNet has experienced continued challenges with respect to its operational controls. In several reports, OIG has recommended that FirstNet address control weaknesses regarding (1) workforce and recruiting challenges and improve internal control,⁴¹ (2) its federal consultation program,⁴² and (3) management of interagency agreements;⁴³ In general, FirstNet has timely addressed OIG's recommendations and undertaken actions to strengthen operational controls. However, the pattern of control weaknesses increases the risk that other issues exist. OIG encourages FirstNet to place emphasis on effective controls. As noted previously, FirstNet is taking over procurement responsibilities, which will inevitably be an additional challenge facing the agency.

Finally, the current chief executive officer departed in September 2018, necessitating the selection of a successor. The position of chief counsel went unfilled from the end of 2017 until the beginning of September 2018. OIG believes that filling vacant management positions is of vital importance, as strong internal oversight of this program requires continuous and full attention from senior managerial levels. Also, the FirstNet Board, responsible for overseeing FirstNet, will have significant leadership changes due to recent decisions by both the Board Chairman and Vice Chairman to depart with a year remaining on their terms.

⁴¹ DOC OIG, August 14, 2015. *Audit of FirstNet's Workforce and Recruiting Challenges, Participation at Discretionary Outreach Events, and Internal Control*, OIG-15-036-A. Washington, DC: DOC OIG.

⁴² DOC OIG, February 8, 2016. *Audit of FirstNet's Efforts to Include Federal Agencies in its NPSBN*, OIG-16-017-A. Washington, DC: DOC OIG.

⁴³ DOC OIG, June 29, 2016. *FirstNet Can Strengthen Its Controls by Documenting Procedures to Close and Track Interagency Agreements*, OIG-16-035-A. Washington, DC: DOC OIG.

Challenge 4: Ensuring USPTO Provides High-Quality Intellectual Property Rights

The U.S. Patent and Trademark Office (USPTO) faces the challenge of issuing reliable patents. Innovators and creators must have confidence that their patents will withstand scrutiny and litigation; in light of this challenge, USPTO's Director has indicated a need to increase the reliability of patents. As noted by stakeholders, patentability concerns will deteriorate innovators' confidence in the U.S. patent system, stifle innovation, and weaken the value of U.S. intellectual property rights.⁴⁴

OIG's FY 2019 top management and performance challenges with respect to USPTO include these priority areas:

- Ensuring that the Patent Trial and Appeal Board (PTAB) operates fairly and effectively
- Ensuring that examiners perform thorough patent application reviews
- Improving the management of IT acquisitions and operations

Ensuring that PTAB operates fairly and effectively

The 2011 Leahy-Smith America Invents Act (AIA) created new patent procedures—including replacing the Board of Patent Appeals and Interferences with PTAB, a business unit within USPTO that renders decisions on patentability issues.⁴⁵ PTAB, which holds proceedings using administrative patent judges (APJs), was intended to provide a more efficient and less costly alternative to district courts for deciding patentability matters.⁴⁶

USPTO continues to face scrutiny from stakeholders regarding patent validity and the potential for expensive and extended patent litigation when PTAB invalidates a patent. Since its effective date in 2012, PTAB has received more than 8,000 trial petition filings, instituted more than 4,000 trials, and issued more than 2,000 final written decisions.⁴⁷ However, more than 80 percent of PTAB's final decisions have resulted in the claims being held as unpatentable, creating uncertainty over the patents.⁴⁸ To address stakeholder concerns about inconsistency and

⁴⁴ George Mason University Antonin Scalia Law School Center for the Protection of Intellectual Property, April 28, 2017. An Ever-Weakening Patent System is Threatening the Future of American Innovation [online]. <https://cpip.gmu.edu/2017/04/28/an-ever-weakening-patent-system-is-threatening-the-future-of-american-innovation/> (accessed August 30, 2018).

⁴⁵ Pub. L. No. 112-29, § 7, 125 Stat. 284, 313 (2011).

⁴⁶ U.S. Patent and Trademark Office, September 2015. *Study and Report on the Implementation of the Leahy-Smith America Invents Act*. Alexandria, VA: USPTO, 12.

⁴⁷ Patent Trial and Appeal Board, May 2018. *Trial Statistics* [online]. https://www.uspto.gov/sites/default/files/documents/trial_statistics_20180531.pdf (accessed June 20, 2018).

⁴⁸ In its 2017 annual report, the Patent Public Advisory Committee, a statutorily created committee responsible for advising the USPTO Director on the management of patent operations, recommended that PTAB remain vigilant to ensure fair and transparent processes and proceedings in order to render well-grounded decisions.

uncertainty surrounding these decisions, PTAB implemented several changes, including, expanding its panels to more than three APJs.

Furthermore, the AIA gave USPTO broad regulatory authority to implement and conduct new post-patent issuance proceedings.⁴⁹ In response, USPTO engaged the public to issue rules and guidance for the proceedings. As issues arise, USPTO continues to revise its guidance and assess potential improvements to PTAB standards and processes—and will face various challenges to ensure that PTAB operations are fair and effective.

Ensuring that examiners perform thorough patent application reviews

For a patent to be issued, the application must meet legal requirements for patentability set forth in patent laws and federal case law. USPTO's patent examiners determine whether applications meet the legal requirements by reviewing patent applications in the context of other information relevant to the claimed invention, known as "prior art." Identifying the most relevant prior art during examination reduces the chance that USPTO will grant a new patent for a previous invention. However, researching prior art is also the patent examiner's most time-consuming and challenging task: to date, there are over 60 million pieces of prior art to research. Nevertheless, there are trade-offs between timeliness and patent quality. Examiners cannot examine patents quickly and simultaneously ensure the highest quality patents. It is vital that patent examiners perform thorough application reviews—including thorough prior art searches—to reduce the likelihood of USPTO granting new patents for inventions that already exist, as well as minimizing disputes over patent validity.

