U.S. Department of Energy

Office of Inspector General

Office of Audits and Inspections

SPECIAL REPORT

Management Challenges at the Department of Energy – Fiscal Year 2016

OIG-SR-16-01

November 2015

Department of Energy
Washington, DC 20585

November 16, 2015

MEMORANDUM FOR THE SECRETARY

FROM: Rickey R. Hass
Acting Inspector General

SUBJECT: INFORMATION: Special Report: "Management Challenges at the Department of Energy – Fiscal Year 2016"

INTRODUCTION

The Department of Energy is responsible for some of the Nation's most complex and technologically advanced missions. These include vital work in energy innovation, scientific research, environmental cleanup, nuclear weapons stewardship, and nuclear nonproliferation. To execute this diverse portfolio, the Department receives an annual appropriation of approximately $25 billion, employs almost 110,000 Federal and contractor personnel, and manages assets valued at $181 billion, including 17 national research and development laboratories. The Office of Inspector General (OIG) annually identifies what it considers the Department's most significant management challenges. The overall goal is to focus attention on significant issues in order to enhance the effectiveness of programs and operations.

MANAGEMENT CHALLENGES

While the fiscal year (FY) 2016 challenge areas remain largely consistent with those in previous years, based on the results of our work over the last year, a few notable changes in emphasis have been made. As a result, the FY 2016 management challenges include the following:

- Contract Management
- Cybersecurity
- Environmental Cleanup
- Nuclear Waste Disposal
- Safeguards and Security
- Stockpile Stewardship
- Infrastructure Modernization

A significant change in this year's report is the addition of Infrastructure Modernization to the management challenges list. As of FY 2014, the Department estimated that its aging infrastructure requires more than $6 billion in maintenance that had been deferred. Deferred maintenance is defined as "maintenance and repairs that were not performed when they should have been or were scheduled to be and which are put off or delayed for a future period." The growth of deferred maintenance has contributed to the deterioration of facilities and infrastructure across the Department. To address this trend, the Department issued guidance for FY 2016 budget preparation requiring all programs to fund their infrastructure maintenance budgets at a level sufficient to at least avoid increasing the deferred maintenance backlog. Because of the substantial impact that facilities and infrastructure can have on laboratory research and operations, we are elevating Infrastructure Modernization from the Watch List to a management challenge.

Another significant change to this year's report involves the removal of Financial Assistance Management from the management challenges list. The Department received $35.2 billion through the *American Reinvestment and Recovery Act of 2009* (Recovery Act) for financial assistance awards to support nearly $80 billion in clean energy projects. Our reviews confirmed that the Department had taken a number of significant actions to carry out its programs to meet the goals and objectives of the Recovery Act. For instance, management took various steps to enhance its risk management practices to help ensure that programmatic risks were identified and mitigated to the extent possible. In addition, program offices developed and implemented practices to aid in accounting and reporting for Recovery Act activities. Finally, the Department acted quickly to hire and/or reallocate staffing to administer and monitor activities associated with the Recovery Act. As of October 2015, the Department had invested nearly 90 percent of the $35 billion to support a wide range of clean energy projects across the nation. As a result of the controls implemented by the Department and the winding down of the Recovery Act, we are removing Financial Assistance Management from the management challenges.

WATCH LIST

The OIG also prepares a Watch List, which incorporates other issues that do not meet the threshold of a management challenge, yet, in our view, warrant special attention by Department officials. For FY 2016, the Watch List includes Human Capital Management, the Loan Guarantee Program, and Worker and Community Safety.

SUMMARY

Attached is a brief synopsis of each management challenge, accompanied by summaries of examples of OIG reports that informed our decision process. A complete list of reports can be found at http://energy.gov/ig/calendar-year-reports.

The management challenge process is an important tool that assists us in focusing our finite resources on what we consider to be the Department's most significant risks and vulnerabilities. We look forward to working with you and your leadership team in addressing and resolving these issues.

