

GAO

Report to the Subcommittee on Energy  
and Water Development, Committee on  
Appropriations, House of  
Representatives

September 2011

# MODERNIZING THE NUCLEAR SECURITY ENTERPRISE

The National Nuclear  
Security  
Administration's  
Proposed Acquisition  
Strategy Needs  
Further Clarification  
and Assessment

U.S. Government Accountability Office

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Highlights of [GAO-11-848](#), a report to the Subcommittee on Energy and Water Development, Committee on Appropriations, House of Representatives

## Why GAO Did This Study

The National Nuclear Security Administration (NNSA)—a semiautonomous agency within the Department of Energy (DOE)—proposed in March 2010 a new acquisition strategy that includes consolidating the management and operating (M&O) contracts for two of its eight sites—the Y-12 National Security Complex (Y-12) in Tennessee and the Pantex Plant in Texas—and consolidating all construction projects for all of its sites under a single, enterprise-wide contract. NNSA anticipates that this strategy will reduce costs, enhance mission performance, and improve construction management. NNSA's sites are overseen by colocated federal site offices. GAO was asked to assess NNSA's preliminary proposals for (1) a consolidated M&O contract for Y-12 and Pantex and (2) an enterprise-wide construction contract. GAO reviewed analyses supporting NNSA's acquisition strategy; examined agency directives and guidance; and interviewed DOE, NNSA, and contractor officials.

## What GAO Recommends

GAO recommends, among other things, that NNSA develop a plan for implementing the improved management practices identified by its analysis and assess the costs, risks, and benefits of the consolidated construction contract to better define and inform its acquisition strategy and to take appropriate future actions. NNSA generally agreed with GAO's findings and recommendations.

View [GAO-11-848](#). For more information, contact Gene Aloise, (202) 512-3841, [aloise@gao.gov](mailto:aloise@gao.gov).

September 2011

# MODERNIZING THE NUCLEAR SECURITY ENTERPRISE

## The National Nuclear Security Administration's Proposed Acquisition Strategy Needs Further Clarification and Assessment

### What GAO Found

Based on the analysis supporting its proposed acquisition strategy, NNSA expects that the proposed consolidation of the M&O work at its Y-12 and Pantex Plants will increase efficiencies and save \$895 million in nominal dollars, primarily through efficiency gains and other improvements in support services (i.e., integrated budget and finance systems, more uniform training and human resources practices), that could result in the potential elimination of about 1,000 support service jobs over the next 10 years. NNSA selected these sites because both have M&O contracts with terms that expire in 2012, as well as similar nuclear production operations. Anticipated savings from this proposed consolidation, however, are uncertain because of the assumptions NNSA used when calculating these savings, the limited details available about the actual work that will be consolidated, and the adequacy of historical data used in the analysis. NNSA officials said that savings will be more accurately determined as industry provides feedback on the recently released draft request for proposal. In addition to cost savings, a number of NNSA and contractor officials have raised other issues with a consolidated M&O contract proposal, including uncertainty about the number of actual staff reductions that can be achieved and the need for a federal oversight plan for the new consolidated contract. In addition, NNSA's analysis suggests that efficiencies may also be achieved under its existing contracts through improved management practices. However, NNSA has not developed a plan for implementing these improved management practices at all of its sites.

NNSA also anticipates several potential benefits, including cost savings, associated with awarding a single, enterprise-wide construction contract. It is uncertain, however, whether these benefits will be realized because of a number of issues. For example, NNSA's projected savings from a consolidated construction contract—approximately \$120 million in nominal dollars over a 5-year period—are uncertain because NNSA lacks an accurate total cost baseline of its ongoing and planned construction projects and because it is likely that the construction contract will exclude major projects, such as the Uranium Processing Facility and Chemistry and Metallurgy Research Replacement facility, out of concern that this consolidated contract would disrupt ongoing design and construction efforts. Collectively, these two facilities represent about 85 percent of NNSA's total planned construction projects through fiscal year 2016. In addition, NNSA has not conducted, consistent with federal standards of internal control and cost-estimating best practices, an assessment of risks associated with awarding an enterprise-wide construction contract, such as costs and benefits expected enterprise-wide and at each site for both proposed consolidated contracts. NNSA officials and contractors said that NNSA may need increased federal oversight to integrate the work of existing M&O and consolidated construction contractors.

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### Abbreviations

CAS	Cost Accounting Standards
CFO	Chief Financial Officer
CMRR	Chemistry and Metallurgy Research Replacement facility
DOE	Department of Energy
FTE	full-time equivalent
KCP	Kansas City Plant
LANL	Los Alamos National Laboratory
M&O	management and operating
NNSA	National Nuclear Security Administration
OCA	Office of Cost Analysis
Pantex	Pantex Plant
RFP	request for proposal
SNL	Sandia National Laboratory
SRS	Savannah River Site
UPF	Uranium Processing Facility
Y-12	Y-12 National Security Complex

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United States Government Accountability Office  
Washington, DC 20548

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September 20, 2011

The Honorable Rodney P. Frelinghuysen  
Chairman  
The Honorable Peter J. Visclosky  
Ranking Member  
Subcommittee on Energy and Water Development  
Committee on Appropriations  
House of Representatives

The National Nuclear Security Administration (NNSA), a separately organized agency within the Department of Energy (DOE), is responsible for the management and security of the nation's nuclear weapons programs.<sup>1</sup> In March 2010, NNSA proposed a new acquisition strategy that includes consolidating the management and operating (M&O) contracts for two or more of its production sites and consolidating its nuclear weapons infrastructure construction under a single contract.<sup>2</sup> This strategy is an important and explicit part of NNSA's annually updated *Stockpile Stewardship and Management Plan*,<sup>3</sup> which includes plans to improve project and contract management, areas where we have noted long-standing problems. More specifically, because of issues we identified with contract and project management at NNSA and its predecessor organizations, including cost overruns in the billions of dollars, we designated NNSA's contract and project management as a

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<sup>1</sup>Congress created NNSA as a semiautonomous agency within the DOE in 1999 (Title 32 of the National Defense Authorization Act for Fiscal Year 2000, Pub. L. No. 106-65, § 3201 et seq.).

<sup>2</sup>M&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 (hereinafter FAR).

<sup>3</sup>In its *Stockpile Stewardship and Management Plan*, NNSA outlines plans for substantial investments in important nuclear weapons capabilities and physical infrastructure.

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high-risk area that has left it vulnerable to fraud, waste, abuse, and mismanagement.<sup>4</sup>

To execute the activities to maintain and refurbish the nation's existing nuclear weapons stockpile, NNSA oversees eight sites that comprise its nuclear security enterprise—formerly known as the nuclear weapons complex—which includes three national weapons laboratories, four production plants, and a test site, all of which carry out missions to support NNSA's programs. These sites execute, among other things, the Stockpile Stewardship Program, which ensures a credible U.S. nuclear deterrent without full-scale nuclear testing. This program also includes nuclear warhead bomb dismantlement and disposition, as well as long-range plans to modernize NNSA's nuclear security enterprise. Since their inception, the sites in the nuclear security enterprise have been managed and operated by private M&O contractors. These contractors operate and maintain the government-owned facilities and infrastructure deemed necessary to support the nuclear weapons stockpile and to support the capabilities to conduct scientific, technical, engineering, and production activities that ensure the continued safety and reliability of the stockpile. Colocated federal site offices oversee the day-to-day activities of these contractors.

For the past several years, NNSA has envisioned an integrated, interdependent nuclear security enterprise characterized by, among other things, fewer, more uniform contracts with multisite incentives and more uniform business practices, technical processes, information management, and program and project management. As part of this enterprise concept, in 2008, NNSA created an acquisition strategy team that performed quantitative and qualitative analysis of various contracting options. Several consulting firms, including one with expertise in mergers and acquisitions in the commercial nuclear industry, supported NNSA's acquisition strategy team effort. The team's research, findings, and recommendations were compiled into a series of reports issued in 2009 that have not been publicly released, are considered procurement

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<sup>4</sup>GAO, *High-Risk Series: An Update*, [GAO-11-278](#) (Washington, D.C.: Feb. 16, 2011). To recognize progress made at DOE's Office of Science, in January 2009, we narrowed the focus of its high-risk designation to two DOE program elements—the Office of Environmental Management and NNSA, which together account for 60 percent of DOE's budget of \$27 billion.