OIG identified several issues that USPTO faces in ensuring that examiners perform thorough patent application reviews. For example, in a prior audit report, OIG found that USPTO needs to strengthen its patent quality assurance practices—specifically, USPTO's performance appraisal plan and related policies are ineffective at measuring whether examiners are issuing high-quality patents.⁵⁰ GAO also noted similar issues related to the time examiners need to perform high-quality patent examinations, which includes thorough prior art searches, and the effects of its production-based incentive policies on patent quality.⁵¹ Without addressing these issues, USPTO will be unable to measure progress toward meeting its strategic goal to optimize patent quality and timeliness, consistent with internal control standards and best practices for federal agencies.

Improving the management of IT acquisitions and operations

Over the previous 2 years, OIG has identified the modernization of USPTO's legacy IT systems as a top management and performance challenge. Although USPTO identified interim

⁴⁹ *Leahy-Smith America Invents Act*, Pub. L. No. 112-29, §§ 6 and 18, 125 Stat. 284, 299, 329 (2011).

⁵⁰ DOC OIG, April 10, 2015. *USPTO Needs to Strengthen Patent Quality Assurance Practices*, OIG-15-026A. Washington, DC: DOC OIG, 4–9.

⁵¹ U.S. GAO, September 16, 2016. *Patent Office Has Opportunities to Further Improve Application Review and Patent Quality*, GAO-16-883T. Washington, DC: GAO.

accomplishments such as trademark document migration into the Trademark Next Generation (TMNG) application, OIG remains concerned about USPTO's progress in this area.

USPTO relies upon mission-critical IT systems in every aspect of its operation for examination, rights management, and revenue collection associated with patents and trademarks. To help meet its strategic goals and mission, USPTO aggressively pursues complete modernization of its IT systems for core applications, such as Patent End to End (PE2E), TMNG, and Fee Processing Next Generation (FPNG). Given the significance of USPTO IT activities and its impact on stakeholders, effective management of USPTO's modernization efforts is critical.

However, as noted in the FY 2018 top management and performance challenges report,⁵² several major systems are still behind their original implementation schedule and over estimated costs. For example, USPTO's effort to replace Trademark's legacy IT system has not progressed as quickly as planned. In 2011, USPTO initially estimated the TMNG investment to cost approximately \$30.3 million, with completion planned for 2014. However, as cited by *Trademark Public Advisory Committee Annual Report 2017*,⁵³ estimates for TMNG place the final cost at \$260.7 million—more than eight times the initial estimated cost—with completion planned in 2021, or 7 years later than originally planned.

Furthermore, the Patent organization IT modernization effort has also not progressed as quickly as planned. USPTO's goal was to retire the patent legacy systems no later than FY 2015; however, USPTO has not met this goal. In 2010, USPTO initially estimated the PE2E investment to cost approximately \$130.1 million, with completion planned for 2013. However, as of November 2017, estimates from Capital Investment Decision Papers for PE2E place the final cost at \$855.1 million—more than six times the initial estimated cost—with completion planned for FY 2021, or more than 7 years later than originally planned.

Until USPTO retires these legacy systems, the agency is operating and supporting more than 62 outdated systems past the current support plan at a cost of approximately \$38.9 million a year. USPTO's continued reliance on the legacy systems for daily operations poses considerable risk in terms of maintenance, support, and reliability. It is critical that USPTO maintain effective management and oversight of its IT modernization efforts in order to minimize delays and cost overruns—and ensure it develops and implements systems that meet mission needs.

⁵² DOC OIG, September 29, 2017. *Top Management and Performance Challenges Facing the Department of Commerce in Fiscal Year 2018*, OIG-17-033. Washington, DC: DOC OIG, 24, 25.

⁵³ USPTO. *Trademark Public Advisory Committee Annual Report 2017*, I-1495934.6 [online]. https://www.uspto.gov/sites/default/files/documents/TPAC_Annual_Report_2017.PDF (accessed November 14, 2018).

Challenge 5: Continuing to Improve the Department's Cybersecurity Posture

In recent years, strengthening the cybersecurity of federal government networks and critical infrastructure has increasingly become a high priority. To meet this priority, the Department has actively participated in a government-wide effort to deploy cybersecurity capabilities that provide a dynamic approach to fortifying the cybersecurity of government networks and systems. Although the Department has made progress in this area, it continues to face significant challenges to improving its enterprise cybersecurity posture. In addition, the Department is increasingly relying on cloud technology services to support its business operations, including the 2020 decennial census. While cloud technologies can bring great benefits, they unavoidably introduce new security challenges. The Department must provide adequate security to support the 2020 decennial census as well as other critical mission functions, fully implement the enterprise cybersecurity capabilities, and ensure it has a sustainable cyber workforce to meet its cybersecurity needs. As security threats become increasingly sophisticated and more numerous, the Department faces the challenge of reevaluating and expanding its approaches to securing information technology (IT) systems. The Department must work to fulfill existing requirements, while also implementing new strategies, to meet the additional security demands of cloud-based computing, as well as other technological developments.

OIG's FY 2019 top management and performance challenges include these priority areas with respect to the Department's cybersecurity posture:

- Implementing security controls to protect the systems supporting the 2020 Census
- Securing cloud-based systems and assets
- Sustaining Department-wide implementation of the Continuous Diagnostics and Mitigation (CDM) program
- Maintaining a robust IT workforce to manage an effective IT security program

Implementing security controls to protect the systems supporting the 2020 Census

The Bureau has struggled to implement and assess the security controls needed to protect its systems effectively. An ongoing OIG audit⁵⁴ has found that the Bureau had not implemented longstanding security requirements for federal information systems. These security control requirements, introduced in 2013, were not implemented on systems that had been supporting

⁵⁴ DOC OIG to U.S. Census Bureau, memorandum, February 13, 2016. Assessment of the Census Bureau's Implementation of the Risk Management Framework [online]. <https://www.oig.doc.gov/OIGPublications/Assessment-of-the-Census-Bureaus-Implementation-of-the-Risk-Management-Framework.pdf> (accessed August 23, 2018).