Attachment

cc: Deputy Secretary
Administrator for the National Nuclear Security Administration
Under Secretary for Science and Energy
Deputy Under Secretary for Management and Performance
Chief of Staff
Chief Financial Officer

Contract Management

The Department of Energy (Department) is the most contractor-dependent civilian agency in the Federal Government. Approximately 90 percent of the Department's budget is spent on contracts and large capital asset projects. The challenges associated with managing the Department's sizeable contracting portfolio have been recognized internally by the agency, as well as externally by the Government Accountability Office (GAO), which has included inadequate contract and project oversight on its High Risk List since 1990.

Acknowledging the Department's progress in this area, as of February 2013, GAO had narrowed the focus of the high risk designation to the Office of Environmental Management (EM) and National Nuclear Security Administration (NNSA) major contracts and projects that have an estimated cost of $750 million or more. Together, these two programs accounted for almost 63 percent of the Department's Fiscal Year (FY) 2015 discretionary funding of more than $26 billion. In 2015, GAO found continuing cost and schedule problems with EM and NNSA major projects but noted that the Department's top leadership continued to be engaged and take action to address this high-risk area. Our reviews continue to find issues with the Department's acquisition planning and contract administration. Given the number of contracts handled by the Department and the complexity and importance of the Department's numerous multimillion dollar projects, the area of Contract Management remains a significant management challenge.

Recent Office of Inspector General (OIG) reports illustrate the need for continued focus by the Department in contract and project management.

Alleged Attempts by Sandia National Laboratories to Influence Congress and Federal Officials on a Contract Extension
November 2014, DOE/IG-0927

The Department's Sandia National Laboratories (SNL) is a Government-owned, contractor-operated laboratory that is part of NNSA's nuclear weapons complex. In 1993, the management and operating (M&O) contract was competitively awarded to Sandia Corporation, a wholly owned subsidiary of Martin Marietta. In 1995, Martin Marietta and Lockheed Corporation merged to form the Lockheed Martin Corporation. In 1998, the Department noncompetitively extended the SNL contract. The contract was set to expire on September 30, 2012, but it was extended for 12 months with two 3-month option periods, which extended the contract for an additional 6 months beyond the September 30, 2013 expiration date. On March 17, 2014, the Department announced that it was moving forward with a noncompetitive extension for a period of 2 years with an option for a third year while NNSA prepared for a full and open competition. Prompted by an OIG inspection report on *Concerns with Consulting Contract Administration at Various Department Sites* (DOE/IG-0889, June 2013), NNSA's Sandia Field Office conducted a preliminary review of documentation from 2009 through 2011 regarding consultant activities between Heather Wilson LLC (the principal of which is a former member of the U.S. House of Representatives) and SNL. On March 27, 2013, the Sandia Field Office alleged that SNL impermissibly attempted to influence an extension to the Sandia Corporation contract and

engaged Ms. Wilson in these activities. Given the seriousness of this allegation, the OIG, Office of Inspections, initiated a Special Inquiry into the facts and circumstances surrounding the allegation.

Our inspection substantiated the allegation. We found that SNL used Federal contract funds to engage in activities that were intended to influence the extension of Sandia Corporation's contract with the Department—a contract then valued at about $2.4 billion per year. In particular, SNL developed and executed a plan that involved meeting with and attempting to influence Federal and Congressional officials to provide assistance in obtaining a noncompetitive extension of its contract with the Department. We determined that these activities appeared to have violated United States Code and Federal Acquisition Regulation provisions prohibiting the use of Federal funds to influence members of Congress or Federal officials with regard to an extension of a contract. We also concluded that such activities were impermissible under a provision of the Sandia Corporation M&O contract, which prohibits the contractor from making interface with any Federal, state, municipal or local legislators, or legislative personnel for the purpose of obtaining or retaining business for Sandia Corporation.

Based on the findings of the Inspection, the OIG, Office of Investigations, opened an investigation into these matters. In August 2015, Sandia Corporation agreed to pay $4.7 million to resolve allegations that it violated the Byrd Amendment and the *False Claims Act* by using Federal funds for activities related to lobbying Congress and Federal agencies to obtain a contract extension.