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sensitive, and, hence remain for official use only. As a result of this analysis, NNSA has proposed an acquisition strategy.

Under this proposed acquisition strategy, NNSA plans to seek separate proposals from companies for (1) a single M&O contract for the Y-12 National Security Complex (Y-12) in Tennessee and the Pantex Plant (Pantex) in Texas<sup>5</sup> and (2) a single nuclear security enterprise-wide construction contract. Currently, construction projects are carried out by the M&O contractors at each of NNSA's eight sites. In the future, NNSA may conduct additional contract competitions for consolidated contracts to manage and operate other nuclear security enterprise sites. According to the procurement announcement released by NNSA, the agency anticipates that one part of this strategy—a single M&O contract for Y-12 and Pantex—will allow the contractor to provide greater focus on nuclear weapons production and also result in more efficient operations and cost savings, as both sites have complementary operations. In addition, the current M&O contracts for both sites expire in 2012. NNSA anticipates that the second part of this strategy—a single, nuclear security enterprise-wide construction contract—will attract top U.S. design, engineering, and construction contractors and result in improved project planning and execution. Together, NNSA officials said the agency anticipates that implementation of its proposed strategy will lead to reduced costs to manage, operate, and oversee nuclear security enterprise facilities; enhance mission performance; improve construction management; and reduce construction costs.

After announcing its intentions to adopt this acquisition strategy, NNSA faced a number of questions from members of Congress, contractors, concerned communities, and citizens. Among the key questions were concerns about the impact of this strategy on workers at the sites and how the strategy would affect two of NNSA's largest construction projects. NNSA issued a draft request for proposal (RFP) for the M&O of Y-12 and Pantex on July 21, 2011. It has not yet released a draft RFP for a single, nuclear security enterprise-wide construction proposal.

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<sup>5</sup>This proposed acquisition strategy includes an option to later phase in tritium operations performed at the Savannah River Site (SRS) in South Carolina. Tritium is a heavy isotope of hydrogen and a key component of nuclear weapons; at SRS, NNSA recycles tritium from existing warheads among other things.

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In this context, you asked us to examine NNSA's proposed acquisition strategy. Specifically, our objectives were to assess NNSA's preliminary proposals for (1) a consolidated M&O contract for Y-12 and Pantex and (2) an enterprise-wide construction contract.

To address both objectives, we examined key NNSA strategy, management, and planning documents. These documents included NNSA's *Report on the Plan for Transformation of the NNSA Nuclear Weapons Complex* and the accompanying *Final Complex Transformation Supplemental Programmatic Environmental Impact Statement* and associated Records of Decisions. In addition, we examined NNSA's Acquisition Strategy Team Report (analysis), which included subteam reports on the impact to the NNSA mission, cost analysis, and estimates for cost savings; federal workforce reports and communications; and consolidated contracts analysis, including contract competition and construction management alternatives analysis. We also compared NNSA's acquisition strategy team charter and mission statement and the work carried out by its team to the practices in GAO's *Cost Estimating and Assessment Guide*,<sup>6</sup> which identifies characteristics of a high-quality—that is, reliable—cost estimate, and relevant provisions from the Federal Acquisition Regulation and the DOE Acquisition Regulation.

We also examined the reports completed by several firms covering projected cost savings and other effects of potential consolidated contracts at NNSA nuclear security enterprise sites. These reports were important in helping inform NNSA's proposed acquisition strategy. In addition, we examined DOE's Office of Cost Analysis (OCA) review, NNSA's *Contracting Request for Information* reports, and NNSA's analysis and summary report on requests for information. Our review also included visits to a nonprobability sample of the nuclear security enterprise sites, Y-12 and Pantex, which will likely be the first sites affected by the proposed strategy, and included interviews with NNSA site office officials and discussions with current facilities contractors. Because we used a nonprobability sample of sites to visit, the information we obtained from these visits cannot be generalized to other sites, but the visits provided us with information on the perspectives of various federal officials and contractors about the sites. To gain further insights and

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<sup>6</sup>GAO, *Cost Estimating and Assessment Guide*, [GAO-09-3SP](#) (Washington, D.C.: March 2009).



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perspectives into NNSA's proposed contracting strategy, we interviewed a wide range of NNSA officials; contractors; and experts, including NNSA Senior Management, NNSA Contracting Strategy Team, and OCA officials; potential future contractors; and nuclear security enterprise subject matter experts. We conducted this performance audit from August 2010 to September 2011 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.

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## Background

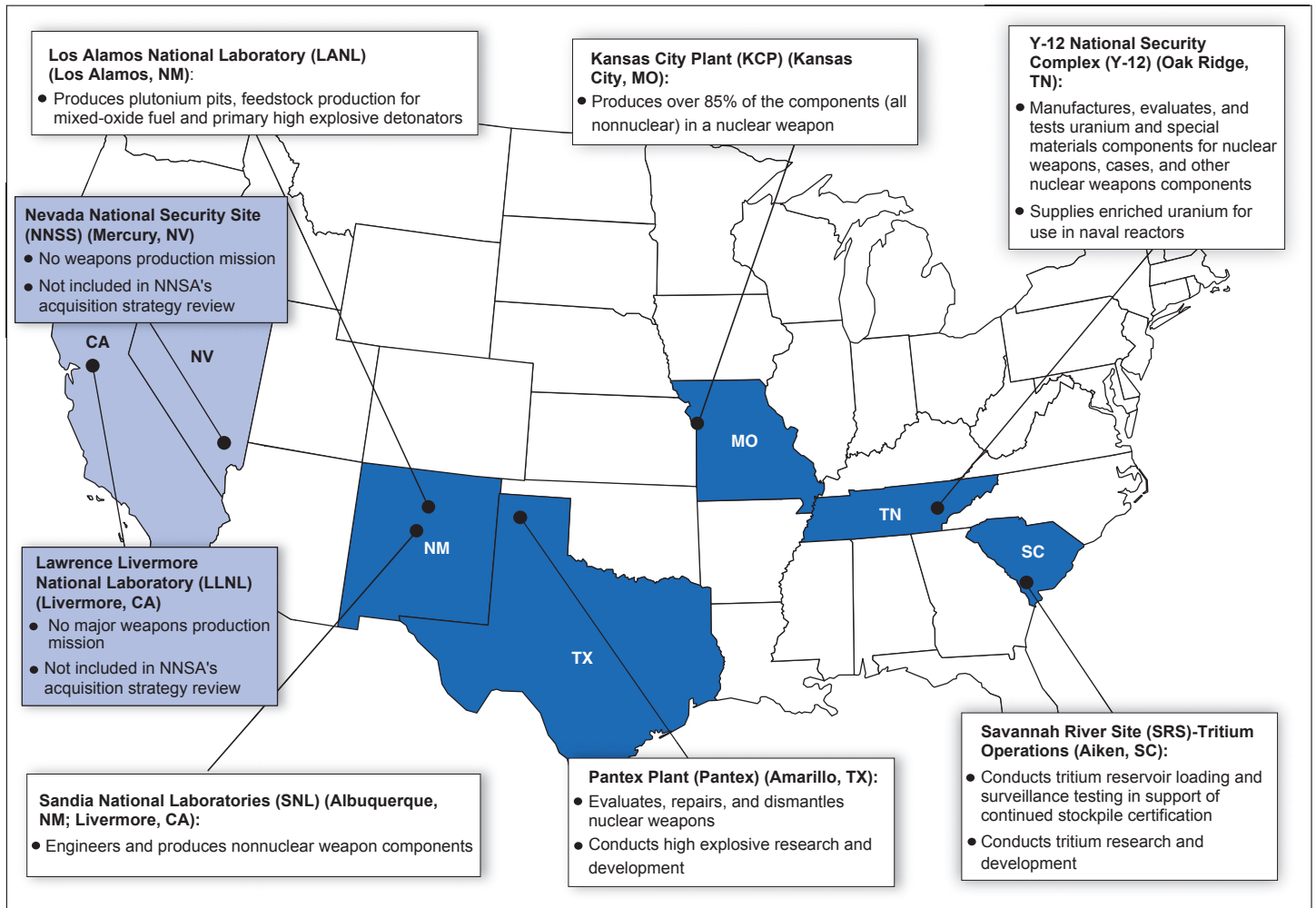
Nuclear weapons have been and continue to be an essential part of the nation's defense strategy. The end of the cold war resulted in a dramatic shift in how the nation maintains such weapons. Instead of designing, testing, and producing new nuclear weapons, the strategy has shifted to maintaining the existing nuclear weapons stockpile indefinitely and extending the operational lives of these weapons through refurbishment, without nuclear testing.<sup>7</sup>