Bureau operations. According to GAO,⁵⁵ as the Bureau continues to prepare for the 2020 Census, new systems were not completely developed before the 2018 End-to-End test—thus raising concerns about the Bureau having enough time to implement and assess the security controls needed to protect these systems.

Ongoing OIG security assessments of some of these systems used in this test⁵⁶ have already identified significant security weaknesses. Any future delays will result in compressed time frames for system development and security control assessments—and will lessen the likelihood of successfully securing the Bureau's IT systems. Maintaining the confidentiality and integrity of the information collected for the 2020 Census is vital. Bureau management must devote significant attention to ensure that the systems supporting the decennial census are secured.

Securing cloud-based systems and assets

As the Department continues to move toward cloud computing technology, securing its information systems from cyberattacks will pose significant challenges. In recent years, the Department's operating units have leveraged commercial cloud-based services to support their mission critical information systems. When doing so, operating units cannot solely rely on the responsible cloud service providers to implement security measures that protect the Department's cloud-based information systems.

The Department and its operating units need a clear awareness of security responsibilities when using commercial cloud-based services. In a previous audit,⁵⁷ OIG found that USPTO misunderstood this responsibility and did not properly implement security measures when deploying a cloud-based system. This lapse occurred because USPTO incorrectly relied on the cloud service provider to implement security. As of March 2018, USPTO had implemented most of OIG's report recommendations. OIG found similar issues in a recent audit⁵⁸ of the International Trade Administration (ITA): a lack of strong management commitment was a primary factor for inadequately protecting and securely configuring ITA's cloud infrastructure supporting mission critical systems and applications. ITA continues to work with OIG on a corrective action plan to address audit report recommendations.

⁵⁵ U.S. Government Accountability Office, May 8, 2018. *2020 Census: Actions Needed to Mitigate Key Risks Jeopardizing a Cost-Effective and Secure Enumeration*, Testimony Before the Committee on Oversight and Government Reform, U.S. House of Representatives, GAO-18-543T. Washington, DC: GAO.

⁵⁶ DOC OIG to U.S. Census Bureau, memorandum, February 15, 2018. *Audit of the Census Bureau's Decennial Cloud-Based Systems* [online]. https://www.oig.doc.gov/OIGPublications/2018-02-15_Decennial_Census_Cloud_Security_Audit_announcement_memo_final.pdf (accessed August 7, 2018).

⁵⁷ U.S. Department of Commerce Office of Inspector General, March 24, 2017. *Inadequate Security Practices, Including Impaired Security of Cloud Services, Undermine USPTO's IT Security Posture*, OIG-17-021-A. Washington, DC: DOC OIG.

⁵⁸ DOC OIG, March 27, 2018. *ITA Needs a Stronger Commitment to Safeguard Its Cloud-Based Systems*, OIG-18-017-A. Washington, DC: DOC OIG.

Sustaining Department-wide implementation of the CDM program

Earlier this decade, the Department started implementing an enterprise cybersecurity initiative—Enterprise Continuous Monitoring Operation (ECMO)—as an essential piece of its Department-wide continuous monitoring capability. The capabilities provided by ECMO include hardware and software asset management, configuration settings, and known vulnerability detection. In FY 2014, federal agencies were required to comply with the Department of Homeland Security's CDM program,⁵⁹ which aims to provide a dynamic approach to fortifying the cybersecurity of government networks and systems. As a result, ECMO deployment became part of the implementation of the Department's CDM program.

In the FY 2017 top management and performance challenges, OIG reported that the Department had made substantial progress toward implementing the ECMO capability on its system components—but not on high-impact systems, on which the Department planned to complete implementation by September 2017. However, ECMO capability currently is still not fully implemented on high-impact systems at NOAA and the Bureau of Industry and Security (BIS). As a result, the Department has no continuous monitoring cybersecurity capability over its most critical systems. While NOAA and BIS continue to deploy ECMO on their high-impact systems, the crucial data that ECMO collects for these systems will not automatically feed into the Department's ECMO operation until mid-2019. This delay unavoidably slows down the CDM program implementation. The Department must make a concerted effort to ensure complete ECMO deployment on its high-impact systems, sustain Department-wide implementation of the CDM program, and provide real-time continuous monitoring to enhance its cybersecurity posture.

Maintaining a robust IT workforce to manage an effective IT security program

In recent years, the Department has had to face the challenge of hiring and retaining its IT security staff to keep up with increasing work demands related to cybersecurity. In May 2018, OIG surveyed the IT security-related vacancies at the Department and its operating units' offices of the chief information officer (OCIOs)—and found that more than 30 vacancies, including 9 senior management positions (GS-15 equivalent), involving cybersecurity functions at these offices remain unfilled. Some of these positions have been vacant for more than 2 years. In addition, three IT leadership positions are currently vacant, including the Department's chief information officer (CIO) position, which has been staffed in an acting capacity since January 2017.

Vacancies in key leadership positions and an IT security workforce have adversely affected the Department's IT security program. For example, the Department has not completed updating its outdated cybersecurity-related policies as planned. In addition, the Department's OCIO was not able to perform in-depth quality validation for Federal Information Security Management Act (FISMA) quarterly submissions to the Office of Management and Budget (OMB) because no staff was solely dedicated to FISMA work. Department leadership should prioritize hiring and

⁵⁹ Office of Management and Budget, memorandum, November 18, 2013. *Enhancing the Security of Federal Information and Information Systems, M-14-03*, Washington, DC: OMB.

retaining efforts to maintain a robust IT security workforce to ensure the security of the critical systems that support the Department's missions.