The full Inspection report is available at http://energy.gov/sites/prod/files/2014/11/f19/IG-0927.pdf

Allegations Regarding the Consolidation of Central Alarm Stations at the Oak Ridge Reservation
December 2014, DOE/IG-0929

The Department's Oak Ridge Reservation is home to multiple unique sites, including the Oak Ridge National Laboratory (ORNL), the East Tennessee Technology Park, and the Oak Ridge Office, each with its own mission and operations. To ensure the protection of assets under its control, each site is equipped with an alarm station that monitors security alarms and video feeds 24 hours a day. The Office of Science (Science) is responsible for managing the portion of the Oak Ridge Reservation that contains these three sites. In late 2011, Science, in an effort to cut security costs and reduce Government spending, recommended the consolidation of the sites' alarm stations. In March 2013, Science selected ORNL as the site to host the consolidated alarm station.

The OIG received a hotline complaint alleging that the decision to consolidate the alarm stations at ORNL (1) would not result in cost savings to the Government, (2) did not have a true cost estimate, and (3) could put security at risk. The objective of our review was to examine the facts and circumstances regarding the consolidation of the alarm stations on the Oak Ridge Reservation.

We found the decision to approve the Alarm Station Consolidation Project was based on incomplete information regarding the viability and economic feasibility of the project. Specifically, although Science took some project management actions, it did not fully develop economic analyses to provide reasonable assurance that the consolidation project would be advantageous to the Department; did not fully develop total project cost estimates to assist project managers in controlling the effort; and did not fully develop assessments of security impacts to ensure appropriate protection throughout the project. We determined that project management weaknesses were at the root of the problems we observed. Without the customary and fundamental information provided by an economic analysis and a security impact assessment, management was unable to make an informed decision as to whether the project was a good use of taxpayer dollars or even necessary. Our review determined that the consolidation project will not save the Government money, but instead, could result in more than $1 million in additional annual costs to the Department and leave no possibility for recovery of the $6.2 million requested for initial setup costs. In addition, without an assessment of planned alterations to each site's security configurations, there is no assurance that the Department's assets will retain the appropriate level of protection if the project proceeds.

The full report is available at http://energy.gov/sites/prod/files/2014/12/f19/DOE-IG-0929.pdf

Cybersecurity

Given the importance and sensitivity of the Department's activities, along with the vast array of data it processes and maintains, cybersecurity is a crucial aspect of the Department's overall security posture. According to the Office of Management and Budget, Federal agencies reported nearly 70,000 information security incidents in FY 2014, up 15 percent from FY 2013. Although the Department has implemented numerous countermeasures in recent years, security challenges and threats to the Department's information systems continue and are constantly evolving. Recent intrusions of the Department's information technology systems have highlighted the importance of protecting such systems as well as the difficulty and diligence required to guard against such intrusions. Specifically, the Department reported that its computer systems were subjected to 388 successful cybersecurity incidents in FY 2015, including such incidents as malicious code, root or user compromise, and Web defacements. The OIG's annual evaluation of the Department's information technology systems highlighted specific weaknesses and offered recommendations to aid in correcting recognized deficiencies. Further, the Office of Management and Budget concluded that the Department failed to reach several Cybersecurity Cross-Agency Priority Goals in the areas of Information Security Continuous Monitoring, Strong Authentication, and Trusted Internet Connection Consolidation and Capabilities. As a result of these inherent risks, identification of continuing cybersecurity weaknesses, and the sensitivity of much of the Department's work, we have identified Cybersecurity as a continuing and significant management challenge.

As referenced above, the following reports highlight weaknesses identified in the Department's cybersecurity programs.

The Department of Energy's Unclassified Cybersecurity Program- 2014
October 2014, DOE/IG-0925

The *Federal Information Security Management Act of 2002* (FISMA) established the requirement for Federal agencies to develop, implement, and manage agency-wide information security programs. In addition, Federal agencies are required to provide acceptable levels of security for the information and systems that support their operations and assets. Further, FISMA mandated that agency Offices of Inspector General conduct annual independent evaluations to determine whether agencies' unclassified cybersecurity programs adequately protected unclassified data and information systems. During FY 2014, we found that the Department, including NNSA, had taken positive actions to improve the security and awareness of the unclassified cybersecurity program; however, additional effort is needed to ensure that the risks of operating the systems are identified and that systems and information are adequately secured. Specifically, even though contractor resources accounted for a majority of the Department's more than 500 systems, it still had not reported performance metric data for all contractor systems; network systems and workstations at 13 locations had patch management weaknesses; and six locations had weaknesses related to system integrity of Web applications. Additionally, we identified issues related to weaknesses in logical access controls at eight locations; weaknesses related to the configuration management process at four locations; and, at three locations, the overall security management program contained various deficiencies related to cybersecurity training, audit logging and monitoring, system inventories, incident reporting, and contingency planning. The issues identified occurred, at least in part, because the Department's programs and sites reviewed had not ensured that cybersecurity policies and procedures were developed and properly implemented. Without improvements, the Department's unclassified cybersecurity program will continue to operate at a higher-than-necessary level of risk.

