



May 2014

NATIONAL NUCLEAR SECURITY ADMINISTRATION

Agency Report to
Congress on Potential
Efficiencies Does
Not Include Key
Information

GAO Highlights

Highlights of [GAO-14-434](#), a report to congressional committees

Why GAO Did This Study

Nuclear weapons are an essential part of the nation's defense strategy, and NNSA is charged with performing key activities in support of this strategy. Like other agencies, however, NNSA is being asked to find ways to operate more efficiently and reduce costs.

The National Defense Authorization Act for Fiscal Year 2012 mandated that NNSA submit a report to congressional defense committees that, among other things, includes an assessment of the role of the nuclear security complex sites, as well as opportunities for efficiencies at these sites and how these efficiencies may contribute to cost savings and help strengthen safety and security. The act required that NNSA's report include certain topics and mandated that GAO assess the report submitted by NNSA. This report evaluates the extent to which the NNSA report (1) assessed the role of nuclear security complex sites in supporting key NNSA activities and (2) identified opportunities for efficiencies and cost savings within the nuclear security complex. GAO analyzed NNSA's statutory reporting requirements, the agency's report to congressional committees and supporting documentation, and interviewed NNSA officials.

What GAO Recommends

GAO recommends that, when reporting on efficiencies and cost savings in the future, NNSA establish a methodology for estimating the savings derived from potential efficiencies and track savings resulting from efforts. NNSA disagreed, stating that the act did not require, as GAO recommends, that efficiencies be linked to cost savings. GAO believes its recommendation remains valid.

View [GAO-14-434](#). For more information, contact David C. Trimble at (202) 512-3841 or trimbled@gao.gov.

May 2014

NATIONAL NUCLEAR SECURITY ADMINISTRATION

Agency Report to Congress on Potential Efficiencies Does Not Include Key Information

What GAO Found

The National Nuclear Security Administration's (NNSA) report to congressional defense committees describes, but does not assess, the role of the nuclear security complex sites. The act required that NNSA's report include an assessment of the role of the nuclear security complex sites in supporting a safe, secure, and reliable nuclear deterrent; reductions in the nuclear stockpile; and the nuclear nonproliferation efforts of the nation—which GAO refers to in this report as key NNSA activities. NNSA's report does not include such an assessment. Instead, the report describes activities such as certifying annually that the nuclear weapons stockpile is safe, secure, and reliable. NNSA officials told GAO that a prior 2008 report that assessed the role of the nuclear security complex is still valid and said that they did not think the act required them to update it. GAO notes, however, that NNSA's report to Congress does not cite the 2008 report as support for its assessment and provides no other information that would constitute an assessment. NNSA officials said that a new analysis of the role of the nuclear security complex sites may be warranted in the future if circumstances change. Officials acknowledged that characteristics of some major projects—such as the Chemistry and Metallurgical Research Replacement Nuclear Facility in New Mexico—have changed recently due to technical and fiscal challenges, but that such changes do not alter the fundamental role each site plays.

NNSA's report to congressional defense committees identified seven opportunities for efficiency, but it did not, as required by the act, provide an assessment of how these efficiencies could contribute to cost savings or strengthening safety and security. For example, NNSA's report cites the establishment of two new offices—the Office of Acquisition and Project Management in 2011 and the Office of Infrastructure and Operations in 2013—as efficiency opportunities but does not provide an assessment of how these offices have contributed or will contribute to cost savings or improved safety and security. In addition, some efficiency opportunities noted in NNSA's report—such as the capabilities provided by the new Uranium Processing Facility at the Y-12 National Security Complex—involve projects or strategies that GAO has previously reported face challenges, which, if not addressed, may impact NNSA's ability both to achieve cost savings and strengthen safety and security. Key principles for preparing savings estimates include a methodology that identifies the basis of any assumptions included in the savings estimates and a process for tracking actual savings. Such a methodology could help ensure that savings from proposed efficiencies can be achieved. Because NNSA did not assess how these efficiencies would lead to savings, however, it is not clear whether any cost savings will result.

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Abbreviations

DOE	Department of Energy
NNSA	National Nuclear Security Administration

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May 15, 2014

Congressional Committees

Nuclear weapons are an essential part of the nation's defense strategy. During the cold war the nation designed, tested, and produced new nuclear weapons. Since the end of the cold war, however, some of the infrastructure supporting the nuclear security enterprise¹ has aged and deteriorated, and the approach has shifted toward reducing the nuclear weapons stockpile, and maintaining certain weapons indefinitely by extending their operational lives, without nuclear testing. This approach requires not only refurbishing existing weapons, but also replacing or renovating research, development, and production facilities that date back to the 1940s and 1950s; performing simulations and laboratory experiments to ensure existing nuclear weapons remain safe and reliable; and recruiting and training personnel with the specialized skills to sustain the nuclear weapons program and maintain the stockpile into the future. The Department of Energy's (DOE) National Nuclear Security Administration (NNSA) is charged with ensuring a safe, secure, and reliable nuclear deterrent; achieving designated reductions in the nuclear weapons stockpile; and supporting the nation's nuclear nonproliferation efforts. NNSA is responsible for activities in pursuit of these missions, which are largely executed at eight government-owned, contractor-operated sites that comprise the nuclear security enterprise.

