



Testimony

Before the Subcommittee on Oversight
and Investigations, Committee on
Energy and Commerce, House of
Representatives

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DEPARTMENT OF ENERGY

Observations on DOE's Management Challenges and Steps Taken to Address Them

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GAO Highlights

Highlights of [GAO-13-767T](#), a testimony before the Subcommittee on Oversight and Investigations, Committee on Energy and Commerce, House of Representatives

Why GAO Did This Study

DOE missions encompass energy resources, scientific and technological development, environmental cleanup, and nuclear security. Management of major projects and contracts within EM and NNSA, a separately organized agency within DOE, remain on GAO's list of areas at high risk of waste, fraud, abuse, and mismanagement, where they have been listed since 1990. Progress has been made, but GAO continues to identify management problems related to cost and schedule overruns on major environmental cleanup and nuclear projects and safety problems at DOE sites that have not been fully addressed.

This testimony discusses DOE's management challenges in (1) managing major projects and programs, (2) managing security and safety at DOE sites, and (3) producing reliable enterprise-wide information, including budget and cost data.

Over the past decade, GAO has made numerous recommendations in its reports to address challenges such as those identified in this testimony. DOE agreed with most of them and is taking steps toward implementing them. GAO's work has also recognized some of the steps that DOE has taken to address these challenges. For example, in the most recent update of GAO's high-risk series, GAO narrowed the focus of the high-risk designation of DOE's contract management to EM's and NNSA's major contracts and projects (i.e., those costing \$750 million or more). GAO will continue to monitor DOE's implementation of actions to resolve long-standing management challenges, including actions taken in response to GAO's recommendations.

View [GAO-13-767T](#). For more information, contact David Trimble at (202) 512-3841 or trimbled@gao.gov.

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DEPARTMENT OF ENERGY

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What GAO Found

As GAO has reported over the last decade, the Department of Energy's (DOE) management of major projects and programs, security and safety at DOE sites, and reliable enterprise-wide management information, including budget and cost data, are among the most persistent management challenges the department faces.

- *Challenges managing major projects and programs.* The Office of Environmental Management (EM) and the National Nuclear Security Administration (NNSA) continue to face challenges managing major projects and programs, which have incurred significant cost increases and schedule delays. For example, GAO reported in July 2013 that the cost estimate range for a project to construct a modern Uranium Processing Facility (UPF) at DOE's Y-12 National Security Complex in Oak Ridge, Tennessee, had increased five- to seven-fold to up to \$6.5 billion since the project's inception in 2004. Furthermore, the most recent cost estimate range may no longer be valid after the contractor reported in August 2012 that the UPF's roof would have to be raised 13 feet. GAO is currently assessing DOE cost estimating policies and practices and plans to issue a report based on this work later this year. DOE's actions to improve project management appear promising, but their impact on meeting cost and schedule targets may not be clear. Because all ongoing major projects have been in construction for several years, neither EM nor NNSA has a major project that can yet demonstrate the impact of DOE's recent reforms.
- *Challenges managing security and safety.* Reports about the July 2012 security breach at the Y-12 National Security Complex identified numerous, long-standing and systemic security issues across the nuclear security enterprise and significant safety problems at DOE sites that have not been fully addressed. A NNSA Security Task Force and an independent panel convened at the request of the Secretary of Energy also found systemic security issues across the nuclear security enterprise, and found deficiencies in DOE's security culture and oversight, which closely matched issues GAO identified a decade earlier. GAO has ongoing work assessing DOE security reforms and plans to issue a report based on this work later this year. GAO has also found that DOE management weaknesses have contributed to persistent safety problems at NNSA sites.
- *Challenges in producing reliable enterprise-wide management information.* GAO has reported that DOE does not have reliable enterprise-wide management data needed to, among other things, prepare its budget requests, identify the costs of its activities, and ensure the validity of its cost estimates. For example, in June 2013, GAO reported that while different approaches are allowed by Cost Accounting Standards, NNSA's management and operations contractors differ in how they classify and allocate indirect costs at NNSA laboratories, which limits NNSA's ability to assess cost data and meaningfully compare cost management performance across laboratories. In addition, GAO reported in June 2010 that NNSA could not accurately identify the total costs to operate and maintain weapons facilities and infrastructure because of differences among contractors' accounting practices. GAO is currently monitoring DOE's ongoing efforts to improve its capability to produce reliable enterprise-wide information.