The full report is available at http://energy.gov/sites/prod/files/2014/10/f18/DOE-IG-0925_0.pdf

Cybersecurity Controls Over a Major National Nuclear Security Administration Information System
June 2015, DOE/IG-0938

NNSA's missions require a secure production and laboratory infrastructure meeting immediate and long-term needs. We initiated this audit to determine whether an NNSA information system at one of its key facilities had adequate cybersecurity controls in place. Due to security considerations, the location and system name have been omitted from this report but have been provided to NNSA management. Our audit revealed that the system's cybersecurity controls had not been adequately developed, documented, or implemented. Specifically, we identified weaknesses in the implementation of access controls and the development and implementation of effective database change management, configuration management, and continuous monitoring processes. This occurred, at least in part, because site officials did not ensure that Federal

security requirements were fully implemented to protect the system. Management concurred with the report's recommendations and indicated that corrective actions had been initiated or were planned to address the issues identified in the report.

The full report is available at http://energy.gov/sites/prod/files/2015/06/f22/DOE-IG-0938.pdf

Environmental Cleanup

The Department is responsible for one of the most complex nuclear remediation efforts in the world. To meet this challenge, the Department is faced with developing unique solutions to address often unknown obstacles. This includes disposing of multiple waste streams generated during more than 50 years of nuclear defense and energy research work. For example, the Department has approximately 88 million gallons of liquid waste stored in underground tanks and approximately 4,000 cubic meters of solid waste derived from the liquids stored in bins. The majority of this waste is contained in 177 large underground tanks at the Hanford Site in southeastern Washington. Of these, more than one-third have already leaked, contaminating the subsurface and threatening the nearby Columbia River. The Hanford Tank Waste Treatment and Immobilization Plant (WTP) is currently being constructed to process and stabilize 56 million gallons of radioactive and chemical waste stored at the site. However, the Department faces significant technical challenges in successfully constructing and operating the WTP and the estimated cost of the project has tripled, while the scheduled completion date has slipped by nearly a decade. In its annual memorandum on Assurances of Internal Control, EM continues to recognize tank waste and WTP as issues requiring management's attention. Furthermore, the Department's Environmental Cleanup efforts are projected to cost at least $300 billion and will continue well into the foreseeable future. As such, this remains a management challenge that warrants attention on the part of Department management.

Our recent report on the cleanup at the Paducah Gaseous Diffusion Plant highlighted some of the challenges faced by the Department in this area.

The Status of Cleanup at the Department of Energy's Paducah Site
June 2015, DOE/IG-0937

The Paducah Gaseous Diffusion Plant is located on the Department's 3,425-acre Paducah Site in western Kentucky, just south of the Ohio River, and about 10 miles west of the city of Paducah. The plant began operating in 1952, supplying enriched uranium for commercial reactors and military defense reactors activities that resulted in radioactive and hazardous chemical material contamination of the Site. In the plant's more than half century of operations, these various materials contaminated the area's groundwater, surface water, soil, and air. In 1988, radioactive and volatile organic contamination was found in the drinking water wells of residences near the Paducah Site. As a result, the Department began an environmental remediation program to identify and remove these hazards from the groundwater, as well as to provide an alternate water supply to affected residences. We initiated this audit to determine whether the Department had achieved its environmental cleanup goals at the Paducah Site.