Challenge 6: Utilizing Resources and Developing Processes to Rebalance Trade Enforcement and Promotion Priorities

Among the federal government's leading trade enforcement and promotion agencies, the Department faces the challenge of helping U.S. companies be more competitive abroad while simultaneously protecting U.S. national security interests. The Department's trade enforcement and promotion responsibilities primarily reside with two bureaus: (1) ITA, which enforces U.S. trade laws and agreements and assists U.S. exporters to sell their products overseas, and (2) BIS, which administers and enforces U.S. export control laws and regulations to support U.S. national security interests. With the Administration prioritizing trade enforcement activities to promote fair and secure trade, the Department must continue to rebalance its resources and capabilities to that end.

In the area of international trade, the Administration has prioritized enforcing laws that promote fair and secure trade using existing and new laws and regulations, in addition to using rarely exercised authorities.⁶⁰ The two Department components affected the most by this prioritization are ITA and BIS. The Enforcement and Compliance (E&C) business unit of ITA is responsible for conducting antidumping (AD) and countervailing duty (CVD) investigations and reviews to remedy unfairly dumped and/or subsidized imports. ITA's Industry and Analysis (I&A) business unit leads, with extensive BIS collaboration, the Department's engagement in interagency efforts to review transactions involving potential foreign ownership of U.S. companies. BIS leads, with substantive ITA support, the Section 232 investigations to determine whether tariffs on imports are warranted for national security reasons. ITA and BIS must use their resources effectively and efficiently as they participate in government-wide efforts to ensure fair trade that protects national security.

OIG's FY 2019 top management and performance challenges include these priority areas related to trade and enforcement promotion:

- Building staff expertise for the self-initiation of AD and CVD cases
- Institutionalizing processes for Section 232 product exclusion request reviews and managing the increased foreign investment review workload
- Managing the downsizing of trade promotion capacity

Building staff expertise for the self-initiation of AD and CVD cases

In the last year, ITA has made progress on top management and performance challenges relating to AD and CVD cases. E&C has tasked its Petition Counseling and Analysis Unit within the Office of Policy and Negotiations, staffed with five full-time positions, with self-initiating AD

⁶⁰ DOC OIG, September 27, 2017. *Top Management and Performance Challenges Facing the Department of Commerce*, OIG-17-033. Washington, DC: DOC OIG, 21.

and CVD investigations, when warranted, on behalf of affected domestic interested parties. However, further challenges remain.

On November 28, 2017, the Secretary announced the Department's self-initiation of separate AD and CVD cases on common alloy aluminum sheet imports from the People's Republic of China.⁶¹ These were the first self-initiated AD and CVD cases by the Department since 1985 and 1991, respectively. The Tariff Act of 1930, as amended, empowers the Secretary to initiate cases on behalf of interested parties (such as U.S. companies or labor unions) when warranted and where sufficient evidence of injurious dumping and subsidization exists.⁶² This contrasts with a traditional AD or CVD case, which is initiated through a petition submitted by a domestic interested party against imports of particular foreign products. Regardless of how an AD or CVD proceeding is initiated, E&C carries out an investigation and subsequent annual reviews.

The Administration has signaled its intent to continue self-initiating cases when warranted by calling in ITA's FY 2019 budget justification for the continued development of a specialized E&C unit to handle such cases.⁶³ Not only will these self-initiated cases add to E&C's existing workload⁶⁴, but they will require E&C to take on the additional responsibilities of researching and obtaining sufficient evidence from affected domestic companies and industries, which is typically performed by a petitioner. Increasing E&C's capacity to self-initiate AD/CVD investigations may require additional guidance and processes and enhanced training for new and current staff who may not be accustomed to conducting these type of cases. In the FY 2017 OIG audit report on E&C's efforts to ensure accurate and timely trade remedy determinations,⁶⁵ we found that the office needed to update its quality assurance practices and implement them in a consistent manner across its offices. E&C must ensure that its quality assurance practices apply to self-initiated cases as well.

Institutionalizing processes for Section 232 product exclusion request reviews and managing the increased foreign investment review workload

Section 232 of the Trade Expansion Act of 1962 provides the President with the authority to adjust imports that threaten to impair U.S. national security based on a recommendation by the

⁶¹ U.S. Department of Commerce, "U.S. Department of Commerce Self-Initiates Historic Antidumping and Countervailing Duty Investigations on Common Alloy Aluminum Sheet from China," press release, November 28, 2017. <https://www.commerce.gov/news/press-releases/2017/11/us-department-commerce-self-initiates-historic-antidumping-and> (accessed August 27, 2018).

⁶² 19 U.S.C. §§ 1671a and 1673a.

⁶³ DOC International Trade Administration, *Budget Estimates, Fiscal Year 2019*. Washington, DC: DOC ITA, ITA-38.

⁶⁴ E&C's workload of new investigations and determinations has increased. For example, in FY 2017, E&C initiated 73 investigations and issued 403 preliminary and final AD/CVD determinations. This is far more than in FY 2013, when it initiated 38 investigations and issued 352 determinations.

⁶⁵ DOC OIG, February 28, 2017. *Enforcement and Compliance Needs to Update and Consistently Implement Its Quality Assurance Policies and Practices*, OIG-17-017-A. Washington, DC: DOC OIG.

Secretary.⁶⁶ The Secretary's recommendation, which follows a formal investigation, also provides the President with the suggested amount of the tariffs. In April 2017, the Secretary initiated two investigations, one each for steel and aluminum imports, and the results were publicized in February 2018. These Section 232 investigations, led by BIS and assisted by ITA, were the first ones carried out since 2001 and, according to BIS, required thousands of hours to complete using existing resources.⁶⁷ Based on the Secretary's report on these investigations, in March 2018 the President imposed tariffs of 25 percent and 10 percent on steel and aluminum imports, respectively, from all countries except Canada and Mexico. However, as of June 1, 2018, the steel tariffs applied to all countries of origin except Argentina, Australia, Brazil, and South Korea, and the aluminum tariffs to all countries of origin except Argentina and Australia.