Chairman Murphy, Ranking Member DeGette, and Members of the Subcommittee:

Thank you for the opportunity to discuss our recent work on some of the pressing management challenges that the Department of Energy (DOE) faces. DOE is responsible for executing some of the nation's most complex and technologically advanced missions, working to ensure the energy future of the United States, providing scientific and technological leadership, overseeing the nation's nuclear security enterprise, and resolving the environmental legacy of the Cold War. DOE carries out these activities through mission-based program offices including the Office of Environmental Management (EM) and the separately organized National Nuclear Security Administration (NNSA).¹ Collectively, these and other DOE offices operate dozens of government-owned, contractor-operated facilities throughout the United States.

Our prior testimonies before this Subcommittee in September 2012² and March 2013,³ as well as reports we have issued over the past decade, have highlighted various challenges that DOE components—principally EM and NNSA—face in carrying out their responsibilities.⁴ These testimonies and reports have highlighted management challenges concerning (1) EM and NNSA projects and programs; (2) security and safety at DOE sites; and (3) reliable enterprise-wide management information, including budget and cost data. Regarding project and program management, EM's and NNSA's management of major projects and contracts remains on our list of areas at high risk of waste, fraud,

¹Specifically, NNSA was created under Title 32 of the National Defense Authorization Act for Fiscal Year 2000, Pub. L. No. 106-65, § 3201 et seq.

²GAO, *Modernizing the Nuclear Security Enterprise: Observations on the National Nuclear Security Administration's Oversight of Safety, Security, and Project Management*, [GAO-12-912T](#) (Washington, D.C.: Sept. 12, 2012).

³GAO, *Modernizing the Nuclear Security Enterprise: Observations on DOE's and NNSA's Efforts to Enhance Oversight of Security, Safety, and Project and Contract Management*, [GAO-13-482T](#) (Washington, D.C.: Mar. 13, 2013).

⁴A list of recent GAO products assessing DOE's management efforts is included at the end of this statement.

abuse, and mismanagement, where they have been listed since 1990.⁵ Regarding security and safety management, we have frequently reported on security issues and safety incidents at DOE facilities—as when we testified before this Subcommittee in March 2013 on the temporary shutdown of facilities at Los Alamos National Laboratory in 2004 and, more recently, the security breach at the Y-12 National Security Complex in July 2012.⁶ Regarding reliable enterprise-wide management information, we have reported on matters such as the steps that DOE has taken to improve its budgeting and cost-estimating practices and the weaknesses that persist in these areas.

In addition to these issues, NNSA's relationship with DOE has come under renewed scrutiny. Notably, the Fiscal Year 2013 National Defense Authorization Act created the Congressional Advisory Panel on the Governance of the Nuclear Security Enterprise to examine options and make recommendations for revising the governance structure, mission, and management of the nuclear security enterprise. As the new Secretary of Energy has alluded to in recent testimony, addressing the management challenges that we and other organizations have identified, as well as clarifying departmental roles and responsibilities, will be among his top priorities.

In this context, my testimony today discusses three of DOE's most persistent management challenges: (1) management of projects and

⁵GAO, *High-Risk Series: An Update*, [GAO-13-283](#) (Washington, D.C.: February 2013). We have shifted the focus of the high-risk designation of EM's and NNSA's contract management to major projects and away from nonmajor projects, those costing less than \$750 million. As defined in the most recent update of our high-risk series, contract management includes both contract administration and project management.

⁶For additional information on the 2004 temporary shutdown of facilities at Los Alamos, see GAO, *Stand-Down of Los Alamos National Laboratory: Total Costs Uncertain; Almost All Mission-Critical Programs Were Affected but Have Recovered*, [GAO-06-83](#) (Washington, D.C.: Nov. 18, 2005). During the security breach at the Y-12 National Security Complex, three trespassers gained access to the protected security area directly adjacent to one of the nation's most critically important nuclear weapon-related facilities without being interrupted by the security measures in place. According to DOE's Inspector General, this security incident was unprecedented and represented multiple system failures including failures to maintain critical security equipment, respond properly to alarms, and understand security protocols. The Inspector General found that contractor governance and federal oversight did not identify and correct early indications of these multiple system breakdowns. See [GAO-13-482T](#) and DOE, Office of Inspector General, *Inquiry into the Security Breach at the National Nuclear Security Administration's Y-12 National Security Complex*, DOE/IG-0868 (August 2012).