As the United States reduces its nuclear weapons stockpile, the administration has pledged additional funds to modernize and operate the nuclear security enterprise, including refurbishment of weapons currently in the stockpile and construction of replacement research and production facilities to support these refurbishments. This increased investment in the nuclear security enterprise is intended to ensure that scientific, technical, and engineering capabilities are sufficiently supported such that a smaller nuclear deterrent continues to be safe, secure, and reliable. But

¹Since the National Defense Authorization Act for Fiscal Year 2013 amended the Atomic Energy Defense Act to include a definition of nuclear security enterprise, the term has largely been used instead of "nuclear security complex." In its mandated 2013 report to Congress, NNSA uses the term "enterprise" instead of "complex." Therefore, except for references to statutes that use the term "nuclear security complex," in this report, we use the term "nuclear security enterprise" to denote the eight support facilities overseen by NNSA.

NNSA, like all other federal agencies, is being asked to find ways to operate more efficiently and reduce its costs. In November 2011, the President issued Executive Order no. 13589, which stressed agencies should act in a fiscally responsible manner, including minimizing agency costs, in order to perform mission-critical functions in the most cost-effective way. Also, as we reported in December 2013,² NNSA's 2014 future budget estimates incorporated about \$24 billion in cost savings to be achieved through management efficiencies and workforce prioritization savings through 2038, including \$320 million in 2014. NNSA officials said the Office of Management and Budget directed NNSA to include cost savings in its future budget estimates so that the overall estimate could be reduced. Our December 2013 report also noted that NNSA incorporated these cost savings into its budget estimates before assessing how it could achieve the savings, which may affect whether the estimates accurately reflect the amounts NNSA may request in the future. Our report recommended that NNSA include a range of budget estimates for preliminary projects and programs in future modernization plans. NNSA generally concurred with our recommendation.

Long-standing contract management issues at NNSA may also create future budgetary challenges for the agency. As we have reported for more than a decade, NNSA's efforts to modernize the nuclear security enterprise continue to involve cost overruns, schedule delays, and problems with contract management and oversight.³ Among the costly NNSA modernization programs facing challenges are a project to construct a modern Uranium Processing Facility at the Y-12 National Security Complex in Oak Ridge, Tennessee, and another to construct the Chemistry and Metallurgy Research Replacement Nuclear Facility at Los Alamos National Laboratory in New Mexico. Increases from initial cost and schedule estimates have been sizeable, and project features have changed. We also reported, in October 2009, that NNSA's cost analysis supporting the move of its Kansas City Plant to a more modern, leased facility included flawed methodology, which may have excluded potential

²GAO, *Modernizing the Nuclear Security Enterprise, NNSA's Budget Estimates Do Not Fully Align with Plans*, [GAO-14-45](#) (Washington, D.C.: Dec. 11, 2013).

³See, for example, GAO, *Nuclear Weapons: Factors Leading to Cost Increases with the Uranium Processing Facility*, [GAO-13-686R](#), (Washington, D.C.: July 12, 2013) and *Department of Energy: Observations on Project and Program Cost Estimating in NNSA and the Office of Environmental Management*, [GAO-14-510T](#) (Washington, D.C.: May 8, 2013).

money-saving alternatives from consideration.⁴ In our report, we recommended, among other things, that NNSA ensure that future cost analyses consider the full useful life of the facility, revise the Kansas City Plant relocation schedule to be consistent with DOE guidance and GAO-identified best practices, and develop a risk-based approach for managing technologies that could advance adversaries' nuclear capabilities. NNSA generally agreed with our recommendations but has not implemented the recommendations.

The National Defense Authorization Act for Fiscal Year 2012, which was enacted in December 2011, required NNSA to submit a report to congressional defense committees not later than March 1, 2013, that (1) assesses the role of nuclear security complex sites in supporting a safe, secure, and reliable nuclear deterrent; reductions in the nuclear stockpile; and the nuclear nonproliferation efforts of the nation—which we refer to in this report as key NNSA activities—and (2) identifies opportunities for efficiencies and cost savings within the nuclear security complex. The act requires the NNSA report to include certain topics, including an assessment of how efficiency opportunities could contribute to cost savings and strengthen safety and security. The act also mandates GAO to submit a report to the congressional defense committees that assesses the report submitted by NNSA. On November 7, 2013, more than 8 months after the deadline, NNSA submitted its report to Congress entitled *U.S. Department of Energy: Role of the Nuclear Security Enterprise and Potential Efficiencies*.⁵ In accordance with the mandate, this report evaluates the extent to which the NNSA report (1) assessed the role of nuclear security complex sites in supporting key NNSA activities and (2) identified opportunities for efficiencies and cost savings within the nuclear security complex.

To determine the extent that NNSA's report assessed the role of the nuclear security complex sites in supporting key NNSA activities, as required by the 2012 National Defense Authorization Act, we analyzed the statutory reporting requirements and compared these against the

⁴GAO, *National Nuclear Security Administration Needs to Better Manage Risks Associated with Modernization of Its Kansas City Plant*, [GAO-10-115](#) (Washington, D.C.: Oct. 23, 2009).