In the March 2018 tariff proclamations, the President also authorized the Secretary to exclude specific steel and aluminum articles from these tariffs upon the request of directly affected U.S. parties through a formal request process based on national security grounds or lack of U.S. availability. According to BIS, as of October 29, 2018, the Department had received more than 49,000 of these exclusion requests and had made determinations on more than 16,500 of them. OIG understands from BIS that the unanticipated high volume of exclusion requests, and resulting staffing constraints, contributed to the slow pace of exclusion request resolution. With the Administration committed to using this authority to promote fair trade, both BIS and ITA need to ensure resources are available and processes are in place to facilitate these comprehensive, time-sensitive evaluations.

Another authority being used more frequently is the review of business transactions involving foreign entities by the interagency Committee on Foreign Investment in the United States (CFIUS), of which the Secretary is a member.⁶⁸ CFIUS historically has reviewed covered transactions in the form of company mergers and acquisitions that may result in foreign control of U.S. businesses to assess their impact on U.S. national security. ITA's I&A serves as the coordinating entity for the Department's review of CFIUS transactions, with I&A assessing the commercial and market conditions as they relate to national security on covered transactions and BIS assessing the export control and defense industrial base implications of such transactions. The Department also reviews undeclared or "non-notified" transactions that may require the Committee's consideration.

The number of covered transactions reviewed by CFIUS has more than doubled in recent years—and, with the recent passage of new legislation, is expected to increase significantly more. In calendar year 2010, the Committee reviewed 96 transactions; by calendar years 2016 and 2017, that number had increased significantly to 173 and 238 transactions, respectively.⁶⁹

⁶⁶ Trade Expansion Act of 1962, Pub. L. No. 87-794 § 232, 19 U.S.C. § 1862, as amended.

⁶⁷ DOC Bureau of Industry and Security, *Budget Justification, Fiscal Year 2019*. Washington, DC: DOC BIS, BIS-5.

⁶⁸ CFIUS is an interagency committee chaired by the Secretary of the Treasury and comprises the heads of the Departments of Commerce, Defense, Energy, Homeland Security, Justice, State, and the Treasury; as well as the heads of the Offices of the U.S. Trade Representative and Science and Technology Policy. 50 U.S.C. § 4565(k); see also Executive Order 13456, *Further Amendment of Executive Order 11858 Concerning Foreign Investment in the United States*, January 23, 2008.

⁶⁹ DOC Bureau of Industry and Security. *President's Submission, Fiscal Year 2019*. Washington, DC: DOC BIS, BIS-5.

On August 13, 2018, the President signed into law the John S. McCain National Defense Authorization Act for Fiscal Year 2019 (Pub. L. No. 115-232), which includes the Foreign Investment Risk Review Modernization Act that reforms the CFIUS process. The Act creates four new types of covered transactions beyond those that could result in the control of a U.S. business by a foreign entity, such as certain real estate transactions and investments in U.S. businesses that are involved with critical technologies or infrastructure. The Committee will need to develop new regulations and processes to implement these new mandates. Given the enlarged scope of covered transactions, the Committee's overall workload is expected to increase compared to prior years.

Both BIS and ITA face uncertainty projecting how many transactions will be reviewed—and are faced with ensuring that their workforces possess the technical capacity and that adequate resources and processes are in place to complete these reviews in a timely manner.

Managing the downsizing of trade promotion capacity

The President's FY 2019 budget justification for ITA reduces the amount of resources for the Global Markets (GM) business unit, which promotes U.S. exports, advances and protects U.S. commercial interests abroad, and attracts inward investment in the United States. At present, GM has offices in 76 countries and 106 offices in the United States. The Administration has proposed the elimination of 98 overseas positions and 28 at its domestic offices (with an additional 66 positions at its Washington, DC, headquarters).⁷⁰

If the Administration's proposal to reduce GM's domestic and overseas presence receives Congressional approval, ITA faces the challenge of restructuring its international and domestic presence by downsizing its workforce—which might include closing offices ranked lower on GM's resource allocation model—while ensuring the effective delivery of specialized client services. Closing overseas offices, in particular, would require careful planning and execution to address important issues, such as securing interagency approvals to reduce overseas staff, determining locally engaged staff severance, assessing the impact on commercial officer assignments, and discontinuing payments for administrative services overseas. ITA should ensure its strategy has processes in place to minimize the risk of these reductions to GM in meeting its mission effectively and efficiently.

⁷⁰ DOC International Trade Administration. *Budget Estimates, Fiscal Year 2019*. Washington, DC: DOC ITA, ITA-57.

Challenge 7: Providing Adequate Oversight to Effectively Manage the Significant Increase in Disaster Assistance Funding to EDA

According to NOAA, the United States experienced a historic year of weather-related disasters in 2017. Our nation endured 16 separate billion-dollar disaster events, including severe weather, hurricanes, flooding, and wildfires. In response, the President signed into law the Bipartisan Budget Act of 2018,⁷¹ which designated \$1 billion in disaster recovery funds to the Department, \$600 million of which was appropriated to the Department's Economic Development Administration (EDA), while the remaining \$400 million was appropriated to NOAA. There is \$587 million available for EDA grants, following transfers related to grant administration and oversight.