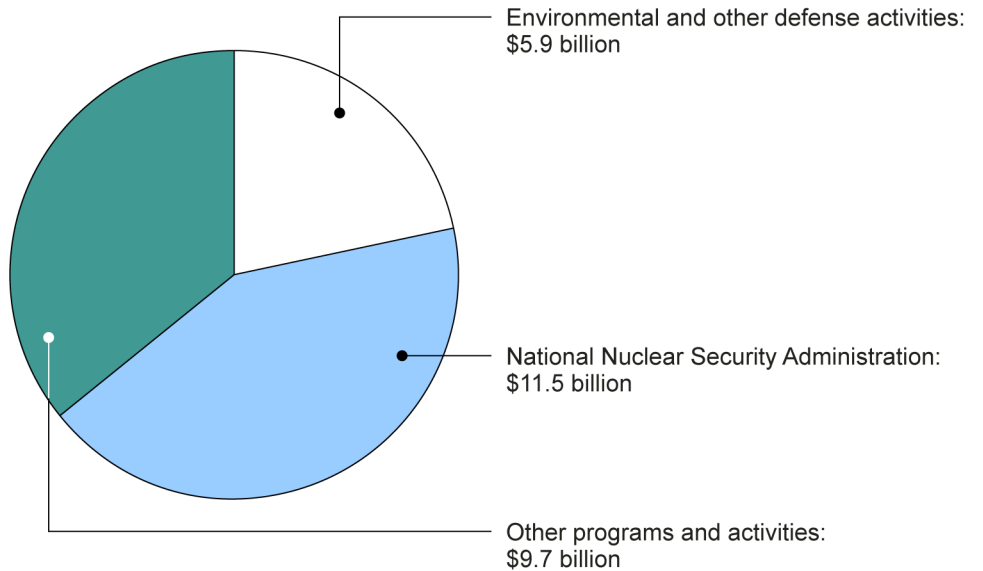
programs, (2) management of security and safety at DOE sites, and (3) reliable enterprise-wide management information, including budget and cost data. It focuses on our reports issued from January 2007 to June 2013. Detailed information about the scope and methodology used to conduct this work can be found in each of our issued reports. We conducted the performance audit work that supports this statement in accordance with generally accepted government auditing standards.

Background

DOE's missions encompass energy resources, scientific and technological development, environmental cleanup, and nuclear security. DOE established EM in 1989 to carry out the mission to clean up radioactive wastes, spent nuclear fuel, excess plutonium and uranium, contaminated facilities, and contaminated soil and groundwater that resulted from nuclear weapons production and government-sponsored nuclear energy research. NNSA, a separately organized agency within DOE, has primary responsibility for ensuring the safety, security, and reliability of the nation's nuclear weapons stockpile, including life extension programs for multiple weapon types in the U.S. stockpile,⁷ for promoting nuclear nonproliferation, and for naval reactor programs. In fiscal year 2013, EM and NNSA received about \$17 billion to support these programs and related activities, which is approximately 60 percent of DOE's total budget. Figure 1 shows the fiscal year 2013 funding for EM, NNSA, and other DOE programs and activities.

⁷The end of the Cold War caused a dramatic shift in how the nation maintains nuclear weapons. Instead of designing, testing, and producing new nuclear weapons, the strategy shifted to maintaining the existing nuclear weapons stockpile indefinitely. Life extension programs extend, through refurbishment, the operational lives of weapons in the nuclear stockpile by 20 to 30 years and certify these weapons' military performance requirements without underground nuclear testing. GAO, *Nuclear Weapons: NNSA and DOD Need to More Effectively Manage the Stockpile Life Extension Program*, [GAO-09-385](#) (Washington, D.C.: Mar. 2, 2009).

Figure 1: Funding of DOE Programs and Activities, Fiscal Year 2013



Source: DOE, Department of Energy Fiscal Year 2014 Congressional Budget Request, DOE/CF-0084, April 2013.