Established by Congress in 2000 as a separately organized agency within DOE, NNSA has the primary mission of providing the United States with safe, secure, and reliable nuclear weapons in the absence of underground nuclear testing and maintaining core competencies in nuclear weapons science, technology, and engineering. To support this highly technical mission, NNSA relies on capabilities in several thousand facilities located at eight nuclear security enterprise sites that support weapons activities. These sites are owned by the government but managed and operated by private M&O contractors. Each site has specific responsibilities within the nuclear security enterprise, with six of them having important production missions (see fig. 1).

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<sup>7</sup>In 1992, the United States began a moratorium on testing nuclear weapons. Subsequently, the President extended this moratorium in 1993, and Congress, in the National Defense Authorization Act of 1994, directed DOE to establish a science-based stockpile stewardship program to maintain the nuclear weapons stockpile, Pub. L. No. 103-160, § 3138 (1994).

**Figure 1: NNSA's Nuclear Security Enterprise Sites**



Sources: NNSA; Map Resources (map).

NNSA reimburses its M&O contractors for the allowable costs incurred in carrying out NNSA's missions. These include costs that can be directly identified with a specific NNSA program (known as direct costs)—for example, the costs for dismantling a retired weapon—and costs of activities that indirectly support a program (known as indirect costs), such as administrative activities. To ensure that NNSA programs are appropriately charged for incurred costs, M&O contractors' accounting

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systems assign the direct costs associated with each program and collect similar types of indirect costs into pools and allocate them among the programs. Consistent with Cost Accounting Standards (CAS),<sup>8</sup> M&O contractors must classify their costs as either direct or indirect and, once costs are classified, must consistently charge their costs to these classifications. M&O contractors are required to disclose their cost accounting practices in formal disclosure statements, which are updated annually and approved by NNSA officials. M&O contractors' cost accounting practices cannot be readily compared with one another because contractors' methods for accumulating and allocating indirect costs vary—that is, a cost classified as an indirect cost at one site may be classified as a direct cost at another.<sup>9</sup>

To obtain more consistent information about the support costs at DOE's major contractor-operated facilities, in the mid-1990s, DOE's Chief Financial Officer (CFO) created 22 standard categories of "functional support costs." These categories include, for example, executive direction, information services, procurement, maintenance, and facilities management. Each of the 22 categories is defined to cover all related costs, regardless of whether contractors classify them as direct or indirect. From fiscal years 1997 through 2010, the CFO required the department's primary contractors to annually report these costs. To oversee the quality of these data, contractors' financial personnel peer reviewed the data for each facility once every few years. According to the CFO, functional cost data are derived, to the extent possible, from contractors' existing accounting systems and overlaying financial structure, but contractors do not budget, accumulate, or distribute costs in their formal accounting systems in the same manner. Because of this, and because numerous site specific factors (missions, size, age, location of facilities) influence support costs, the CFO refers to functional costs as sufficient for trending costs at a given site over time but not necessarily for comparison across sites. NNSA officials and contractors have told us in the past that the collection of historical functional support cost data has

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<sup>8</sup>CAS is a set of 19 standards promulgated by the U.S. Cost Accounting Standards Board, an independent and statutorily established board (41 U.S.C. § 422) that is administratively part of the Office of Management and Budget's Office of Federal Procurement Policy. For CAS rules and procedures, see 48 C.F.R. § 9901 et seq.

<sup>9</sup>GAO, *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).

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also been marked by different definitions and interpretation of functional cost categories, as well as different data gathering methods.<sup>10</sup> Because of these limitations, in 2011 DOE significantly revised its guidelines for the collection of contractor cost data. These guidelines now de-emphasize functional support cost reporting.

NNSA's Office of Defense Programs is responsible for NNSA's weapons activities and oversees the sites' M&O contractors. Federal site offices are located at each NNSA site to perform day-to-day oversight of these contractors' activities. Federal site office managers serve important roles, in conjunction with the Office of Defense Programs, such as determining contract award fees and managing and accepting safety and security risks at their sites.

The administration, through the legislatively mandated 2010 *Nuclear Posture Review*,<sup>11</sup> established the nation's nuclear weapons policy and strategy. This strategy seeks to maintain a safe and reliable but smaller nuclear deterrent than in the past. More specifically, the United States has agreed to reduce the size of its strategic nuclear weapon stockpile from a maximum of 2,200 to 1,550 weapons. This stockpile is composed of seven different weapons types, including air-delivered bombs, ballistic missile warheads, and cruise missile warheads. As the stockpile is being reduced, the administration pledged additional funds to modernize and operate the nuclear security enterprise, to include the refurbishment of weapons currently in the stockpile and the construction of important new production facilities to support these refurbishments. NNSA's fiscal year 2012 *Stockpile Stewardship and Management Plan* provides details of nuclear security enterprise modernization and operations plans over the next two decades. During this period, NNSA estimates it will have funding needs of about \$180 billion. In 2010, the administration pledged over \$88 billion to fund the first decade of this plan.

NNSA's efforts to improve its operations and business practices predate the 2010 *Nuclear Posture Review* but are now an important component of NNSA's modernization efforts. In 2008, NNSA established an acquisition

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<sup>10</sup>GAO, *Department of Energy: Additional Opportunities Exist for Reducing Laboratory Contractors' Support Costs*, [GAO-05-897](#) (Washington, D.C.: Sept. 9, 2005).

<sup>11</sup>Department of Defense, *Nuclear Posture Review Report* (Washington, D.C.: Apr. 6, 2010).

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strategy team that examined 11 different contracting options to reduce costs and improve operations. Eight of these options involved combining various production missions under a single M&O contract. Another three options looked at combining functional areas, such as safeguards and security, construction management, and information technology, at multiple sites under a single contract. To conduct its analysis of these options, the team did the following: (1) compiled and analyzed available historical functional support cost data for six of NNSA's eight sites (see fig. 1); (2) attempted to normalize these data to account for discrepancies and anomalies in them, compared these normalized data across sites in an attempt to create a "common financial language," and benchmarked this information against information from commercial nuclear industry mergers and acquisitions;<sup>12</sup> (3) developed a set of major assumptions to frame the analysis; (4) compared the expected effects of the proposed consolidation with a status quo or baseline scenario where no M&O consolidation occurs;<sup>13</sup> and (5) developed estimates for potential cost savings resulting for each option. The team completed its analysis in 2009 and, in March 2010, NNSA in large part adopted the acquisition strategy team's primary recommendations and announced plans to undertake a two-part acquisition strategy. According to NNSA officials, NNSA rejected the team's proposal to include the Los Alamos National Laboratory's (LANL) production mission as a future option in the consolidated M&O contract on the grounds that LANL's research and development mission were too diverse and complex to separate. The agency also decided not to pursue for, the time being, a proposal to consolidate the nonnuclear production carried out by the Kansas City Plant (KCP) and the Sandia National Laboratory (SNL). KCP expects to transition to a new facility by the end of 2012, which we reported on in October 2009.<sup>14</sup>

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<sup>12</sup>Commercial nuclear industry data was based on the consultant's proprietary information about mergers, costs, and employment within the industry.