Providing assistance in a post-disaster recovery environment introduces its own unique challenges, such as the reliance on impaired local infrastructure, awarding funds to recipients that might not be familiar with federal requirements, and unanticipated impact on resources due to the increased workload. This is especially critical to EDA, as the additional disaster assistance funding triples its typical annual budget authority from about \$300 million to nearly \$900 million.⁷² This significant increase in funding will place additional demands on EDA's existing workforce, oversight processes, business practices, and financial management systems to ensure proper oversight and use of the funds. Additionally, EDA is responsible for integrating the expertise of the federal government to assist local, state, tribal governments, and the private sector in economic recovery efforts following a major disaster. EDA has taken proactive steps to start addressing this challenge. To date, EDA has developed four Disaster Supplemental Implementation (DSI) working groups, whose responsibility is to promote policies and procedures that address disaster assistance related priority areas.⁷³

However, to ensure proper and timely use of the disaster assistance fund, EDA must develop and implement comprehensive strategic planning, develop consistent policies, and maintain a highly-skilled workforce as it increases its oversight efforts to effectively administer the disaster assistance appropriations.

⁷¹ Public Law No. 115-123, *Bipartisan Budget Act of 2018*.

⁷² The additional disaster assistance funding to NOAA represents an overall increase in its budget authority of less than 10 percent.

⁷³ The four working groups include the (1) *Communications* working group, which is responsible for developing and implementing communications strategies that will enable EDA to successfully manage its relationships with a variety of important stakeholders; (2) *Data and Tools* working group, which is responsible for identifying and leveraging technology-based capacities, and establishing mission-critical performance metrics that will enable EDA to track and evaluate disaster supplemental grant proposals and applications; (3) *Coordination and Operations* working group, which is responsible for developing and implementing operational systems necessary to support enterprise systems and capacity for successful management and oversight of the DSI funds; and (4) *Hiring and Training* working group, which is responsible for developing and implementing the strategies and procedures EDA needs in order to expeditiously hire and train new staff to support the agency's disaster supplemental grant-making processes and workload.

OIG's FY 2019 top management and performance challenges include these key areas related to EDA disaster relief:

- Following a comprehensive oversight implementation strategy
- Acquiring and maintaining sufficient staff with appropriate proficiency
- Developing a risk management strategy to strengthen internal control

Following a comprehensive oversight implementation strategy

EDA's plan is to develop the procedures and criteria on an accelerated timeline in order to begin awarding disaster recovery grants timely. To do this, it will need to accomplish a variety of tasks within a short period. The scope and magnitude of the Bipartisan Budget Act of 2018 funds may require EDA to modify oversight efforts for successful administration of funds. The timeline required the agency to revise programs and spending processes, while maintaining compliance with federal rules, could take many months. It is essential that EDA use sound management practices and oversight measures to ensure the effectiveness of its own operations as it carries out disaster recovery mission.

With 903 of 3,223 U.S. counties declared disaster areas in 2017 (around 28 percent), it is important that EDA plans how it will determine and document the decision-making process in a transparent manner for deciding which geographic areas affected by disasters are highest priority, as well as the methodology used to allocate funding to the EDA regional offices.

Additionally, the Department should ensure that EDA establishes a proactive communications strategy to engage parties such as Congress and the public on the complexities of recovery.⁷⁴ This could provide significant help in achieving stakeholder support, even when the recovery effort runs into problems. Without proactive engagement, EDA, and consequently the Department, may experience media and public backlash that could force them to make counterproductive decisions about the recovery.

Acquiring and maintaining sufficient staff with appropriate proficiency

Human capital challenges at all levels are responsible for many of the operational difficulties faced during disaster recovery efforts. With the significant increase in EDA's spending and related activities comes a corresponding increase in the number of staff that may need to perform duties related to disaster relief financial assistance. Shortages of experienced staff with the right skills and abilities can contribute to delays in cost-effective disaster recovery. In response to the Bipartisan Budget Act of 2018, EDA will need to quickly organize existing staff and hire additional temporary staff to meet the Act's objective.

Since 2011, we have reported that the Department continues to face challenges regarding its workforce. For example, in the top management and performance challenges report for FY

⁷⁴ According to EDA, its public website contains updated frequently asked questions information—and will be updated monthly with recently released grant information.

2018, OIG stated that the Department continues to face workforce challenges such as its inability to (1) attract and retain experienced professionals to work in locations outside the Washington, DC, metropolitan area and (2) fill vacant positions timely. The Department needs to ensure EDA has the ability to provide sufficient oversight with limited time and staff, especially in the bureaus that oversee the largest disaster areas. This is especially critical for EDA, which will see a marked increase in the number of grants that it must award and oversee in the aftermath of the 2017 disasters.

Developing a risk management strategy to strengthen internal control

All federal agencies, including EDA, are responsible for implementing management practices, through the establishment of internal control, that identify, assess, respond, and report on risks. Agencies use a risk-based approach to design and implement financial and administrative controls to identify and mitigate adverse events; EDA must do so in order to provide reasonable assurance that its controls over operations and compliance are operating effectively.

In assessing risks in disaster situations, the Department should ensure that EDA leverages its existing enterprise risk management processes when possible. However, the agency should ensure that it has a sufficient process to identify and mitigate any new risks or changes to existing risks. This is particularly important for EDA, which must rely on its existing control structure to manage risk over the disaster relief funding that triples its current grant portfolio. EDA has made progress in this area by obtaining approval from OMB on an internal controls memorandum, which was distributed to OIG, GAO, the U.S. House of Representatives, and the U. S. Senate on August 30, 2018. By continually identifying and assessing risk, EDA will be better able to develop an effective risk management strategy to further strengthen internal control.⁷⁵

When developing a prudent strategy, EDA should consider best practices used in past Departmental recovery efforts. In the 2018 EDA disaster assistance management challenges report,⁷⁶ OIG identified best practices used by the National Institute of Standards and Technology (NIST) and NOAA when implementing the American Recovery and Reinvestment Act of 2009 (Recovery Act). Both NOAA and NIST implemented performance measure requirements and established mechanisms for active risk management, which resulted in improved Recovery Act management capabilities and systems. EDA will need to execute a risk-based framework in its oversight plan and institute additional measures, if necessary, to mitigate known risks and ensure that disaster recovery funds are properly distributed and spent.