While we determined that the Department had achieved some of its cleanup goals, we noted that progress had been delayed on cleaning up some of the facility's key environmental hazards. We recognize that these delays occurred, in part, because of the technical challenges associated with some of the cleanup projects at the Paducah Site. Furthermore, in recent years, budgetary constraints have adversely affected the Department's ability to achieve some of its cleanup goals. However, the lack of progress on these projects was also due to the inability of the Department to reach a timely agreement with the regulators on cleanup decisions at the site. Additionally, we noted that the Department failed to fully implement a recommendation made by the GAO to utilize external technical peer review groups with environmental cleanup expertise to help resolve disagreements on the appropriate technical approach for cleanup at Paducah. Furthermore, the current dispute resolution process, outlined in the Paducah Site's triparty Federal Facility Agreement, has not always been effective in bringing about timely resolution of disagreements. Without meaningful progress in resolving disagreements between the Department and its regulators, additional delays are likely to occur. Additional delays lead directly to the spiraling cost of completing remediation activities at the Paducah Site.

The full report is available at http://energy.gov/sites/prod/files/2015/06/f22/DOE-IG-0937.pdf

Nuclear Waste Disposal

The Department is responsible for the management and safe disposal of nuclear waste. To accomplish this, the Department operates several waste processing and storage facilities. One such facility is the Waste Isolation Pilot Plant (WIPP) located near Carlsbad, New Mexico. WIPP is the nation's sole repository for the disposal of defense transuranic (TRU) waste. TRU waste generated by atomic energy defense activities is a by-product of nuclear weapons research and production and the cleanup of legacy sites and facilities that supported the nuclear weapons mission. Legacy TRU waste inventory is located at 4 large-quantity sites and more than 20 small-quantity sites across the United States. In February 2014, as a result of an accidental radiological release, the Department suspended operations at WIPP and this has affected TRU waste operations across the nation.

According to the Department's Recovery Plan, WIPP was slated to resume operations in the first quarter of calendar year 2016. However, in July 2015, the Department announced the target date of March 2016 was no longer viable and a new target date in 2016 must be established. In addition, the Department continues to evaluate the path forward for long-term storage of high-level defense and commercial waste and spent nuclear fuel. In March 2015, the Department published the *Report on Separate Disposal of Defense High-Level Radioactive Waste* that concluded that a strong basis exists to establish a separate defense high-level waste repository. Given the importance of a coherent strategy on nuclear waste disposal that protects public health, safety, and the environment, and until a viable solution for disposal and storage is developed, the area of Nuclear Waste Disposal remains a significant challenge facing the Department.

As noted in our report on waste drums at Los Alamos National Laboratory (LANL), the Department continued to face obstacles disposing of nuclear waste.

Remediation of Selected Transuranic Waste Drums at Los Alamos National Laboratory – Potential Impact on the Shutdown of the Department's Waste Isolation Pilot Plant September 2014, DOE/IG-0922

The Department's LANL is one of the Nation's premier national security laboratories. Los Alamos National Security LLC manages and operates LANL. As part of its mission, LANL generated a large volume of TRU waste consisting mostly of radioactively contaminated clothing, tools, rags, debris, and soil. In January 2012, a framework agreement was established between the Department and the New Mexico Environment Department to ship 3,706 cubic meters of combustible and dispersible TRU waste from LANL to the Department's WIPP, located in Carlsbad, New Mexico, for permanent disposal by June 30, 2014. The Department established the Central Characterization Project to characterize and certify waste to help ensure that it met WIPP's waste acceptance criteria.

On February 14, 2014, a radiological release from one TRU waste drum was detected in the underground repository at WIPP. As a consequence, underground operations at WIPP were suspended and the Nation's only operating deep geologic repository for the permanent disposal of defense-related TRU waste was shut down for an indefinite period. The impact of the shutdown, both incurred to date and in the future, is valued in terms of tens of millions of dollars. We initiated a special inquiry to determine whether LANL appropriately managed the remediation and repackaging of waste shipped to WIPP.

Our review identified several major deficiencies in LANL's procedures for the development and approval of waste packaging and remediation techniques that may have contributed to the radiological event. Of particular concern, not all waste management procedures at LANL were properly vetted through the established procedure revision process nor did they conform to established environmental requirements. In our view, immediate action is necessary to ensure that these matters are addressed and fully resolved before TRU waste operations are resumed, or, for that matter, before future mixed radioactive hazardous waste operations are initiated. Management concurred with the report's findings and recommendations and stated that the results of our investigation are generally consistent with findings from internal investigations.