Note: Funding numbers represent the annualized amount programs are authorized to obligate, prior to any adjustment for sequestration.

Contractors operate DOE sites and often conduct their work under management and operating (M&O) contracts.⁸ These contracts provide the contractor with discretion in carrying out the mission of the particular contract. Currently, DOE spends 90 percent of its annual budget on contracts, making it the largest non–Department of Defense contracting agency in the government.

⁸M&O contracts are agreements under which the government contracts for the operation, maintenance, or support, on its behalf, of a government-owned or –controlled research, development, special production, or testing establishment wholly or principally devoted to one or more of the major programs of the contracting federal agency. Federal Acquisition Regulation, 48 C.F.R. § 17.601.

DOE Faces Challenges Managing Its Major Projects and Programs

As we have reported in the past decade, DOE continues to face challenges managing its major projects and programs, which have incurred significant cost increases and schedule delays in several instances. Some recent examples include:

- As we reported earlier this month, NNSA estimates that the project to build the Uranium Processing Facility (UPF) at the Y-12 National Security Complex in Oak Ridge, Tennessee, will cost between five and seven times more than previously thought and will be completed over a decade behind schedule.⁹ NNSA estimated in 2004 that the UPF would cost from \$600 million to \$1.1 billion to construct and would start operating in 2012. As of June 2012, estimates were revised to a cost range from \$4.2 billion to \$6.5 billion and a 2023 date for the start of operations. In June 2012, the Deputy Secretary of Energy approved the latter cost range and schedule and deferred significant portions of the original project scope. Two months later, the UPF contractor concluded that UPF's roof would have to be raised 13 feet and that the start of construction would be further delayed, resulting in approximately \$540 million in additional costs. As we reported, these problems occurred because the contractor did not adequately manage and integrate the design work subcontracted to four other contractors. Given these additional costs and DOE's stated plan to pay for these additional costs from its contingency fund, it is unclear if the cost range estimate approved in June 2012 remains valid.
- In March 2013, we reported preliminary observations from our ongoing review of NNSA's Plutonium Disposition Program that highlight the need for continued efforts by DOE to improve contract and project management.¹⁰ We reported DOE is currently forecasting an increase in the total project cost for the MOX Fuel Fabrication Facility at the Savannah River Site in South Carolina from \$4.9 billion to \$7.7 billion and a delay in the start of operations from October 2016

⁹GAO, *Nuclear Weapons: Factors Leading to Cost Increases with the Uranium Processing Facility*, [GAO-13-686R](#) (Washington, D.C.: July 12, 2013).

¹⁰A key part of the Plutonium Disposition Program includes the construction of two nuclear facilities at DOE's Savannah River Site: a facility that will produce mixed oxide (MOX) fuel—a mix of plutonium and uranium—for nuclear reactors and a Waste Solidification Building to dispose of the liquid waste from the MOX facility.

to November 2019.¹¹ According to NNSA officials and the contractor for the MOX facility, inadequately designed critical system components, such as the gloveboxes to be used for handling plutonium and the infrastructure needed to support these gloveboxes, are among the primary reasons for the proposed cost increase and schedule delay. The performance baseline for the MOX facility was set several years before NNSA issued guidance in 2012 to set cost and schedule baselines only after design work is 90 percent complete.¹² As part of our ongoing review of NNSA's Plutonium Disposition Program, we are evaluating whether such guidance would have been useful for NNSA to apply to the MOX facility, as well as the potential impact this guidance might have had on mitigating cost increases and schedule delays.

- In December 2012, we reported that the estimated cost to construct the Waste Treatment and Immobilization Plant in Hanford, Washington, had tripled to \$12.3 billion since its inception in 2000 and that the scheduled completion date had slipped by nearly a decade to 2019.¹³ We reported that DOE's incentives and management controls were inadequate for ensuring effective project management, and DOE had in some instances prematurely rewarded the contractor for resolving technical issues and completing work. DOE generally agreed with the several recommendations we made to improve Waste Treatment and Immobilization Plant projects and contract management. In May 2013, we reported that significant technical challenges at the Waste Treatment Plant remained unresolved, contributing to uncertainty as to whether the project will operate safely and effectively.¹⁴
- We also reported in December 2012 on progress by EM and NNSA in managing nonmajor projects (i.e., those costing less than \$750

¹¹GAO, *Department of Energy: Concerns with Major Construction Projects at the Office of Environmental Management and NNSA*, [GAO-13-484T](#) (Washington, D.C.: Mar. 20, 2013).