⁷⁵ EDA also proactively sought and obtained a waiver from OMB for construction projects regarding the requirement to expend grant funds within 24 months of obligation. According to EDA officials, such a requirement would have unnecessarily increased the risk associated with complicated construction projects.

⁷⁶ DOC OIG, June 4, 2018. *Bipartisan Budget Act of 2018: Oversight Challenges Facing the Economic Development Administration*, OIG-18-021. Washington, DC: DOC OIG.

Challenge 8: Addressing Departmental Management Matters Involving Acquisitions

A continuing challenge for the federal government generally, and the Department specifically, is spending taxpayer dollars wisely and protecting them from waste and abuse. In FY 2017, the Department awarded various types of contracts—totaling approximately \$3.2 billion—for goods and services related to satellite acquisitions, support for intellectual property operations, management of coastal and ocean resources, IT, and construction and facilities management. Consequently, it is imperative that these funds result in the best value for the taxpayer. OIG audits have identified a number of areas where the Department can better manage and oversee contracts to improve program performance, achieve cost savings, and help prevent fraud, waste, and abuse.

OIG's FY 2019 top management and performance challenges include these key areas:

- Improving monitoring of blanket purchase agreements (BPAs)
- Developing and maintaining a competent acquisition workforce to maximize cost savings
- Establishing oversight of mission-support service delivery
- Increasing the pace of NOAA ship acquisitions

Improving monitoring of BPAs

GAO reported⁷⁷ that agencies were not maximizing opportunities for competition or savings under BPAs despite significant increase in usage. In addition to some agencies not taking advantage of competition under multiple award BPAs, GAO reported that those agencies were neither seeking vendor price discounts when required nor complying with annual review requirements. OMB also issued a report that discussed the use of BPAs under the Federal Supply Schedule in order to negotiate better deals.

Nearly a decade later, recent OIG audit work found that these issues continue to occur with the award and administration of BPAs. For example, one audit of NOAA's use of BPAs found that it did not properly establish or administer all 30 BPAs reviewed because it did not comply with at least one or more of the key Federal Acquisition Regulation (FAR) and agency requirements. Specifically, NOAA missed potential cost savings on BPAs by issuing single award agreements without sufficient competition, not consistently requesting price discounts, and not conducting annual reviews. In an audit of Census Bureau BPAs, OIG found that contracting officials did not consistently conduct annual reviews and did not consistently seek vendor price discounts. The Department needs to improve controls to help ensure compliance with the FAR and internal policies and procedures.

⁷⁷ GAO, September 9, 2009. *Contract Management-Agencies Are Not Maximizing Opportunities for Competition or Savings Under Blanket Purchase Agreements Despite Significant Increase in Usage*, GAO-09-792. Washington, DC: GAO.

Developing and maintaining a competent acquisition workforce to support the Department's mission

The Department requires a robust and well-qualified acquisition workforce in order to award and administer increasingly complex acquisitions and successfully implement new major initiatives, such as mission-support services. In FY 2017, the Department reported progress in the recruitment and retention of a capable workforce that can manage complex acquisition programs. For example, the number of acquisition professionals (GS-1102 series) increased 14 percent (from 285 to 325). Also, the attrition rate decreased from 14.3 to 12.6 percent. Nevertheless, the Department continues to face workforce challenges:

- The Department's difficulty in attracting and retaining experienced acquisition professionals to work in locations outside the Washington, DC, metropolitan area
- The Department's difficulties with the timely filling of vacant positions
- The scarcity of talent—with the technical expertise and program management skills to manage a variety of highly specialized products and services, such as large complex IT systems and scientific and satellite equipment—related to the federal government pay scale and incentives package that are not competitive with the private sector
- Budget cuts that reduced training funds, a legislative hiring cap that limits the number of employees hired within some operating units, and limited career development and advancement opportunities that pose continuous obstacles to developing or hiring acquisition talent

Establishing oversight of mission-support service delivery

In 2014, members of the Executive Management Team and Department Management Council participated in a strategic planning retreat centered on improving the quality of core mission-support services. As a key outcome of the retreat, the then-Deputy Secretary took ownership of a comprehensive effort to develop and implement a more effective “shared services” model⁷⁸ for providing acquisition, financial management, human resources, and IT support services to customers across the Department. Having an Enterprise Services unit responsible for select mission-support services should allow bureau staff to focus on mission, rather than back-office and support work.

In September 2015, Enterprise Services Office of Acquisition (ESOA) was designated the sole contracting activity for executing small and common procurements within the Department. In March 2016, ESOA received authorization to provide full life-cycle acquisition services to the

⁷⁸ *Shared services* is a delivery approach that combines common functions into one independent business unit funded by customer fees for service. While cost reduction is often a goal of establishing shared services organizations, the success of these business units is dependent on creating business value for the customers.

Department's Office of the Secretary, its staff offices, and the eight organizations within the Department that do not have organic contracting activities or procurement authority.⁷⁹

Because ESOA is a newly established acquisition division that has awarded approximately \$1 billion in total contracts since FY 2016, Department management should ensure that proper contract award and oversight controls are consistently applied. Early attention to strong systems and controls for acquisition and related business processes will be critical to both ensuring success and maintaining integrity and accountability.

Increasing the pace of NOAA ship acquisitions

Ship acquisitions represents a significant procurement for NOAA. The agency received procurement, acquisition, and construction funding of \$80 million in FY 2016 and \$75 million in FY 2017. In 2014, NOAA entered into an interagency agreement with the U.S. Navy to acquire new research vessels for NOAA, with an estimated value of \$1.5 billion and an agreement period through December 2028.