<sup>13</sup>This baseline of costs and staffing levels was established at each of the sites by gathering historical cost and employment data from each of the sites, then projecting flat spending and staffing into the future.

<sup>14</sup>GAO, *Nuclear Weapons: National Nuclear Security Administration Needs to Better Manage Risks Associated with the Modernization of Its Kansas City Plant*, [GAO-10-115](#) (Washington, D.C.: Oct. 23, 2009).

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## Benefits of NNSA's Move to a Single M&O Contract for Y-12 and Pantex Will Remain Uncertain until NNSA Further Develops Its Proposal

NNSA's anticipated benefits as a result of its proposal to award a single contract for the management of Y-12 and Pantex will remain uncertain until NNSA makes decisions about the details of the contract and addresses several issues raised by NNSA officials, contractors, and members of Congress. Among these benefits, NNSA anticipates that increased efficiencies at those sites could save an estimated \$895 million in nominal dollars over the next 10 years.<sup>15</sup> Some cost savings seem likely under a single contract, but NNSA's analysis suggests that efficiencies also could be achieved under existing contracts. In addition, NNSA's estimated cost savings are uncertain due to issues relating to the methodology NNSA used to support its estimate and the adequacy of the cost data used. In addition, NNSA, contractor officials, and members of Congress have also raised a number of concerns that a single M&O contract could disrupt work at the sites, which if unaddressed, could ultimately affect the safety and reliability of the nuclear weapons stockpile.

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## NNSA Expects Increased Efficiency and Savings of \$895 Million Over 10 Years

According to its analysis on the proposed acquisition strategy, NNSA expects that the proposed consolidation of the M&O work at its Y-12 and Pantex sites will increase efficiencies at those sites. These expected efficiencies are based on a combination of assumptions made by NNSA in its analysis of the proposal, input from private consultants with experience involving mergers and operations at commercial nuclear facilities, and discussions with staff at the sites. According to the analysis, these efficiencies are expected to result primarily from (1) more streamlined and uniform operations and (2) improved performance by the contractor.

First, NNSA's analysis indicates that consolidating the contracts will streamline and make more uniform training; human resources practices; and information systems, such as payroll, budget, and finance systems; and improve the comparability of management data at both sites. For example, there are over 100 different information technology systems and applications at the Y-12 and Pantex sites, and NNSA concluded in its analysis that merging some of those systems would lead to improved effectiveness, data integrity, and security. In addition, NNSA's analysis

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<sup>15</sup>NNSA's estimate of saving \$895 million in nominal dollars over a 10-year period includes phasing in SRS tritium operations to the consolidated M&O contract (the current contract for these operations expires in 2013).

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concluded that a consolidation could have similar benefits in interactions with external parties, such as regulators and vendors, as those entities would need to coordinate with only one contractor instead of two or three.

Second, NNSA's analysis concluded that the one contractor overseeing the consolidated M&O work at these sites would improve performance as a single contractor would be able to implement best practices across its sites more easily. For example, a single M&O contract would allow the contractor to more readily share its processes and approaches to reduce costs, and efficiencies and commercial production practices could be more easily transferred among sites.

NNSA's analysis estimated that these efficiency gains and other improvements could eliminate about 1,000 full-time equivalent (FTE)<sup>16</sup> support service jobs over the next 10 years at the Y-12 and Pantex sites. NNSA estimated that the elimination of these FTEs could lead to a savings of \$895 million in nominal dollars over the same period.<sup>17</sup> To calculate these estimates, NNSA's projected baseline cost for operations over the next 10 years was \$23 billion. NNSA and its private consultants then estimated the potential staff reductions that could occur by consolidating contracts at certain sites based on a comparison of current NNSA staffing levels with those in the commercial nuclear industry. This comparison did not involve identifying specific jobs at the particular NNSA site that would be eliminated, but rather it involved estimating how certain general job functions—such as management, security, and human resources—might be adjusted to more closely align with commercial nuclear industry levels. For example, an NNSA consultant estimated that FTEs associated with the CFO and human resources would be reduced by about 45 percent, and FTEs associated with information technology and procurement reduced by about 30 percent if the contracts were consolidated. NNSA's analysis concluded that more than 1,000 of the nearly 10,000 contractor FTEs at the Y-12 and Pantex sites<sup>18</sup> would no longer be needed after the consolidation and that these positions would be eliminated over a 5-year period. NNSA estimated that, over the next

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<sup>16</sup>An FTE consists of one or more employed individuals who collectively complete 40 hours per week (or 2,080 work hours in a given year).

<sup>17</sup>This estimate of \$895 million in savings includes the cost to transition to a consolidated contract which NNSA estimates at \$35 million over 10 years.

<sup>18</sup>This includes 1,167 contractor FTEs for SRS tritium operations.

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10 years, these FTE reductions would reduce costs at these affected sites from \$23 billion to about \$22 billion, or about 4 percent of the total cost of operations at these sites, and about 1 percent of NNSA's funding at all of its sites during that period.

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### NNSA's Analysis Suggests That Efficiencies Could Be Achieved under Existing Contracts

According to NNSA's analysis, although efficiencies are expected as a result of consolidating contracts, NNSA could also achieve efficiencies through its existing M&O contracts. Specifically, the analysis included 18 recommended improved management practices that would make changes to the current management of all eight of its sites that could lead to process improvements and cost savings. These recommendations included substituting commercial best practices and industrial standards for DOE directives, standardizing security force equipment, improving enterprise-wide collection and analysis of costs, and streamlining contractor pension and health benefits plans. NNSA contractors we spoke with also said that many of the efficiencies expected under this strategy could be realized by NNSA under its existing contracting approach without a contract consolidation. For example, officials representing the contractors at Pantex and Y-12 both said their companies had begun implementing some of these changes at their respective sites and had seen efficiencies and savings already. We view these actions on the part of contractors as positive and a step in the right direction toward more effectively and efficiently managing NNSA contracts. However, NNSA has not identified in a systematic manner, how it plans to implement these 18 improved management practices at all of its sites. Without that implementation information, it is unclear whether NNSA is taking every opportunity to improve its contract management practices.

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### NNSA's Estimated Cost Savings Are Uncertain Due to Issues Relating to NNSA's Methodology and Poor Historical Cost Data

In a 2010 testimony before the Senate Armed Services Committee, NNSA's Administrator stated that, while many of the details still need to be worked out, the consolidated M&O contracting strategy can save taxpayers more than \$895 million over the next decade.<sup>19</sup> However, the sensitivity of NNSA's key assumptions formulated in 2008 to 2009; the lack of details surrounding the scope of work of the contract; and the

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<sup>19</sup>D'Agostino, Thomas, testimony on the Fiscal Year 2011 President's Budget Request before the Senate Armed Services Committee, Subcommittee on Strategic Forces, Apr. 14, 2010.



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recognized problems in comparative, historical DOE and NNSA cost data, make realizing these savings uncertain.

A key assumption used in NNSA's cost savings calculation—estimating future costs under both status quo and contract consolidation scenarios—relied on assumptions that may no longer be valid. For example, according to NNSA officials and documents we reviewed:

- NNSA's analysis assumed that its baseline future funding and staffing levels at the sites would remain flat.<sup>20</sup> This assumption is in sharp contrast to the commitment made by the administration in 2010 to request increased funding to modernize the nuclear security enterprise and the funding needs identified in the fiscal year 2012 *Stockpile Stewardship and Management Plan*.<sup>21</sup>
- NNSA's analysis assumed that commercial nuclear industry data would serve as a valid basis for comparison when forecasting staffing and funding levels at its sites under a consolidated contract. However, several NNSA and contractor officials questioned the use of these commercial data as a benchmark because they may not accurately reflect the work that occurs at NNSA sites. For example, in the case of security costs, an NNSA official said that the security needs and activities at Y-12 and Pantex, which handle nuclear weapons components and nuclear weapons, respectively, differ significantly from security needs at commercial nuclear facilities.
- NNSA's analysis assumed that the contracts at the Y-12 and Pantex sites would not be extended upon the expiration of their terms at the end of 2010 and would instead be either recompeted or consolidated. However, because of delays in issuing an RFP for the consolidated M&O contract, NNSA was forced to extend the terms of the contracts for both of these sites for an additional 18 months in 2010, which will

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<sup>20</sup>According to NNSA's fiscal year 2012 *Stockpile Stewardship and Management Plan*, in fiscal years 2005 through 2009, the Stockpile Stewardship Program experienced relatively flat funding that, when adjusted for inflation, resulted in decreased purchasing power.