¹²A project's performance baseline consists of the project's cost, schedule, and scope (the activities needed to achieve project goals).

¹³GAO, *Hanford Waste Treatment Plant: DOE Needs to Take Action to Resolve Technical and Management Challenges*, [GAO-13-38](#) (Washington, D.C.: Dec. 19, 2012).

¹⁴[GAO-13-510T](#).

million).¹⁵ We found that of the 71 nonmajor projects that EM and NNSA completed or had under way from fiscal years 2008 to 2012, 21 met or are expected to meet their performance targets for scope, cost, and completion date. However, 23 projects did not meet or were not expected to meet one or more of those three performance targets. We also noted that, for 27 projects, many had insufficiently documented performance targets for scope, cost, or completion date, which prevented us from determining whether they met their performance targets. As a result, we recommended, among other things, that EM and NNSA clearly define, document, and track the scope, cost, and completion date targets for each of their nonmajor projects. EM and NNSA agreed with our recommendations. As we noted in our February 2013 high-risk update,¹⁶ we have shifted our focus to major contracts and projects, but we will continue to monitor the performance of nonmajor projects.

- In April 2010, we reported that weak management by DOE and NNSA had allowed the cost, schedule, and scope of ignition-related activities at the National Ignition Facility to increase substantially.¹⁷ We reported that, since 2005, ignition-related costs have increased by around 25 percent—from \$1.6 billion in 2005 to over \$2 billion in 2010—and that the planned completion date for these activities had slipped from the end of fiscal year 2011 to the end of fiscal year 2012 or beyond. We made several recommendations to address program management weaknesses—which NNSA agreed with—and we are currently monitoring their implementation. Ten years earlier, in August 2000, we had reported that poor management and oversight of the National Ignition Facility construction project at Lawrence Livermore National Laboratory had increased the facility's cost by \$1 billion and delayed its scheduled completion date by 6 years.¹⁸

¹⁵GAO, *Department of Energy: Better Information Needed to Determine if Nonmajor Projects Meet Performance Targets*, [GAO-13-129](#) (Washington, D.C.: Dec. 19, 2012).

¹⁶[GAO-13-283](#).

¹⁷Ignition-related activities consist of the efforts separate from the facility's construction that have been undertaken to prepare for the first attempt at ignition—the extremely intense pressures and temperatures that simulate on a small scale the thermonuclear conditions created in nuclear explosions. See GAO, *Nuclear Weapons: Actions Needed to Address Scientific and Technical Challenges and Management Weaknesses at the National Ignition Facility*, [GAO-10-488](#) (Washington, D.C.: Apr. 8, 2010).

¹⁸GAO, *National Ignition Facility: Management and Oversight Failures Caused Major Cost Overruns and Schedule Delays*, [GAO/RCED-00-271](#) (Washington, D.C.: Aug. 8, 2000).

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- In March 2009, we reported that NNSA and the Department of Defense had not effectively managed cost, schedule, and technical risks for the B61 nuclear bomb and the W76 nuclear warhead refurbishments.¹⁹ For the B61 life extension program, NNSA was only able to stay on schedule by significantly reducing the number of weapons undergoing refurbishment and abandoning some refurbishment objectives. We made a number of recommendations to improve the management of the nuclear weapons refurbishment process. NNSA agreed with these recommendations, and we are monitoring their implementation.

We are currently assessing DOE cost estimating policies and practices and plan to issue a report based on this work later this year. DOE's actions to improve project management appear promising, but their impact on meeting cost and schedule targets may not be clear. Because all ongoing major projects have been in construction for several years, neither EM nor NNSA has a major project that can yet demonstrate the impact of DOE's recent reforms.