⁵The report to Congress was dated October 2013, but it was not delivered to congressional committees until November 2013.

information provided in NNSA's November 2013 report to Congress and supporting documentation, such as DOE's *Fiscal Year 2014 Stockpile Stewardship and Management Plan Report to Congress*⁶ and NNSA's 2008 Record of Decision for the Complex Transformation Supplemental Programmatic Environmental Impact Statement,⁷ and the fiscal year 2014 NNSA Congressional Budget Request.⁸

In addition to our analysis of the statutory reporting requirements discussed above, to determine the extent that NNSA's report identified opportunities for efficiencies and cost savings within the nuclear security complex, including an assessment of how efficiency opportunities could contribute to cost savings and strengthen safety and security, we also reviewed other key documents. Specifically, we reviewed savings targets for workforce prioritization and management efficiency actions that were included in DOE's *2014 Stockpile Stewardship and Management Plan*, the fiscal year 2014 NNSA Congressional Budget Request, and an agency report responding to the joint Department of Defense Office of Cost Assessment and Program Evaluation recommendations that NNSA implement workforce prioritization actions to achieve cost efficiencies in nuclear stockpile management.⁹ To further our understanding of the issues addressed in these reports, we also reviewed prior GAO and DOE Office of the Inspector General reports and nonfederal studies addressing duplication, potential cost savings, and cost efficiencies in the nuclear security enterprise, and interviewed knowledgeable officials at NNSA Office of Defense Programs and others involved in drafting the November 2013 report to Congress. In addition, we derived general principles for evaluating cost savings estimates by reviewing key federal guidance, standards, and practices for cost estimating, budget preparation, financial

⁶Department of Energy, *Fiscal Year 2014 Stockpile Stewardship and Management Plan, Report to Congress*, (Washington, D.C.: June 2013).

⁷73 Fed. Reg. 77,644 (Dec. 19, 2008).

⁸Office of Chief Financial Officer, Department of Energy, *Fiscal Year 2014 Congressional Budget Request, National Nuclear Security Administration, Office of the Administrator, Weapons Activities, Defense Nuclear Nonproliferation, Naval Reactors* (Washington, D.C.: April 2013).

⁹Department of Energy, National Nuclear Security Administration, Defense Programs, *NNSA Workforce Management Study* (Washington, D.C.: November 2013).

planning, and public reporting.¹⁰ We then used these derived principles as criteria for evaluating NNSA's approach to achieving cost savings by implementing management and other efficiencies.

We conducted this performance audit from October 2013 to May 2014 in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

Background

As the largest civilian contracting agency in the federal government, DOE relies primarily on contractors to carry out its diverse missions and operate its laboratories and other facilities. About 90 percent of DOE's budget is spent on contracts and large capital asset projects. DOE's fiscal year 2015 discretionary budget request totaled almost \$28 billion, with NNSA accounting for a substantial share—more than 40 percent. With three projects under way as of August 2012 that are expected to cost upwards of \$17 billion, and with a history of significant cost growth and schedule delays, we designated NNSA's contract and project management for contracts and projects with values of at least \$750 million as high risk due to vulnerabilities to fraud, waste, abuse, and mismanagement.¹¹

NNSA, a separately organized agency within DOE, is responsible for the management and security of the nation's nuclear weapons programs. NNSA articulates its strategy for managing the nuclear weapons infrastructure in its annually updated Stockpile Stewardship and Management Plan. The plan includes information on NNSA's eight

¹⁰GAO, *Cost Estimating and Assessment Guide: Best Practices for Developing and Managing Capital Program Costs*, [GAO-09-3SP](#) (Washington, D.C.: March 2009); Office of Management and Budget, Circular No. A-11, *Preparation, Submission, and Execution of the Budget* (Washington, D.C.: August 2011); and Federal Accounting Standards Advisory Board, *Statement of Federal Financial Accounting Standards 4: Managerial Cost Accounting Standards and Concepts* (Washington, D.C.: June 2013).

¹¹GAO, *High Risk Series: An Update*, [GAO-13-283](#) (Washington D.C.: February 2013) and *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).

government-owned, contractor-operated sites that comprise its nuclear security enterprise—formerly known as the nuclear security complex. These include three national nuclear weapons design laboratories—Lawrence Livermore National Laboratory in California, Los Alamos National Laboratory in New Mexico, and Sandia National Laboratories in New Mexico and California; four nuclear weapons production plants—the Pantex Plant in Texas, the Y-12 National Security Complex in Tennessee, the Kansas City Plant in Missouri, and tritium operations at DOE’s Savannah River Site in South Carolina; and the Nevada National Security Site, formerly known as the Nevada Test Site. These sites carry out, among other things, the Stockpile Stewardship Program, which helps ensure a U.S. nuclear deterrent without full-scale nuclear testing. Activities under this program include dismantlement and disposition of nuclear weapons, as well as long-range planning to modernize NNSA’s nuclear security enterprise.