However, a challenge remains with the pace of the NOAA ship acquisitions. The delivery of NOAA's first ocean survey vessel has seen a 3-year delay, slipping from 2020 to 2023. This delay creates challenges for the Office of Marine and Aviation Operations (OMAO) managers conducting research in hydrographic, oceanographic, atmospheric, and fisheries data collection. Three research vessels in the NOAA fleet are already more than 50 years old; the average age of NOAA's research fleet is 24 years. Delays may force OMAO to extend the design service life of these aging research vessels to meet mission requirements—and increase NOAA's use of ship charters (which may lack the specialized equipment of a NOAA research vessel), as well as small boats to perform missions better performed by a research vessel.

⁷⁹ The organizations include BIS, ITA, EDA, NTIA, OIG, Office of the General Counsel, Bureau of Economic Analysis, the Minority Business Development Agency, the National Technical Information Service, and the Economics and Statistics Administration.

Appendix A: Related OIG Publications

This list presents OIG's FY 2018 work related to top management and performance challenges facing the Department in FY 2019. 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: Successfully Completing 2020 Census Testing and Systems Integration of New Innovations in Time to Deliver a Cost-Effective, Accurate Decennial Census

- *AIG's Testimony on the 2020 Census Life Cycle Cost Estimate: House Committee on Oversight and Government Reform* (OIG-18-001-T; October 12, 2017)
- *2020 Census: The Bureau's Background Check Office Is Not Fully Prepared for the 2020 Census* (OIG-18-015-A; February 27, 2018)
- *2020 Census: The Number and Location of Area Census Offices May Not Reflect NRFU Workload Demands and Will Not Result in Projected Cost Savings* (OIG-18-018-A; April 30, 2018)
- *Census Bureau Could Improve Monitoring of Blanket Purchase Agreements by Complying with Key Federal Acquisition Regulation and Commerce* (OIG-18-023-A; July 30, 2018)

Challenge 2: Maximizing Efficiencies of Environmental Satellite Programs

- *Polar Follow-On: NOAA Must Maintain Cost Efficiencies and Refine Launch Strategy for JPSS-3 and JPSS-4 Missions* (OIG-18-021-A; July 9, 2018)
- *The Joint Polar Satellite System: Program Must Use Realistic Schedules to Avoid Recurrence of Ground Project Delays and Additional Cost Increases* (OIG-18-024-A; August 2, 2018)

Challenge 3: Deploying a NPSBN

- *Strengthening Grant Processes Will Improve the Management of the Band 14 Incumbent Spectrum Relocation Grant Program* (OIG-18-016-A; March 21, 2018)

Challenge 4: Ensuring USPTO Provides High-Quality Intellectual Property Rights

- *FY 2017 Financial Statements Audit (USPTO)* (OIG-18-006-A; November 13, 2017)
- *Review of Information Technology Controls in Support of the Fiscal Year 2017 USPTO Financial Statement Audit* (OIG-18-009-A; December 12, 2017)

Challenge 5: Continuing to Improve the Department's Cybersecurity Posture

- *ITA Needs a Stronger Commitment to Safeguard Its Cloud-Based Systems* (OIG-18-017-A; March 27, 2018)

Challenge 7: Providing Adequate Oversight to Effectively Manage the Significant Increase in Disaster Assistance Funding to the Department

- *Bipartisan Budget Act of 2018: Oversight Challenges Facing the Economic Development Administration* (OIG-18-022; June 4, 2018)

Challenge 8: Addressing Departmental Management Matters Involving Acquisitions

- *2018 Annual Letter to OMB re: Government Charge Card Abuse Prevention Act of 2012* (OIG-18-013-M; January 26, 2018)
- *NOAA Could Improve Monitoring of Blanket Purchase Agreements by Complying with Key Federal Acquisition Regulation and Administration Requirements* (OIG-18-014-A; February 26, 2018)

Appendix B: List of Acronyms

ABI	Advanced Baseline Imager
AD	antidumping
AIA	America Invents Act
APJ	administrative patent judge
BIS	Bureau of Industry and Security
Bureau	U.S. Census Bureau
BPA	blanket purchase agreement
CAM	Commerce Acquisition Manual
CBS	Commerce Business Systems
CDM	Continuous Diagnostics and Mitigation
CFIUS	Committee on Foreign Investment in the United States
CIO	chief information officer
CVD	countervailing duty
CWDP	Commercial Weather Data Pilot project
DSI	Disaster Supplemental Implementation
E&C	Enforcement and Compliance
ECMO	Enterprise Continuous Monitoring Operation
EDA	Economic Development Administration
FAR	Federal Acquisition Regulation
FirstNet	First Responder Network Authority
FISMA	Federal Information Security Management Act
FPNG	Fee Processing Next Generation
FY	fiscal year
GAO	U.S. Government Accountability Office
GM	Global Markets
GOES	Geostationary Operational Environmental Satellites
IT	information technology
ITA	International Trade Administration
JPSS	Joint Polar Satellite System
LTE	long-term evolution

NASA	National Aeronautics and Space Administration
NESDIS	National Environmental Satellite Data and Information Service
NIST	National Institute of Standards and Technology
NOAA	National Oceanic and Atmospheric Administration
NPSBN	Nationwide Public Safety Broadband Network
NTIA	National Telecommunications and Information Administration
OCIO	Office of the Chief Information Officer
OIG	Office of Inspector General
OMB	Office of Management and Budget
PE2E	Patent End to End
PFO	Polar Follow-On
PTAB	Patent Trial and Appeal Board
PWS	Polar Weather Satellite
RAN	Radio Access Network
Recovery Act	American Recovery and Reinvestment Act of 2009
Suomi NPP	Suomi National Polar-orbiting Partnership
TMNG	Trademark Next Generation
USPTO	U.S. Patent and Trademark Office

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