DOE Faces Challenges Managing Security and Safety

As we testified before this Subcommittee in March 2013,²⁰ reviews of the July 2012 security breach at the Y-12 National Security Complex identified numerous, long-standing, and systemic security issues across the nuclear security enterprise, and significant safety problems remain at DOE sites that have not been fully addressed. Some examples from our recent work include:

- With regard to security, as we testified in March 2013,²¹ investigations of the security breach at the Y-12 National Security Complex performed by NNSA, the DOE Office of Inspector General, and the DOE Office of Independent Oversight found problems with NNSA's and its contractors' performance, including problems with the complex's physical security systems, such as alarms, and the training and response of the heavily armed guards supplied by NNSA's protective force contractor. In addition, both a NNSA Security Task Force and an independent panel convened at the request of the

¹⁹ [GAO-09-385](#).

²⁰ [GAO-13-482T](#).

²¹ [GAO-13-482T](#).

Secretary of Energy and composed of three former executives from federal agencies and the private sector found systemic security issues across the nuclear security enterprise. Both the Secretary's panel and the NNSA Security Task Force's leader found deficiencies in DOE's security culture and oversight, with some of these being closely matched to issues we identified a decade earlier. DOE took a number of actions in response to the security breach and the findings of the panel and task force. These actions included, among other things, immediate actions to repair security equipment, as well as longer-term actions that aim to improve NNSA and DOE oversight of security. As we testified in March 2013, in assessing DOE's actions regarding security and NNSA's new security oversight process, a central question will be whether they lead to sustained improvements in security at the Y-12 National Security Complex and across the nuclear security enterprise. We have ongoing work assessing DOE security reforms and plan to issue a report based on this work later this year.

- With regard to safety, in September 2012 we testified before this Subcommittee about NNSA management weaknesses that have contributed to persistent safety problems at NNSA sites, including lax attitudes toward safety procedures, inadequacies in identifying and addressing safety programs with appropriate corrective actions, and inadequate oversight by NNSA site offices.²² We stated in our testimony that in March 2010, in an effort to address safety problems across the nuclear security enterprise, the Secretary of Energy announced a reform effort aimed at modifying DOE's oversight approach in order to "provide contractors with the flexibility to tailor and implement safety and security programs without excessive federal oversight or overly prescriptive departmental requirements." As we noted in the testimony, DOE's safety reforms did not fully address continuing safety concerns and, in fact, may have actually weakened independent oversight. We noted, for example, that DOE's Office of Independent Oversight staff must coordinate its assessment activities with NNSA site office management to maximize the use of resources, raising concerns about whether Office of Independent Oversight staff would be sufficiently independent from site office

²²[GAO-12-912T](#).

management.²³ In our April 2012 report, we recommended that DOE analyze the costs and benefits of its safety reform effort and identify how the effort will help address safety concerns. DOE agreed with our recommendations.

Moreover, since our September 2012 testimony, DOE's Office of Independent Oversight has raised concerns about ongoing safety issues, including reluctance by workers at NNSA's Pantex Plant to raise safety problems for fear of retaliation and a perception that cost took priority over safety, as well as inadequate controls to protect workers or the public in the case of earthquake, fires, or radiation exposures at the Y-12 National Security Complex. In addition, a March 2013 independent evaluation of safety culture at DOE's Office of Health, Safety, and Security (HSS)—which generally provides policy direction and independent oversight of safety and security at DOE sites—found that HSS staff raised concerns that the shift in recent years toward a more collaborative oversight relationship with site management had weakened HSS's effectiveness in providing independent oversight and enforcement.²⁴

²³Within DOE's Office of Health, Safety, and Security (HSS), the Office of Independent Oversight conducts periodic appraisals of the environment, safety, and health programs at DOE's sites to determine if DOE officials and contractors are complying with DOE's safety regulations and directives. During the review that led to our September 2012 report, the Office of Independent Oversight merged with the Office of Enforcement, forming the Office of Enforcement and Oversight. See GAO, *Nuclear Safety: DOE Needs to Determine the Costs and Benefits of Its Safety Reform Effort* [GAO-12-347](#), (Washington: D.C.: Apr. 20, 2012).

²⁴DOE HSS reports directly to the Secretary of Energy and is independent of DOE program offices and NNSA. See Dr. Sonja B. Haber, et al. *An Independent Evaluation of Safety Culture at the U.S. Department of Energy Office of Health, Safety and Security—Headquarters (HSS)* (Mar. 29, 2013).