The National Defense Authorization Act for Fiscal Year 2012 required NNSA to submit a report to congressional defense committees (1) assessing the role of the nuclear security complex in supporting key activities and (2) identifying any opportunities for efficiencies and cost savings in the complex. More specifically, section 3123 of the act required the report to include the following:

- an assessment of the role of the nuclear security complex sites in supporting a safe, secure, and reliable nuclear deterrent; reductions in the nuclear stockpile; and the nuclear nonproliferation efforts of the nation;
- an identification of opportunities for efficiencies within the nuclear security complex and an assessment of how those efficiencies could contribute to cost savings and strengthening safety and security;
- an assessment of duplicative functions within the nuclear security complex and a description of which duplicative functions remain necessary and why;
- an analysis of the potential for shared use or development of high explosives research and development capacity, supercomputing

platforms, and infrastructure maintained for the Work for Others program,¹² if the Administrator determines it appropriate; and

- a description of the long-term strategic plan for the nuclear security complex.

Report Describes Activities of the Nuclear Security Enterprise but Does Not Assess the Sites' Role

The act required that NNSA's report to congressional defense committees include an assessment of the role of the nuclear security complex sites in supporting a safe, secure, and reliable nuclear deterrent; reductions in the nuclear stockpile; and the nuclear nonproliferation efforts of the nation. NNSA's report, however, does not include such an assessment. Instead, the NNSA report describes activities of the nuclear security enterprise such as (1) certifying annually that the nuclear weapons stockpile is safe, secure, and reliable; (2) extending the life of existing weapons; (3) dismantling some nuclear weapons to reduce their quantity; and (4) developing and deploying technologies, approaches, and monitoring tools to ensure compliance with international agreements. In addition, NNSA's report states that the 2014 *Stockpile Stewardship and Management Plan*, issued in June 2013, provides supplemental information on the role of the nuclear security enterprise. NNSA officials told us that they did not think the act required them to submit an updated assessment of the nuclear security enterprise and stated that carrying out such an assessment would have taken more time to complete than the 14 months provided under the act.¹³ NNSA officials also said that a 2008 report that assessed the role of the nuclear security enterprise sites is still valid.¹⁴

¹²This program allows work to be performed at DOE laboratories for both federal agencies and nonfederal entities, provided that several requirements are met, including that the program's projects do not hinder DOE's mission or compete with the private sector. See GAO, *National Laboratories: DOE Needs to Improve Oversight of Work Performed for Non-DOE Entities*, [GAO-14-78](#) (Washington, D.C.: Oct. 25, 2013).

¹³We note, however, that according to a congressional committee report accompanying the National Defense Authorization Act for Fiscal Year 2012, the NNSA report required by section 3123 was intended to be an updated analysis of potential opportunities for efficiencies and the administration's strategic plan for the nuclear security complex H.R. Rep. No. 112-78 at 322 (2011).

¹⁴Department of Energy, National Nuclear Security Administration, *Complex Transformation Supplemental Programmatic Environmental Impact Statement*, DOE/EIS-0236-S4 (Washington, D.C.: October 2008).

NNSA officials said that a new analysis of the role of the nuclear security enterprise sites may be warranted in the future if circumstances change sufficiently. Officials acknowledged that, since 2008, characteristics of some large capital asset projects have changed in the face of increasing costs, fiscal constraints, and technical difficulties, including plans to construct a Chemistry and Metallurgy Research Replacement Nuclear Facility at Los Alamos National Laboratory,¹⁵ and plans to construct a Pit Disassembly and Conversion Facility at Savannah River.¹⁶

Notwithstanding such changes across the nuclear security enterprise, NNSA officials said that the fundamental role that each site plays in supporting the nuclear security enterprise is consistent with the assessment included in the 2008 report. We did not evaluate NNSA's 2008 report, but given the report is more than 5 years old, it raises questions about the assessment still being relevant. Moreover, we note that NNSA's report to Congress did not cite the 2008 report as support and, as discussed previously, NNSA did not provide an assessment of the role of the nuclear security complex sites in supporting key NNSA activities, as required by the act.

The act also required that NNSA's report include a description of the long-term strategic plan for the nuclear security complex. NNSA's report provides a brief description of the nuclear security enterprise's strategic plan and states that the 2014 *Stockpile Stewardship and Management*

¹⁵In 2004, NNSA first approved a plan to construct a Chemistry and Metallurgy Research Replacement Nuclear Facility at the existing Los Alamos site to support plutonium manufacturing and research and development. For fiscal year 2014, the administration has not requested, and Congress did not appropriate any funds to construct this facility. NNSA plans an alternative plutonium infrastructure strategy at the Los Alamos site to include maximizing the use of the Radiological Laboratory Utility Office Building, reusing laboratory space, and evaluating options for modular additions. Acting Administrator, National Nuclear Security Administration, U.S. Department of Energy, Fiscal Year 2015 President's Budget Request, testimony before the Subcommittee on Energy and Water Development, House Committee on Appropriations, 113th Cong., 2nd sess., April 3, 2014; GAO, *Modernizing the National Security Enterprise, Observations on Meeting NNSA's Plutonium Needs*, [GAO-13-533](#) (Washington, D.C. Sept. 11, 2013).