The full report is available at http://energy.gov/sites/prod/files/2014/10/f18/DOE-IG-0922.pdf

Safeguards and Security

Safeguards and Security programs are an integral part of the Department. These programs are implemented to ensure that the Department effectively meets its obligations to protect special nuclear material, other nuclear materials, classified matter, sensitive information, Government property, and the safety and security of employees, contractors, and the general public. To faithfully execute its mission, the Department employs numerous security personnel and develops policies designed to safely execute its mission. Although the Department has recently made progress in implementing updated security controls, our reviews continue to find

challenges facing the Department in this area. For example, while Y-12 spent more than $50 million to upgrade its physical security system, it had not met NNSA's mandate to develop and implement a comprehensive method for managing and integrating the site's security and access control systems. Additionally, the Department's management continues to identify this area as high risk in its annual memorandums on Assurances of Internal Control. Given the Department's unique mission, managing the safety and security of its operations remains a challenge.

As evidenced by our recent reviews on security upgrades at Y-12 and information protection at Los Alamos, safeguards and security remained an area of focus for the Department.

Security Improvements at the Y-12 National Security Complex
August 2015, DOE/IG-0944

In June 2004, the OIG's report on *Management of the Department's Personnel Security and Access Control Information Systems* (DOE/IG-0651) recommended that the Department develop a comprehensive framework for managing and integrating personnel security and access control systems. In response to the report, NNSA indicated that it intended to implement the Argus security system to provide integrated access and physical security controls at Y-12. To help meet its security goals, Y-12 focused its planned Security Improvements Project (SIP) on replacing its aged and obsolete security system with Argus. The project was completed in 2013 at a cost of more than $50 million. Because of the sensitivity of Y-12 and the material it houses, we initiated this audit to determine whether the complex fully and effectively implemented improvements to meet its security needs.

Our review found that the SIP was implemented within the established schedule and budget, and it achieved all baseline requirements. However, we found that the SIP was not scoped or funded to address all Argus implementation issues at Y-12. While the Argus implementation originally proposed to meet NNSA's mandate by updating all security infrastructure components, officials did not replace certain system components, such as the legacy alarm wiring cabinets and sensors. This resulted in compatibility issues and significantly increased the number of false or nuisance alarms that operators received. Alarm station operators told us they were not able to efficiently perform their duties because they had to repeatedly address nuisance alarms.

NNSA and Y-12 officials encountered a number of challenges that affected the ability to fully implement needed security upgrades. Perhaps one of the most significant challenges was the need for NNSA officials to balance the requirement to install Argus with available resources. This ultimately drove decisions regarding the system's implementation approach and limited the use of Homeland Security Presidential Directive-12 technology to enhance physical access controls throughout the site. However, even within the confines of the effort's funding limitations, we found that management weaknesses existed that contributed, at least in part, to the issues identified with the implementation of the security enhancements. In particular, a lack of effective communication and cooperation between operations personnel and project managers contributed to the identified system issues. As a result, while Y-12 spent more than $50 million

to upgrade its physical security system, it had not met NNSA's mandate to develop and implement a comprehensive method for managing and integrating the site's security and access control systems.

The full report is available at http://energy.gov/sites/prod/files/2015/09/f26/DOE-IG-0944.pdf

Allegations Concerning Information Protection at Los Alamos National Laboratory
February 2015, DOE/IG-0935

The Department's OIG received a complaint alleging that (1) a LANL Classification Officer had not executed certain duties in protecting and controlling classified information, (2) senior LANL officials had not addressed reported violations by the Classification Officer, and (3) LANL's security incident management program lacked objective oversight and transparency, particularly when allegations existed that managers had violated policy. We initiated an inspection to determine the facts and circumstances surrounding the allegations. We substantiated certain allegations regarding LANL's classification program. In particular, we determined that LANL's Classification Officer had not always adequately protected and controlled classified information resulting in the misclassification and improper disclosure of sensitive, national security information. Our examination of incident reports and other available evidence revealed six incidents in which LANL documents were misclassified. Further, as alleged and despite acknowledging that they had received complaints from employees, we found that LANL management officials had not taken action to investigate or resolve alleged violations by the LANL Classification Officer. The Federal manager responsible for this area indicated that LANL never made him aware of the classification issues.