DOE Has Not Produced Reliable Enterprise-Wide Management Data

For more than a decade, we have reported that DOE has not produced reliable enterprise-wide management data needed to, among other things, prepare its budget requests, identify the costs of its activities and ensure the validity of its cost estimates. Some recent examples include:

- In June 2013, we reported that NNSA's M&O contractors differ in how they classify and allocate indirect costs at NNSA laboratories.²⁵ Although different approaches are allowed by Cost Accounting Standards, these differences limit NNSA's ability to assess cost data and meaningfully compare cost management performance across laboratories, potentially impeding NNSA's efforts to oversee M&O contractors' costs. This work built on the report we issued in June 2010,²⁶ in which we found that NNSA could not accurately identify the total costs to operate and maintain weapons facilities and infrastructure because of differences among contractors' accounting practices. We concluded that, without the ability to consistently identify program costs, NNSA did not have the ability to adequately justify future presidential budget requests and risked being unable to identify both the return on investment of planned budget increases and opportunities for cost savings. As a result, we recommended that NNSA require M&O contractors report to NNSA annually on the total costs (i.e., both direct and indirect costs) to operate and maintain weapons facilities and infrastructure.
- In July 2012, we reported that NNSA did not comply with DOE's order that defines budget formulation because the agency believed the order expired in 2003 and no longer applied to NNSA budget activities.²⁷ DOE's order on budget formulation outlines the

²⁵GAO, *National Nuclear Security Administration: Laboratories' Indirect Cost Management Has Improved, but Additional Opportunities Exist*, [GAO-13-534](#) (Washington, D.C.: June 28, 2013). M&O contractor costs include both direct costs—costs that can be directly identified with specific cost objectives such as a program or project—and indirect costs—costs of activities that cannot be specifically identified with a specific cost objective but which indirectly support a program, such as management, administrative, and facility costs.

²⁶GAO, *Nuclear Weapons: Actions Needed to Identify Total Costs of Weapons Complex Infrastructure and Research and Production Capabilities*, [GAO-10-582](#) (Washington, D.C.: June 21, 2010).

²⁷GAO, *Modernizing the Nuclear Security Enterprise: NNSA's Reviews of Budget Estimates and Decisions on Resource Trade-offs Need Strengthening*, [GAO-12-806](#) (Washington, D.C.: July 31, 2012).

requirements for the department's annual budget formulation process, including that budget requests shall be based on cost estimates that have been thoroughly reviewed and deemed reasonable. However, we found that NNSA is guided by its own policy for its planning, programming, budgeting, and evaluation (PPBE) process and its associated activities, and found significant deficiencies in NNSA's implementation of the process. For example, we found that NNSA did not have a thorough, documented process for assessing the validity of its budget estimates prior to their inclusion in the President's budget submission to Congress, thereby limiting the reliability and credibility of the budget submission, but rather conducted informal, undocumented reviews of contractor-submitted budget estimates. In addition, we found that NNSA's annual budget validation review process occurred too late in the budget cycle to inform agency or congressional budget development or appropriations decisions. As a result, we made a number of recommendations to DOE and NNSA to improve the budget review process. The agencies agreed with most of these recommendations.

- In January 2012, we reported that costs for contractor-provided support functions at NNSA and DOE Office of Science sites—such as procuring goods, managing human resources, and maintaining facilities—were not fully known for fiscal years 2007 through 2011 because DOE changed its data collection approach beginning in 2010 to improve its data and, as a result, did not have complete and comparable cost data for all years.²⁸ We reported that the data for fiscal year 2011 were more complete but that changes to DOE's definitions for support functions made it difficult to compare costs across all years. We recommended several actions to streamline contractor-provided support functions at NNSA and DOE sites. NNSA and DOE agreed with these recommendations.