¹⁶In 2000, NNSA decided to construct and operate a Pit Disassembly and Conversion Facility at its Savannah River Site. Through 2009, NNSA's strategy was to design and construct the facility as a new, stand-alone facility adjacent to the Mixed Oxide Fuel Fabrication Facility at Savannah River.¹⁶ In March 2014, NNSA decided to evaluate alternative plutonium disposition technologies that it believes can achieve a safe and secure solution more quickly and cost effectively. Office of Management and Budget, *Fiscal Year 2015 Budget of the United States* (Washington, D.C.: Mar. 4, 2014).

Plan, issued in June 2013, constitutes its 25-year strategic plan for the nuclear security enterprise.

Report Identifies Opportunities for Efficiencies but Does Not Include Other Required Information

NNSA's report to Congress identifies opportunities for efficiencies and assesses duplicative functions. It does not, however, (1) assess how identified efficiencies could contribute to cost savings and strengthen safety and security, as required by the National Defense Authorization Act for Fiscal Year 2012, (2) or analyze the potential for shared use of facilities, which was a task the act stated should be included if the Administrator determines it to be appropriate.

NNSA's Report Identifies Efficiency Opportunities and Assesses Duplicative Functions

NNSA's report identifies seven efficiency opportunities. The opportunities included in the report are a summary of efficiency opportunities included in the 2014 *Stockpile Stewardship and Management Plan*, issued in June 2013, as well as some infrastructure and research and development initiatives. Specifically, NNSA's report discusses efficiency opportunities that may result from (1) establishing the Office of Acquisition and Project Management in 2011; (2) establishing the Office of Infrastructure and Operations in fiscal year 2013; (3) consolidating the management and operating contracts for Y-12 National Security Complex and the Pantex Plant; (4) efficiencies in the nuclear weapons research and development portfolio, such as refurbishing facilities to reduce downtime between experiments; (5) improving the planning process for High Energy Density activities; (6) reducing the size of the Kansas City Plant; and (7) achieving projected benefits from the new Uranium Processing Facility.

NNSA's report also includes an assessment of duplicative functions—which determined that most duplication has been eliminated over the past 25 years, and the duplicative activities that remain are essential to operations. For example, the report states that the nuclear security enterprise does maintain duplicative weapons design, certification, and surveillance functions but that it is an intended redundancy. Los Alamos National Laboratory and Lawrence Livermore National Laboratory both act as design agents for scientific matters pertaining to the weapon physics package. But, according to the report, the intellectual diversity that results from competing physics design laboratories is important to fulfill the requirement of stockpile stewardship.

NNSA's Report Does Not Assess How Identified Efficiencies Could Contribute to Cost Savings or Strengthen Safety and Security, as Required

As discussed above, NNSA's report identifies seven efficiency opportunities. The act, however, required NNSA to submit a report to congressional defense committees that included not only an identification of efficiency opportunities, but also an assessment of how those efficiencies could contribute to cost savings and strengthen safety and security.

NNSA's report does not provide an assessment of how the efficiencies identified could contribute to cost savings and strengthen safety and security, as required by the act. For example, NNSA's report cites the establishment of two new offices—the Office of Acquisition and Project Management in 2011 and the Office of Infrastructure and Operations in 2013—as efficiency opportunities, but it does not provide an assessment of how these offices have contributed or will contribute to cost savings. Similarly, the report cites efficiencies achieved in recent years related to experiments and simulations conducted in support of nuclear weapons research and development, but it does not include information about how these efficiencies might lead to cost savings. These and other efficiencies described in NNSA's report also do not include an assessment of how the efficiencies will strengthen safety and security.

In addition, three of the efficiency initiatives included in NNSA's report involve projects or strategies that, in prior reviews, we have found face challenges, which, if not addressed, may impact NNSA's ability both to achieve cost savings and strengthen safety and security.

- Consolidating the Y-12 and Pantex management and operations contracts to integrate finance systems and streamline management support services. We previously concluded that it is unclear how cost savings from this consolidation could be achieved and whether it would produce as much in savings as NNSA has anticipated.¹⁷ NNSA's report does not address these previously raised concerns.
- *Constructing a new Uranium Processing Facility at the Y-12 National Security Complex*: NNSA stated that the new facility would include engineered controls that will provide improved safety, security, and reliability of enriched uranium operations, among other things. But,

¹⁷ GAO, *Modernizing the Nuclear Security Enterprise: The National Nuclear Security Administration's Proposed Acquisition Strategy Needs Further Clarification and Assessment*, [GAO-11-848](#) (Washington, D.C.: Sept. 20, 2011).

NNSA's report contains no other information regarding how the new facility will improve safety and security and, as NNSA itself has acknowledged, challenges inherent in this project are being addressed, and the features of the facility have undergone significant changes. We have previously reported, in 2012, project costs had increased almost 6 times NNSA's initial estimates. Accordingly, as a result of the increased cost estimate for this project, how or whether it can lead to cost savings remains unclear.¹⁸

- *Moving Kansas City operations to a smaller, nearby leased facility.* This move began in 2013 and is scheduled for completion in August 2014. In October 2009, however, we found the potential cost efficiencies gained from this leasing arrangement may have been overstated because the methodology used to estimate savings eliminated potentially less costly alternatives.¹⁹ NNSA's report does not address these previously raised concerns or address how efficiencies gained from this move will lead to improved safety and security.