<sup>21</sup>According to the fiscal year 2012 *Stockpile Stewardship and Management Plan*, this increase is expected as a result of a number of large construction projects for which NNSA expects to soon begin.

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likely affect estimates of both the expected future costs and anticipated savings at those sites.<sup>22</sup>

In addition, since announcing its intention in March 2010 to consolidate M&O contracts at Y-12 and Pantex, NNSA did not announce the preliminary scope of work (through a draft RFP) to be included in its consolidated M&O contract until July 21, 2011—at the same time we were concluding our work.<sup>23</sup> This timing limited our ability to review the calculation of estimated savings since it was unclear if NNSA’s draft RFP would align with the assumptions used in its analysis. According to NNSA officials, the recently released draft RFP for the consolidated M&O contract outlines more complete details about NNSA’s proposed contracting strategy. NNSA officials told us that the agency anticipates that industry feedback on the draft RFP, due by September 19, 2011, will be important in structuring the final RFP.<sup>24</sup> Final RFPs include information such as the government’s requirement, anticipated terms and conditions of the contract, information required to be in the offeror’s proposal, and factors that will be used to evaluate the proposal and their relative importance.<sup>25</sup> Unlike a draft RFP, which is one way the government promotes early exchanges of information with industry, a final RFP is intended to result in a contracting action.

Furthermore, historic cost data were not readily available for NNSA to use in its cost analysis, requiring NNSA to create its own historical “financial common language” for its sites. More specifically, a key step in NNSA’s process to estimate savings—developing a comparative baseline of historical site costs—was a difficult and inexact process because DOE and NNSA contractors use different methods for tracking costs, and

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<sup>22</sup>An RFP is a solicitation document used in negotiated acquisitions to communicate government requirements to prospective contractors and to solicit proposals.

<sup>23</sup>Noting our preliminary audit results and potential recommendations, NNSA released the draft RFP for the consolidated M&O contract.

<sup>24</sup>Releasing a draft RFP is one method the government may use to have early exchanges of information about a future acquisition with industry. The purpose of these early exchanges of information is “to improve the understanding of government requirements and industry capabilities, thereby allowing potential offerors to judge whether or how they can satisfy the government’s requirements, and enhancing the government’s ability to obtain quality supplies and services . . . at reasonable prices, and increase efficiency in proposal preparation, proposal evaluation, negotiation, and contract award.” FAR 15.201(b).

<sup>25</sup>FAR 15.203.

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DOE's functional support cost data are of limited use in comparing sites. NNSA sought to develop a clearer picture of potential cost savings across its sites, working with NNSA and contractor officials at its sites trying to resolve discrepancies and anomalies in the historical cost data. Using these "normalized" data, and other assumptions, NNSA arrived at its cost savings estimate of \$895 million in nominal dollars, which it called "most likely." DOE's OCA, which was established within the CFO Office in 2008,<sup>26</sup> also examined historical functional support costs but excluded some of the most questionable data and arrived at a cost savings estimate of \$750 million over 10 years.<sup>27</sup> Any cost savings estimate should be viewed as illustrative rather than precise because of the quality of the data. This is consistent with our *Cost Estimating and Assessment Guide*, which notes that specific "point" estimates are more uncertain at the beginning of a program because less is known about its detailed requirements and opportunity for change is greater.<sup>28</sup> In discussions with GAO, NNSA officials agreed that actual savings will be more accurately determined with the release of a draft RFP, which will better define the scope of the work and, ultimately, by the execution of the contract.

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## Proposed Consolidated M&O Strategy Raises Additional Issues

In addition to concerns over cost savings, a number of NNSA and contractor officials have raised issues about a consolidated M&O contract potentially disrupting the work at sites. These issues include: (1) uncertainty about actual staff reductions, (2) opposition from local constituents, (3) security force issues, (4) need for a federal oversight plan, and (5) potential for reducing the number of contractors willing and able to participate in the competition.

A number of NNSA site officials that we spoke with said that they were skeptical that such large staff reductions were possible in a consolidated M&O contract. In fact, NNSA reported in its 2012 *Stockpile Stewardship and Management Plan* (an annual report to Congress on the status of NNSA's efforts to manage and modernize the nuclear weapons

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<sup>26</sup>DOE established OCA to improve the department's cost-estimating capabilities and better ensure that its project cost estimates are reliable by providing a new independent cost-estimating function for the department. DOE disbanded OCA in a 2011 reorganization.

<sup>27</sup>OCA estimated that savings could range from \$0 to \$1 billion dollars.

<sup>28</sup>[GAO-09-3SP](#).

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enterprise) that the contractor staffing levels at the sites are currently too low and that further reductions are not plausible. The plan characterizes current contractor workforce levels as lacking robustness and depth and states that there is little or no redundancy in the contractor workforce. The plan noted, for example, that the production activities at the sites were already operating at minimum staff levels—some having recently eliminated some staff. Any further reductions would threaten the success of the mission of the sites. Some site officials also said that other indirect functions, such as security and oversight, would not experience any efficiency under a consolidated contract because those functions would still require the same number of staff at each specific site regardless of the management structure. For other indirect services, such as information technology and human resources, which make up a small portion of the total FTEs, the opinions of site officials were mixed, with some acknowledging the possibility of some reductions, while others were skeptical of any reductions in FTEs.

NNSA announced in 2010 that the incoming contractor of the consolidated M&O contract would have the flexibility to restructure the workforce, which has led to employee concerns at both sites that may present challenges to NNSA. According to one NNSA official, although included in other DOE contracts, NNSA typically has not included such a provision of workforce flexibility in past contract restructuring; instead it has traditionally accepted the same terms as the previous contractor with regard to human resources issues. Restructuring the workforce now may be difficult because advocates representing current employees, including unions, have voiced opposition to any actions that negatively impact workers. As a result, opposition from some constituents and their representatives could complicate any attempts to consolidate the contracts if that consolidation includes staff reductions. For example, in response to these concerns, two members of Tennessee's congressional delegation recently sent a letter to the Secretary of Energy asking him not to consolidate the contracts at these sites citing, among other reasons, concerns about the need to maintain a focused and skilled workforce. Even the prospect of a consolidation may already be having negative impacts on staffing. According to contractor officials at one site, some currently vacant support positions that could be eliminated under a consolidated M&O contract, such as a general counsel position, have been difficult to fill. NNSA's analysis notes that employee concerns such as these could affect important site operations, though, according to site office officials, currently none have been reported.

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In addition, federal site office officials noted two concerns about how a single M&O contract will affect contractor guard forces, which at NNSA and DOE sites are known as protective forces. These forces are a key component of security at sites with special nuclear material, which is a high security risk. Y-12 and Pantex have over 1,000 protective forces combined. First, as we recently reported, these protective forces each operate under different contracts and contractors, have different pay and benefit structures, and are represented by different collective bargaining agreements.<sup>29</sup> As such, site office officials told us combining these two protective forces under a single contract could be difficult. Second, the current M&O contractor at Pantex employs protective forces, and protective forces are employed at Y-12 under a direct protective force contract (i.e., a non-M&O contract). In addition to the Y-12 site, the same contractor provides, under a separate contract, protective forces for other important, nearby operations in DOE's Oak Ridge Reservation, such as a major environmental cleanup of hazardous materials. It is unclear how protective forces will be provided for DOE's Oak Ridge Reservation under a consolidated M&O contract.