The issues we identified in this report occurred, in part, due to lack of oversight by LANL management and the cognizant Federal manager. Specifically, LANL management failed to take action once they became aware of issues related to the Classification Officer. The problems we observed, in our view, directly contributed to the erroneous review and dissemination of classified documents. Timely distribution of classification bulletins and related documents, including interpretive guidance and enhanced contractor and Federal oversight, will help to alleviate confusion among classification analysts and derivative classifiers, reducing the likelihood that classified information will be inappropriately disclosed in the future.

The full report is available at http://energy.gov/sites/prod/files/2015/02/f19/DOE-IG-0935.pdf

Stockpile Stewardship

The Department is responsible for maintaining the safety, security, and effectiveness of the Nation's nuclear deterrent without nuclear testing. In this vein, the Administration has pledged that as long as nuclear weapons exist, the United States will maintain a nuclear arsenal to both deter potential adversaries and protect U.S. allies. To accomplish this mission, NNSA manages programs aimed at providing research, development, test, and evaluation capabilities to assess, maintain, and extend the life of the nuclear weapons stockpile. These programs are conducted primarily at 8 sites by a contractor workforce of approximately 30,000 people and are managed

by a Federal workforce comprised of civilian and military personnel. For FY 2016, NNSA has increased the budget request for Weapons Activities by $891 million. Much of this increase will be devoted to stockpile life extension programs (LEPs) and recapitalization of critical plutonium and uranium capabilities. One of the major efforts in this area is the B61 LEP. This LEP is nearing the end of the second year of full-scale engineering development and will enable the consolidation of four families of the B-61 bomb. This will improve both the safety and security of the oldest weapon system in the U.S. arsenal. The LEP is estimated to cost as much as $9.7 billion and run through 2025. Our reviews in recent years have found issues with management of the stockpile stewardship program that suggest sustained efforts to improve operational efficiency are necessary. Stockpile stewardship activities are extremely complex to execute and will require attention of NNSA at all levels to ensure success

As noted in our report on the Hydrodynamic Test Program, stockpile stewardship remained an area of emphasis for the Department.

Follow-up on the Los Alamos National Laboratory Hydrodynamic Test Program
December 2014, DOE/IG-0930

A primary mission of NNSA is to ensure the safety, reliability, and performance of the Nation's nuclear weapons stockpile. NNSA relies on computer models and simulations to achieve this mission. Data from nonnuclear hydrodynamic tests (hydrotests) is used to validate and refine these computer models for the annual assessment of the stockpile. Hydrotest data also supports the development of new materials, components, and safety features; evaluations of replacement parts; and materials for vital LEPs. As the Nation moves further from the era of underground testing, the need for hydrotests increases. NNSA's annual National Hydrodynamic Test Plan (National Plan) outlines the integrated work scope and schedule of hydrodynamic testing. LANL performs hydrotests for weapons in the stockpile at its Dual-Axis Radiographic Hydrodynamic Test Facility, and at the Contained Firing Facility located at Lawrence Livermore National Laboratory. Funding for LANL's Hydrodynamic Test Program (hydrotest program) was about $213 million for FYs 2010 through 2013. Many hydrotests were multimillion dollar projects spanning multiple years. Performance evaluations of LANL's hydrotest program are provided by NNSA's Los Alamos Field Office.

In our previous audit *The Los Alamos National Laboratory Hydrodynamic Test Program* (DOE/IG-0699, September 2005), we reported that LANL did not complete hydrotests as scheduled because LANL had not fully implemented key project management tools or adopted programmatic changes that could increase its efficiency in conducting such tests. NNSA management generally agreed with our findings and recommendations and indicated that it would implement corrective actions. Because of the importance of hydrotests to the nuclear weapons program, we initiated this follow-up audit.