With regard to potential cost savings, because NNSA did not assess how efficiencies would lead to savings, it is not clear whether any cost savings will result. Without this information, Congress does not have critical information it needs to make budgetary and policy choices that best balance long-term spending and nuclear security goals. We have previously reported on the practices used by other agencies to estimate the savings associated with opportunities for efficiencies and track actual savings resulting from implementing efficiency initiatives.²⁰ For example, in February 2012, we reported that a sound methodology for estimating savings helps ensure that proposed savings can be achieved. We recommended that such a methodology should include an explanation of how savings from each operational improvement will be achieved, an explanation for the basis of any assumptions included in the savings

¹⁸[GAO-13-686R](#).

¹⁹[GAO-10-115](#).

²⁰GAO, *VA Health Care: Methodology for Estimating and Process for Tracking Savings Need Improvement*, [GAO-12-305](#) (Washington, D.C.: Feb. 27, 2012); *Defense Management: Opportunities Exist to Improve Information Used in Monitoring Status of Efficiency Initiatives*, [GAO-13-105R](#) (Washington, D.C.: Dec. 4, 2012); and *Veterans Affairs: Limited Support for Reported Health Care Management Savings*, [GAO-06-359R](#) (Washington, D.C.: Feb. 1, 2006).

estimates, and a detailed process for tracking actual savings resulting from improvements. Consistent with our prior recommendations, we derived several key principles for preparing cost savings estimates from federal budgeting and cost estimating guidance. These principles include preparing an appropriate level of detailed documentation so that a reasonably informed person can easily recreate, update, or understand the cost savings estimate; identifying key assumptions used in preparing the estimate; assessing the reliability of data used to develop the estimate; and verifying or validating the accuracy of the calculations performed.

NNSA's recent experience with previously identified cost savings targets underscores the importance of assessing whether cost savings can in fact be achieved. As discussed previously, the Office of Management and Budget directed NNSA to include cost savings to be achieved through management efficiencies and workforce prioritization savings in its 2014 future budget estimates so that the overall estimate could be reduced.²¹ NNSA incorporated these cost savings into its budget estimates before assessing how it could achieve the savings, thereby limiting the credibility of savings for budgetary purposes. In November 2013, NNSA determined that savings anticipated from workforce prioritization would not be feasible.²² NNSA officials told us, in March 2014, that they are assessing whether and how it might still achieve the management efficiency savings incorporated in its budget estimates, but that they have not yet determined when the assessment will be completed.

NNSA's Report Does Not Analyze Potential Shared Use of Facilities

NNSA's report does not provide an analysis of the potential for shared use of facilities. The National Defense Authorization Act for 2012 required NNSA, if the Administrator determined it appropriate, to provide an analysis of the potential for shared use or development of high explosives research and development capacity, supercomputing platforms, and infrastructure maintained for the Work for Others program. NNSA's report does not discuss the Administrator's determination regarding whether such an analysis is appropriate. Nonetheless, NNSA includes in its report a section entitled *potential for shared use of selected facilities*. The

²¹ [GAO-14-45](#).

²² Workforce prioritization involves shifting contract workforce from lower to higher priority nuclear weapons activities and performing less work scope.

information contained in the report, however, focuses on existing, not potential, shared use opportunities. Specifically, NNSA's report includes two examples of sites that operate Work for Others programs and three examples where they use facilities not owned by the nuclear security enterprise to execute its missions. The report states that NNSA leverages the costs saving and benefits of time-sharing and collaboration at these facilities, but it provides no additional information on the potential for new opportunities to supplement those efforts the agency has already put into practice.

Conclusions

Like other federal agencies, NNSA is being asked to find ways to operate more efficiently and reduce costs. Modernizing the nuclear security enterprise to ensure a safe, secure, and reliable nuclear deterrent will involve billions of dollars and take many years to accomplish. NNSA has identified several opportunities to achieve efficiencies across the nuclear security enterprise, but it is not clear whether cost savings will result because NNSA did not assess how these opportunities would create savings, how much could be saved, and in what time frame. Some of the opportunities NNSA proposes are associated with projects or activities for which NNSA has had difficulties accurately estimating costs and schedules or which are currently in flux. Without a sound methodology for assessing efficiency opportunities—a methodology that includes the basis of any assumptions included in the savings estimates, an assessment of the reliability of data used to develop the estimate, and verification or validation of the accuracy of savings calculations performed, as well as a process for tracking actual savings—NNSA cannot provide reasonable assurance that the efficiency opportunities it has identified will result in savings. Without such information, Congress does not have critical information to make the budgetary and policy choices that best balance long-term spending and nuclear security goals.

Recommendation for Executive Action

To ensure Congress receives reliable information regarding budgetary savings, we recommend that the Administrator of NNSA, when reporting on efficiency and savings opportunities in the future, develop a methodology that includes details on how savings from each operational improvement will be achieved; the basis of any assumptions included in the savings estimates; an assessment of the reliability of data used to develop the estimate; verification or validation of the accuracy of savings calculations performed; and a process for tracking actual savings resulting from operational improvements.

Agency Comments and Our Evaluation

We provided a draft of this report to NNSA for its review and comment. NNSA provided written comments, which are presented in appendix I. NNSA also provided technical comments on our draft report, which we incorporated as appropriate.