Furthermore, because of increased complexity under a consolidated contract, some NNSA officials said that federal oversight of a consolidated contract may need to be enhanced. NNSA's analysis showed that effective federal oversight is crucial to realizing cost savings and performance in both current and future contracts and that its employees must be better equipped to manage the contractors under any type of contract. The analysis also recommended that NNSA better train its federal site officials to ensure accountability of its contractors. Federal officials NNSA interviewed as part of conducting its analysis also expressed the need to have federal oversight changes in place before the new contracts go into effect. However, NNSA's plans to improve federal oversight of these contracts are still in the early stages of development. NNSA recently awarded a contract to study the structure, roles, and responsibilities of federal site office oversight that will include oversight of the proposed M&O contract consolidation; this study is expected to be completed in December 2012. Until NNSA has the results of its federal site office study, including information on federal workforce needs, it

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<sup>29</sup>SRS has nearly 500 protective forces. Integrating these forces into a consolidated M&O contract could also pose similar issues at SRS. See GAO, *Nuclear Security: DOE Needs to Address Protective Forces' Personnel System Issues*, [GAO-10-275](#) (Washington, D.C.: Jan. 29, 2010).

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cannot finalize plans and begin to prepare the federal site offices for the transition to the new contracts. In its response to our draft report, NNSA said that it will develop a site office structure prior to contract award.

According to NNSA's analysis, and some NNSA officials and contractors, it is likely that the number of contractors willing and able to participate in the competition will decrease (compared with competition for separate contracts) due to the large scope of diverse and complicated work being consolidated, resulting in fewer contractors that may have the interest or capability to execute the contract successfully.<sup>30</sup> As part of this review, we found that previous NNSA contract competitions during the last 10 years attracted an average of three contractors or contracting teams. According to some NNSA officials and contractors, it is quite possible that there will only be a single offeror for a consolidated contract, although this offeror will likely consist of a consortium of companies with specialized technical, management, and administrative expertise to perform the work required by the large contract scope. An NNSA official suggested that such a consortium could preserve the benefits of competition by involving the strongest firms. After reviewing NNSA's proposal, DOE's OCA reported, however, that a decrease in the number of competitors interested in competing for this contract could cause costs to actually increase over the long-term because NNSA may be forced to choose from only one or two contractors. Recently, the Office of Management and Budget also warned that competitions that yield only one offer deprive agencies of the ability to consider alternative solutions in a reasoned and structured manner.<sup>31</sup>

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<sup>30</sup>Federal laws and regulations governing federal contracting generally require that contract solicitations promote and provide for full and open competition.

<sup>31</sup>Office of Management and Budget, "Memorandum for Chief Acquisition Officers, Senior Procurement Executives" (Washington, D.C.: Oct. 27, 2009).

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## Benefits of a Single Enterprise-wide Construction Contract Will Remain Uncertain Until NNSA Further Develops Its Proposal

NNSA has identified several potential benefits associated with awarding a single, enterprise-wide construction contract, but a number of issues have also been raised by NNSA and others. NNSA's analysis identified some potential benefits, including a new dedicated nuclear security enterprise-wide focus on management of major construction projects to meet schedules, cost savings, and the implementation of uniform business practices in executing major projects. However, NNSA's projected savings from a consolidated construction contract—approximately \$24 million per year or \$120 million in nominal dollars over a 5-year period—is uncertain, especially since it appears unlikely that some of NNSA's major construction projects will be part of the contract. In addition, NNSA's analysis did not include a formal assessment of the risks involved in this effort, as is recommended by federal standards for internal control. NNSA and others have also identified two potential concerns associated with the new contracting strategy, including (1) the need to closely integrate the work of the existing M&O and new construction contractor could necessitate increased federal oversight and (2) reduced industry interest in the contract if major projects are not included.

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## NNSA Has Identified Potential Benefits of a Consolidated Construction Contract

NNSA's analysis identified several potential benefits that could result from awarding a single construction contract. The potential benefits include the following:

- Allowing the M&O contractor to focus its resources on its core mission of managing and operating sites and having U.S. engineering and construction management contractors focus on construction.
- Having a dedicated nuclear security enterprise-wide focus on management of major construction projects to control costs and meet schedules.
- Implementing uniform business practices in executing major projects across the nuclear security enterprise.
- Realizing cost savings of about \$120 million over a 5-year period, primarily because the eight M&O contractors will be able to reduce construction personnel.

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## The Estimated Cost Savings Resulting from a Consolidated Construction Contract Are Uncertain

NNSA's projected savings from a consolidated construction contract are uncertain. NNSA estimates the projected savings resulting from awarding such a contract at approximately \$120 million in nominal dollars over a 5-year period, which is approximately 2 to 3 percent of the projected total construction costs. The cost savings are primarily achieved through the assumption that future M&O contractors will have less need to maintain a large cadre of construction personnel. However, actual cost savings resulting from implementing a consolidated construction contract strategy that NNSA developed are uncertain for three primary reasons. Specifically:

- NNSA does not have an accurate total cost baseline of its ongoing and planned construction projects. For example, we reported in February 2011 that NNSA had identified 15 ongoing capital improvement projects as necessary to ensure future viability of the Stockpile Stewardship Program but did not have estimated total costs or completion dates for all projects.<sup>32</sup> As we also reported in November 2010, NNSA has a history of inaccurately estimating the cost of major construction projects, including recent inaccurate estimates for facilities included in the estimate for potential cost saving.<sup>33</sup> For example, as we reported in November 2010, NNSA's 2007 estimate for its Uranium Processing Facility (UPF) at Y-12 indicated the facility would cost from \$1.4 to \$3.5 billion in nominal dollars to construct—more than double its 2004 estimate of \$600 million to \$1.1 billion. In 2010, NNSA again adjusted its estimate for the UPF, estimating the facility will cost from \$4.2 to \$6.5 billion in nominal dollars to construct—double its 2007 estimate. Without an accurate total cost baseline of its ongoing and planned construction projects, it will be difficult for NNSA to accurately estimate savings.
- The consolidated construction contract may not include some of NNSA's major construction projects. According to one NNSA official, NNSA's projected savings from a consolidated construction contract assumes that all construction projects costing over \$10 million dollars,

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<sup>32</sup>GAO, *Nuclear Weapons: NNSA Needs More Comprehensive Infrastructure and Workforce Data to Improve Enterprise Decision-making*, [GAO-11-188](#) (Washington, D.C.: Feb. 14, 2011).

<sup>33</sup>GAO, *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.: Nov. 19, 2010).



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excluding the Mixed Oxide Fuel Fabrication Facility,<sup>34</sup> which is well under way at SRS, will be included in the contract. NNSA's analysis assumed that, once the consolidated construction project is in place, about half of the M&O contractors' construction personnel will no longer be needed. As with the draft RFP for the consolidated M&O contract, NNSA has delayed the release of the draft RFP for the consolidated construction contract, but, according to agency officials, plans to release it later in 2011. These officials told us that the agency anticipates that industry feedback on that RFP will be important in structuring the final RFP.<sup>35</sup> However, an NNSA official associated with the contracting effort recently stated that the contract probably will not include the most expensive and significant construction projects planned for the next 10 years. More specifically, senior NNSA officials told us that it is unlikely that the construction contract will include UPF and the Chemistry and Metallurgy Research Replacement facility (CMRR) at LANL or some other major facilities because including them would disrupt ongoing design and construction carried out by M&O contractors.<sup>36</sup> Collectively, these two facilities represent about 85 percent of NNSA's total planned construction projects through fiscal year 2016. Other NNSA construction projects are also unlikely to be included in the consolidated contract. For example, the Pit Disassembly and Conversion Facility planned for SRS, may not be included in the scope of the consolidated contract, according to NNSA officials, because of this facility's high cost and lack of a stable cost estimate.