In conclusion, while DOE's management challenges are significant, we have noted in our recent work areas of progress. We have made numerous recommendations in our reports to address challenges such as those identified in this testimony, and DOE has agreed with and

²⁸GAO, *Department of Energy: Additional Opportunities Exist to Streamline Support Functions at NNSA and Office of Science Sites*, [GAO-12-255](#) (Washington, D.C.: Jan. 31, 2012). DOE's Office of Science has been the nation's single largest funding source for basic research in the physical sciences, supporting research in energy sciences, advanced scientific computing, and other fields.

implemented most of them. In addition, our work has recognized steps that DOE has taken to address these challenges.²⁹ For example, in the most recent update of our high-risk series in February 2013, we narrowed the focus of the high-risk designation of DOE's contract management to EM's and NNSA's major contracts and projects.³⁰ We did so to acknowledge progress made in managing EM's and NNSA's nonmajor projects, noting that DOE continued to demonstrate strong commitment and top leadership support for improving contract and project management in EM and NNSA. We also noted that DOE had taken steps to enhance oversight, such as requiring peer reviews and independent cost estimates for projects with values of more than \$100 million, as well as to improve the accuracy and consistency of data in DOE's central repository for project data.

Over the past several years, management challenges such as those discussed here have prompted some to call for removing NNSA from DOE and either move it to another department or establish it as an independent agency. However, as we have previously stated for the record, it is our view that few, if any, of NNSA's management challenges stem from the organizational relationship between NNSA and DOE.³¹ As the new Secretary of Energy considers needed reforms in these areas, we note that DOE's management of projects and programs, security and safety, and enterprise-wide data must improve—regardless of the department's structure. We will continue to monitor DOE's implementation of actions to resolve its long-standing management challenges, including actions that we have recommended to facilitate the resolution of these challenges.

²⁹ A list of recent GAO products assessing DOE's management efforts is included at the end of this statement.

³⁰ [GAO-13-283](#). In addition, an earlier high-risk update removed DOE's Office of Science from the scope of our high-risk area to acknowledge progress that office made in addressing human capital and resource issues and meeting projects' cost and schedule targets. See GAO, *High-Risk Series: An Update*, [GAO-09-271](#) (Washington, D.C.: January 2009).

³¹ As we noted in response to questions for the record, a dramatic organizational change, such as making NNSA an independent agency, may be disruptive. Currently, DOE provides NNSA with a large number of services, such as personnel and headquarters building security, office space, payroll, and information technology. An independent NNSA would have to devote substantially more effort to create and then maintain these overhead functions.

Chairman Murphy, Ranking Member DeGette, and Members of the Subcommittee, this completes my prepared statement. I would be pleased to respond to any questions you may have at this time.

GAO Contact and Staff Acknowledgments

If you or your staff have any questions about this testimony, please contact me at (202) 512-3841 or trimbled@gao.gov. Contact points for our Office of Congressional Relations and Public Affairs may be found on the last page of this statement. GAO staff who made key contributions to this testimony are Jonathan Gill, Assistant Director, and Rob Grace, Nancy Kintner-Meyer, Michelle Munn, Cheryl Peterson, Jeff Rueckhaus, Rebecca Shea, and Kiki Theodoropoulos.

Selected Recent GAO Products Assessing the Department of Energy's Management Efforts

The following is a selection of GAO's recent work assessing the Department of Energy's management efforts.

National Nuclear Security Administration: Laboratories' Indirect Cost Management Has Improved, but Additional Opportunities Exist, [GAO-13-534](#) (Washington, D.C.: June 28, 2013).

Department of Energy: Observations on Project and Program Cost Estimating in NNSA and the Office of Environmental Management, [GAO-13-510T](#) (Washington, D.C.: May 8, 2013).

Modernizing the Nuclear Security Enterprise: Observations on DOE's and NNSA's Efforts to Enhance Oversight of Security, Safety, and Project and Contract Management, [GAO-13-482T](#) (Washington, D.C.: Mar. 13, 2013).

High-Risk Series: An Update, [GAO-13-283](#) (Washington, D.C.: February 2013).

Recovery Act: Most DOE Cleanup Projects Are Complete, but Project Management Guidance Could Be Strengthened, [GAO-13-23](#) (Washington, D.C.: Oct. 15, 2012).

Department of Energy: Better Information Needed to Determine If Nonmajor Projects Meet Performance Targets, [GAO-13-129](#) (Washington, D.C.: Dec. 19, 2012).

Hanford Waste Treatment Plant: DOE Needs to Take Action to Resolve Technical and Management Challenges, [GAO-13-38](#) (Washington, D.C.: Dec. 19, 2012).

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