In its written comments, NNSA disagreed with our findings and our recommendation. Specifically, in its comments, NNSA stated that it was concerned that our report reflects an interpretation of the National Defense Authorization Act for Fiscal Year 2012 that differs from NNSA's, resulting in potentially misleading conclusions. NNSA further stated that the report incorrectly concludes that the NNSA report to Congress did not provide an assessment of the roles of Nuclear Security Enterprise sites in performing certain missions as required and that the basis for our conclusion that the assessment was not provided is unclear. We disagree. The act required NNSA to provide a report to congressional defense committees "assessing the role of the nuclear security complex sites in supporting a safe, secure, and reliable nuclear deterrent; reductions in the nuclear stockpile; and the nuclear nonproliferation efforts of the United States." As we noted in our report, NNSA described the activities of the nuclear security enterprise in its report to Congress, but it did not provide an assessment. A description is not an assessment.

In its comments, NNSA stated that the *2008 Complex Transformation Supplemental Programmatic Environmental Impact Statement* that underlies its report to Congress, is still operative, and there have been no substantive transformations of the Nuclear Security Enterprise since. As we note in our report, however, NNSA did not cite this assessment in its report to congressional defense committees. Moreover, the *2008 Complex Transformation Supplemental Programmatic Environmental Impact Statement* is more than 5 years old, which raises questions about its continued relevance. Notably, key elements of that document, such as the construction of the Chemistry and Metallurgy Research Replacement Nuclear Facility and the Uranium Processing Facility, have not been constructed and NNSA is reconsidering its approach on how to address these critical needs.

NNSA also states in its comments that we appear to have interpreted the act as requiring NNSA to causally and quantitatively link its cost efficiency initiatives to specific cost savings when the congressional language does not make any reference to linking the two. We disagree because the act does link efficiencies and cost savings. Specifically, the act states that the NNSA report must identify "opportunities for efficiencies within the nuclear security complex and *an assessment of how those efficiencies could contribute to cost savings* and strengthening safety and security." As we

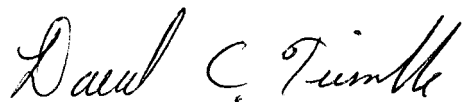
stated in our report, NNSA's report to congressional defense committees identifies opportunities for efficiencies. It does not, however, assess how identified efficiencies could contribute to cost savings and strengthen safety and security, as required by the act. For example, in its report NNSA cites efficiencies achieved in recent years related to experiments and simulations conducted in support of nuclear weapons research and development but does not include information about how these efficiencies might lead to cost savings.

Finally, NNSA did not concur with GAO's recommendation that future reporting on efficiencies and cost savings should include a methodology for estimating the savings derived from potential efficiencies and track savings resulting from new efficiency efforts. NNSA stated that it would not have reliable information to accurately develop cost estimates directly linked to the efficiencies and that the congressional language does not make any reference to linking the two. NNSA states that it believes doing so would be speculative and result in unreliable information. We disagree. We have previously reported in evaluations of other agencies' cost savings efforts that a sound methodology for estimating savings helps ensure that proposed savings can be achieved. Though such an effort may present analytical and other challenges, it is nonetheless important to do so. As we noted in our report, a methodology that includes the basis of any assumptions included in the savings estimates, assessing the data reliability of the estimate, validating savings calculations, and tracking actual savings achieved will help NNSA provide Congress the information it needs to make important budgetary and policy choices that best balance long-term spending and nuclear security goals. Thus, we continue to believe that NNSA should take action to fully address this recommendation.

We are sending copies of this report to the appropriate congressional committees, the Secretary of Energy, the Administrator of NNSA, and other interested parties. In addition, the report is available at no charge on the GAO website at <http://www.gao.gov>.

If you or your staff members have any questions about this report, please contact me at (202) 512-3841 or trimbled@gao.gov. Contact points for our Offices of Congressional Relations and Public Affairs may be found

on the last page of this report. Other GAO staff who made key contributions to this report are Diane LoFaro, Assistant Director; Delwen Jones; Jeanette Soares; and Ginny Vanderlinde.

A handwritten signature in black ink, reading "David C. Trimble". The signature is written in a cursive style with a large, stylized 'D' and 'T'.

David C. Trimble
Director, Natural Resources and Environment

List of Committees

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The Honorable James Inhofe
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Subcommittee on Energy and Water Development and Related Agencies
Committee on Appropriations
House of Representatives

Appendix I: Comments from the National Nuclear Security Administration



Department of Energy
National Nuclear Security Administration
Washington, DC 20585



May 2, 2014

Mr. David Trimble
Director
Natural Resources and Environment
Government Accountability Office
Washington, DC 20458

Dear Mr. Trimble:

The National Nuclear Security Administration (NNSA) appreciates the opportunity to review the Government Accountability Office's (GAO) draft report titled, "NATIONAL NUCLEAR SECURITY ADMINISTRATION: Agency Report to Congress on Potential Efficiencies Does Not Include Key Information, GAO-14-434." GAO conducted this audit in response to a Congressional mandate in the fiscal year (FY) 2012 National Defense Authorization Act (NDAA) that required NNSA to submit a report to Congressional defense committees that, among other things, includes an assessment of the role of the nuclear security complex sites and opportunities for efficiencies and cost savings. GAO evaluated the extent to which the NNSA report complied with requirements. GAO concluded NNSA's report: a) Describes, but does not assess, as required, the role of the nuclear security complex sites; and b) Identifies opportunities for efficiencies but does not identify how these efficiencies could contribute to cost savings and/or strengthening safety and security as required. GAO made one recommendation to address these issues.