- NNSA's cost savings' estimate was, according to an agency official, relatively cursory, given the lack of an accurate total cost baseline of its ongoing and planned construction projects and since the focus of the proposal is to improve project management. We found that NNSA, in this part of its acquisition strategy, did not employ best practices such as conducting a sensitivity analysis, identified in our *Cost*

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<sup>34</sup>Mixed oxide fuel fabricated, in part, from weapons-grade plutonium and uranium.

<sup>35</sup>In its response to our written report, NNSA said that it plans to issue some form of contract solicitation, but not necessarily a draft RFP, by the end of September 2011.

<sup>36</sup>An NNSA official said that it is likely the new contract will include a clause in the consolidated contract that will allow NNSA to essentially reserve the right to decide which construction projects it would like to build under the consolidated construction contract or keep with the M&O contractor.

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*Estimating and Assessment Guide* for developing reliable cost estimates.<sup>37</sup>

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## NNSA's Analysis Neither Fully Assessed Risks Nor Identified Risk Mitigation Strategies

In addition, we note that NNSA's analysis of a consolidated construction contract was far less extensive than its analysis of the consolidated M&O contracts, even though a consolidated construction contract could be worth over \$8 billion over the next decade and represents a fundamental change for the nuclear security enterprise. As part of the contract analysis process, in April 2009, NNSA completed a review of construction management alternatives and developed a recommendation to issue an RFP for a consolidated construction contract to include all major construction projects, general projects, and facility infrastructure and revitalization projects. However, this review was largely based on expert judgment and did not include an in-depth analysis of potential risks resulting from awarding a single construction contract to one company for construction across the nuclear security enterprise. More specifically, NNSA did not conduct a formal assessment of the risks involved in this effort, such as risk analysis regarding the different roles and responsibilities between the M&O contractor and the construction contractor. One of the federal standards for internal control—risk assessment—states that management should assess the risks faced entity-wide, and at the activity level, from both external and internal sources, and that once risks have been identified, management should decide what actions should be taken to mitigate them. Risk identification methods may include, among other things, forecasting and strategic planning, and consideration of findings from audits and other assessments.<sup>38</sup> NNSA did not develop potential mitigation strategies, according to one NNSA official, even though awarding a single M&O contract for its multiple sites and a single construction contract worth billions of dollars for construction projects across the nuclear security enterprise represents a fundamental change in the way NNSA conducts and manages projects. This is inconsistent with NNSA's much more detailed analysis of its consolidated M&O contracting proposal and with best practices identified in our *Cost Estimating and Assessment Guide*,

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<sup>37</sup>A sensitivity analysis is used to test the sensitivity of cost elements to changes in estimating input values and key assumptions.

<sup>38</sup>GAO, *Standards for Internal Control in the Federal Government*, [GAO/AIMD-00-21.3.1](#). ("Green Book") (Washington, D.C.: November 1999).

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which is a compilation of cost-estimating best practices drawn from across industry and government.<sup>39</sup>

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## A Consolidated Construction Contract Raises Other Potential Issues

NNSA officials and contractors have also identified two issues associated with the new contracting strategy. First, according to NNSA officials and contractors, a chief potential challenge with a consolidated contract is the need to closely integrate the work of the M&O and construction contractors. NNSA will have to develop ways to ensure that current M&O contractors and the winning construction contractor(s) successfully coordinate their respective missions to prevent the disruption of important activities, such as weapons refurbishments, and to allow construction projects, some of which will be located near or in sensitive ongoing site operations, to be completed on schedule and at cost.<sup>40</sup> For example, LANL plans to undertake a number of construction projects near or within its major plutonium operations in the next decade. As a result, both NNSA officials and contractors told us there will be a need for increased federal oversight and coordination to manage and integrate the M&O and construction contractors' activities associated with these projects. To this end, NNSA is developing a course for its site offices on how to conduct oversight under the new contracting strategy. To facilitate coordination, NNSA management has also committed to requesting budget increases to hire temporary employees at the site offices to help integrate and manage the M&O and construction contractors' activities. However, as discussed earlier, NNSA will not complete a study of federal site office structure and roles and responsibilities until December 2012. Until NNSA has the results of its federal site office study, including needs under the new contracting strategy for the federal workforce, it cannot finalize plans and begin to prepare the federal site offices for the transition to the new strategy.

Second, NNSA's analysis concluded that excluding major construction projects may reduce the number and quality of competitors willing and able to bid because the contract would be less profitable. A recent NNSA report on the contractor perspectives of a consolidated construction contract found that inclusion of the UPF in the consolidated construction

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<sup>39</sup>[GAO-09-3SP](#).

<sup>40</sup>At this time, it is unknown whether NNSA will award this contract to a single contractor or a team of prequalified contractors.

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contract is key to drawing strong interest from the best construction firms and that the scope of the contract would determine the level of competition for it. This is because the top U.S. engineering and construction companies may only be interested in the contract if it includes the higher profit large construction projects. This NNSA report, which captures the feedback from the construction contractors concerning the contract strategy for UPF, noted that the competitive landscape for a contract competition for a construction contract that does not include UPF could be impacted with the top engineering and construction firms possibly not participating. The report further notes that excluding UPF in the consolidated construction contract would send the signal to the contracting community of “business as usual” and would not represent a significant commitment by NNSA of a commitment to improve the management of large construction projects.<sup>41</sup>

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## Conclusions

As the U.S. nuclear stockpile is being reduced, NNSA is to receive additional funds to modernize and operate the nuclear security enterprise. The funds will be used, in part, to refurbish most of the weapon types currently in the stockpile and to construct important new production facilities to support these refurbishments. NNSA envisions an integrated, interdependent nuclear security enterprise characterized by, among other things, fewer, more uniform contracts with multisite incentives and more uniform business practices. Since contractors execute the vast majority of the agency’s mission, it is reasonable for NNSA to focus its attention on the types, structure, and management of its contracts. Thus, to improve its operations and business practices, NNSA proposed, in 2010, consolidating the M&O contracts for two significant nuclear production sites—Y-12 and Pantex—and awarding a single contract for complex-wide construction. NNSA’s analysis that supported these proposals noted that simply changing contract types and structures will produce little effect unless NNSA better manages its contracts. NNSA’s analysis also identified 18 improved management practices—some of which could be accomplished now through existing contracts—such as improving enterprise-wide collection and analysis of costs that could lead to greater efficiencies regardless of the contracting strategy employed. In fact, officials representing the contractors at Pantex and Y-12 both said their

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<sup>41</sup>DOE and NNSA have taken a number of actions, in part due to our high-risk designation, to improve contract and project management.

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companies had begun implementing some of these changes at their respective sites and had seen efficiencies and savings. In our view, these actions on the part of contractors are positive and a step in the right direction toward more effectively and efficiently managing NNSA contracts. However, NNSA has not identified in a systematic manner how it plans to implement these 18 improved management practices at all of its sites. Without such an approach or plan, it is unclear whether NNSA is taking every opportunity to improve management practices.

NNSA has committed to pursuing its two-part acquisition strategy, but until NNSA undertakes certain actions, the strategy will not be completely defined, and its benefits will remain uncertain. These actions include incorporating industry feedback on its recently released draft RFP for the proposed Y-12 and Pantex M&O contract; releasing a draft RFP for the enterprise-wide construction proposal; updating its analysis using industry feedback, current budget projections, and project cost estimates; and developing an integrated federal site office structure applicable to both proposals to effectively manage and oversee their implementation with clearly identified roles and responsibilities. For example, until NNSA releases a draft RFP for the enterprise-wide construction proposal, NNSA cannot assess industry interest and will not begin to prepare the final RFP. Furthermore, NNSA did not conduct a formal assessment of the risks involved in the consolidation of its construction contracts consistent with federal standards of internal control, such as potential conflicts between the M&O contractor and the construction contractor. It will remain difficult to accurately assess whether NNSA will realize its goals of more efficient and effective operations through the implementation of the proposed acquisition strategy without more information. Consistent with cost-estimating best practices, such information should specify the costs, risks, and benefits expected enterprise-wide and at each site for both proposed consolidated contracts. In addition, NNSA will not complete a study of federal site office structure and roles and responsibilities until December 2012. Without the results of this study, NNSA cannot finalize plans and begin to prepare the federal site offices for the transition to the new contracts.