We found that LANL continued to experience delays in executing hydrotests. According to NNSA's National Plans, LANL scheduled a total of 19 tests during FYs 2010 through 2013. Of the scheduled tests, 12 (63 percent) experienced delays ranging from 1 to 3 years and 5 had not been performed as of the end of FY 2013. Of those not conducted, three were delayed 1 year and ultimately were executed in FY 2014. The remaining two tests were delayed an additional

year and were scheduled for FY 2015. The inability to complete the required tests within established schedules occurred, in part, because LANL did not fully implement key project management tools or fully transition to a more efficient manufacturing process that would improve test execution. Without changes, LANL is at risk of not meeting future hydrotest needs, a performance issue that could potentially affect NNSA's fundamental mission.

The full report is available at http://energy.gov/sites/prod/files/2014/12/f19/DOE-IG-0930.pdf

Infrastructure Modernization

The Department manages the Federal Government's fifth-largest inventory of real property with an annual operating cost of $2.08 billion. This real property portfolio comprises diverse facilities, including unique fission reactors, accelerators, and high-performance lasers. However, much of the Department's property portfolio reflects an aging infrastructure originating in the 1940s as part of the Manhattan Project. Laboratory facilities and infrastructure in poor condition can pose numerous challenges, including inadequate functionality for mission performance; negative effects on environment, safety, and health; higher maintenance costs; and problems with recruiting and retaining high-quality scientists and engineers. According to NNSA, the U.S. nuclear stockpile must be supported by a modern physical infrastructure to remain safe, secure, and effective. However, the Department is currently faced with continuing to execute the plutonium and uranium missions at a level of acceptable risk to worker health and safety, using Manhattan Project–era buildings with deteriorating utility systems and structural components. Additionally, infrastructure was continually noted as a concern in the executive management's FY 2015 annual memorandums on Assurances of Internal Control. Given the challenges in this area, we are elevating this issue from the watch list to a management challenge.

Our audit of high-risk excess facilities illustrated the tremendous challenge facing the Department in the area of infrastructure modernization.

The Department of Energy's Management of High-Risk Excess Facilities
January 2015, DOE/IG-0931

In February 2009, EM identified 292 excess contaminated facilities that met its transfer criteria and indicated that it would accept the facilities when funding became available. Until transferred to EM, owning programs are responsible for costs associated with maintaining the facilities in a stable condition. Under the *American Recovery and Reinvestment Act of 2009* (Recovery Act), EM received funding that allowed it to accelerate deactivation and decommissioning (D&D) activities, such as stabilization measures or demolition, at 58 of these facilities, leaving 234 contaminated excess facilities. In our prior report *Department of Energy's Management of Unneeded Real Estate* (OAS-L-14-07, April 2014), we noted a number of NNSA facilities in poor condition that were categorized as excess or in shutdown mode without definitive plans for D&D activities. The degradation within these facilities ranged from failures in critical structural components to high levels of contamination. Additionally, several of these facilities posed significant health and safety risks to Department employees and the public. Given the issues

identified in that report, and the risks associated with contaminated facilities, we initiated this audit to determine whether the Department has minimized the risk associated with excess contaminated non-EM facilities.

Our review found weaknesses in the Department's effort to address the risks associated with its inventory of contaminated facilities. As of September 2014, a definitive transfer schedule for the 234 contaminated excess facilities awaiting D&D activities had not been established. Although program offices had taken some actions utilizing Recovery Act and programmatic funding to mitigate the risks posed by the 234 contaminated excess facilities awaiting transfer to EM, many of these facilities continue to deteriorate and pose increasing risks to mission, workers, the public, and the environment. Since 2009, program offices had identified at least 140 additional excess contaminated facilities, over and above the 234 already identified, which will need to be addressed by EM in the future. According to Department officials, budget realities, including resource constraints and the unstable nature of the budget process, were key to the delays in advancing the D&D program. However, we noted that the Department had not developed a corporate approach for the cleanup and disposition of excess contaminated facilities. Such an approach would assist the Department in addressing high-risk facilities within the vagaries of the annual budget process. Delays in the cleanup and disposition of contaminated excess facilities expose the Department, its employees, and the public to ever-increasing levels of risk.

The full report is available at http://energy.gov/sites/prod/files/2015/01/f19/DOE-IG-0931.pdf

FEEDBACK

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