NNSA has reviewed the report and there is concern that it reflects differing interpretations of the Congressional direction provided in the NDAA, resulting in potentially misleading conclusions. First, the GAO report incorrectly concludes that the NNSA report to Congress did not provide an "assessment" of the roles of the Nuclear Security Enterprise sites in performing certain missions as required. However, the results of that assessment are captured throughout the report in the Executive Summary, Sections I and II, and the Conclusion section of the report. The basis for GAO's conclusion that these assessments were not provided is unclear.

Secondly, GAO assumed that a new assessment of the NSE was required by the Congressional direction. NNSA disagrees. The state of the NSE as portrayed in the 2008 Complex Transformation Supplemental Programmatic Environmental Impact Statement (SPEIS) baseline which underlies the cost efficiencies report is still operative, and there have been no substantive transformations of the NSE since. Therefore, there is no need or requirement for a complete re-assessment

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Finally, GAO appears to interpret the NDAA as requiring NNSA to causally and quantitatively link its cost efficiency initiatives to specific cost savings. NNSA disagrees. As a result, we disagree with GAO's recommendation to establish a methodology for tracking savings against potential efficiencies.

While NNSA appreciates GAO's efforts, NNSA reporting is consistent with the Congressional requirements and accurately represents the NSE. The enclosure to this letter provides NNSA's detailed response to the recommendation, as well as technical and general comments for GAO's consideration to improve the clarity and factual accuracy of the report.

If you have any questions concerning this response, please contact Dean Childs, Director, Office of Audit Coordination and Internal Affairs, at (301) 903-1341.

Sincerely,



Frank G. Klotz
Administrator

Enclosure

Enclosure

**National Nuclear Security Administration Response to the GAO Draft Report Titled
NATIONAL NUCLEAR SECURITY ADMINISTRATION: *Agency Report to Congress on
Potential Efficiencies Does Not Include Key Information*, GAO-14-434**

GAO was asked to assess the responsiveness of NNSA's report to Congress, not to evaluate the efficacy or management of NNSA's "efficiencies" efforts/program. The conclusion of the GAO report ought to directly address this responsiveness- what NNSA did or did not cover. GAO admitted the NDAA requirement was vague. Whereas GAO and NNSA may differ on their interpretations of the requirement, NNSA is confident that it responded dutifully to the Congressional requirement. Perhaps the GAO audit presents an opportunity to seek from Congress greater clarity in what it wanted and to better understand the requirement. In any event, the differing understandings of the requirement led to a GAO recommendation that NNSA does not concur in.

Recommendation: To help ensure that Congress receives reliable information, GAO recommends that when reporting on efficiencies and cost savings in the future, NNSA establish a methodology for estimating the savings derived from potential efficiencies and track savings resulting from new efficiency efforts.

Management Response: Non-concur

GAO appears to interpret the NDAA as requiring NNSA to causally and quantitatively link its cost efficiency initiatives to specific cost savings. NNSA, however, identified policy-level initiatives for realizing savings and separately identified efficiencies as required, without specific linkage. NNSA would not have reliable information to accurately develop cost estimates directly linked to the efficiencies as GAO suggests. The Congressional language does not make any reference to linking the two, and NNSA believes to do so would be speculative and result in unreliable information. As a result, NNSA rejects this recommendation.

Related GAO Reports

Modernizing the Nuclear Security Enterprise: NNSA's Budget Estimates Do Not Fully Align with Plans. [GAO-14-45](#). Washington, D.C.: December 11, 2013.

Modernizing the National Security Enterprise: Observations on NNSA's Options for Meeting Its Plutonium Research Needs. [GAO-13-533](#). Washington, D.C., September 11, 2013.

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

Defense Management: Opportunities Exist to Improve Information Used in Monitoring Status of Efficiency Initiatives. [GAO-13-105R](#). Washington, D.C.: December 4, 2012.

VA Health Care: Methodology for Estimating and Process for Tracking Savings Need Improvement. [GAO-12-305](#). Washington, D.C.: February 27, 2012.

Modernizing the Nuclear Security Enterprise: The National Nuclear Security Administration's Proposed Acquisition Strategy Needs Further Clarification and Assessment. [GAO-11-848](#). Washington, D.C.: September 20, 2011.

Nuclear Weapons: National Nuclear Security Administration's Plans for Its Uranium Processing Facility Should Better Reflect Funding Estimates and Technology Readiness. [GAO-11-103](#). Washington, D.C.: November 19, 2010.

Nuclear Weapons: National Nuclear Security Administration Needs to Better Manage Risks Associated with Modernization of Its Kansas City Plant. [GAO-10-115](#). Washington, D.C.: October 23, 2009.

Veterans Affairs: Limited Support for Reported Health Care Management Efficiency Savings. [GAO-06-359R](#). Washington, D.C.: February 1, 2006.

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