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## Recommendations for Executive Action

We recommend that the Secretary of Energy take the following four actions:

In order to manage NNSA's contracts as effectively and efficiently as possible the Secretary of Energy should direct the Administrator of NNSA to take the following action:

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- Develop a plan for implementing the 18 improved management practices identified by its analysis, as appropriate, to improve its current contract management practices.

If NNSA continues to pursue its two-part acquisition strategy, the Secretary of Energy should direct the Administrator of NNSA to take the following actions to better define and inform the agency's strategy:

- Issue a draft RFP for the enterprise-wide construction proposal.
- Using updated information gathered through the draft RFPs and recent budget projections and cost estimates, analyze the consolidated M&O proposal and the enterprise-wide construction proposal. Consistent with federal standards for internal control and cost-estimating best practices, this analysis should assess the costs, risks, and benefits expected enterprise wide and at each site. This analysis should be used by NNSA as it prepares its final RFPs for each proposal.
- Using the results of the federal site office study, develop an integrated federal site office structure applicable to both proposals to prepare the site offices before the transition to the new contracts.

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## Agency Comments and Our Evaluation

We provided NNSA with a draft of this report for its review and comment. NNSA provided written comments to the draft report—in which it generally agreed with our findings and recommendations—and technical comments, which we have incorporated as appropriate. NNSA's commented that it “does not agree that similar cost efficiencies could be obtained without a contract consolidation” and that we should adjust statements in the report related to these efficiencies. In response, we removed the word “similar.” However, consistent with our recommendation in this report, NNSA agreed to develop a plan for implementing the 18 recommendations outlined in its analysis to improve current contract management practices. This, in our view, indicates NNSA's agreement that the efficiencies gained in doing so would enhance its ability to carry out the mission at NNSA's various sites, regardless of a contract consolidation. This is also consistent with NNSA's own analysis, which stated that actions can be taken under the current contracts to improve the effectiveness and efficiency of operations at the individual sites.

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In its comments, NNSA also stated that it may not issue a draft RFP for the enterprise-wide construction proposal but may, instead, issue another form of solicitation, such as a final RFP, or sealed bid, by the end of September 2011. However, given the delays associated with the issuance of its draft RFP for the consolidated M&O contract and given the benefits outlined in our report of issuing a draft RFP, we continue to recommend, if NNSA pursues this part of its acquisition strategy, that the agency issue a draft RFP for the enterprise-wide construction contract. Consistent with the Federal Acquisition Regulation, a draft RFP will help provide information on NNSA's requirements and industry capabilities and may enhance NNSA's ability to obtain quality supplies and services, at reasonable prices, and increase efficiency in proposal preparation, proposal evaluation, negotiation, and contract award. As we also recommended, information gathered through the draft RFP, when combined with recent budget projections and cost estimates, should be used by NNSA to assess, in ways consistent with federal standards for internal control and cost-estimating best practices the costs, risks, and benefits of NNSA's proposal expected enterprise-wide and at each NNSA site.

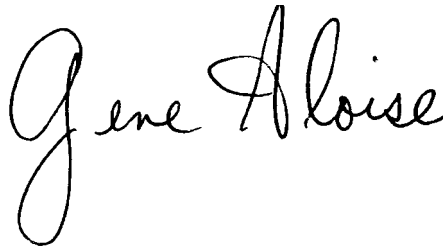
The full text of NNSA's comments is reproduced as appendix I in this report.

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We are sending copies of this report to the appropriate congressional committees, the Secretary of Energy, the Administrator of NNSA, the Director of the Office of Management and Budget, and other interested parties. The report also is available at no charge on the GAO Web site at <http://www.gao.gov>.

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If you or your staff members have any questions about this report, please contact me at (202) 512-3841 or [aloise@gao.gov](mailto:aloise@gao.gov). Contact points for our Offices of Congressional Relations and Public Affairs may be found on the last page of this report. GAO staff who made major contributions to this report are listed in appendix II.

A handwritten signature in black ink that reads "Gene Aloise". The signature is written in a cursive style with a large, looped initial "G".

Gene Aloise  
Director, Natural Resources  
and Environment



# Appendix I: Comments from the National Nuclear Security Administration



Department of Energy  
National Nuclear Security Administration  
Washington, DC 20585



September 13, 2011

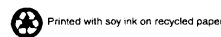
Mr. Gene Aloise  
Director  
Natural Resources and Environment  
Government Accountability Office  
Washington, DC 20458

Dear Mr. Aloise:

The National Nuclear Security Administration (NNSA) appreciates the opportunity to review the Government Accountability Office's (GAO) report on *MODERNIZING THE NUCLEAR SECURITY ENTERPRISE: The National Nuclear Security Administration's Proposed Acquisition Strategy Needs Further Clarification and Assessment*, GAO-11-848. At the request of the House Subcommittee on Energy and Water Development, Committee on Appropriations, NNSA understands that GAO was asked to review the new contracting and acquisition strategy and was asked to assess NNSA's preliminary proposals for (1) a consolidated M&O contract for Y-12 National Security Complex and the Pantex Plant with an option for Savannah River Tritium Operations; and (2) an enterprise-wide construction contract. While specific comments regarding factual accuracy are listed in the enclosed document, NNSA offers the following general comments from a broader perspective.

The NNSA is working on transformation of the complex to focus the enterprise on mission success while reducing costs. Without transformation, an ever increasing budget would be required due to escalating costs and greater demands of maintaining an aging stockpile. As one part of the plan to achieve nuclear weapons complex efficiencies and transformation, an acquisition strategy team was assembled to plan for new contract replacements as existing contracts expire. The NNSA's acquisition strategy to accomplish transformation includes consolidation of the Y-12 National Security Complex and the Pantex Plant with an option for Savannah River Tritium Operations into one single contract, thus resulting in efficiencies and enhanced effectiveness, including costs savings and management of the three plant sites as one contract entity to advance NNSA's transformation.

The cost analysis reviewed by the GAO is premised, first and foremost, on merger and acquisition savings. The methodology used to develop the anticipated savings was similar to that used by leading commercial companies and was conservative and reasonable in its approach. NNSA believes that the analysis is consistent with federal standards for internal controls and cost estimating best practices that are referenced in the GAO report. In preparing its analysis, NNSA utilized a team of subject matter experts to make adjustments to account for differences between commercial nuclear operations and NNSA nuclear production operations. NNSA agrees that the life cycle cost and benefit analysis should be updated to assess the costs, risks and benefits



expected for the three sites being merged as those risks relate to a cost sensitivity analysis, therefore, the recommendation should be revised accordingly.

NNSA does not agree that similar cost efficiencies could be obtained without a contract consolidation. As stated above, NNSA's cost analysis is premised on merger and acquisition savings. NNSA requests GAO consideration in adjusting its highlights and other statements in its report, particularly as they relate to efficiencies being obtained under current contracts.

With regard to the discussion on the federal site office structure, the recommendation should simply state: "Develop an integrated federal site office structure applicable to the consolidation of sites under one contract before the transition to the new contract." GAO should focus on the goals to be met by NNSA. The four phase federal staffing study will inform ongoing long term decisions regarding federal staffing and organization structure. The NNSA will stand up a Site Office structure prior to contract award and does not plan to delay the initial federal standup until after 2012.

In terms of the Enterprise Construction Management solicitation, the final structure of the solicitation is still pending with an anticipated solicitation release date by the end of September 2011. The recommendation should be modified to provide for issuing a solicitation versus a draft Request for Proposal (RFP) providing NNSA flexibility to select its method of contract solicitation.

Finally, GAO recommends that NNSA develop a plan for implementing the 18 improved management practices identified by an analysis as appropriate to improve its current contract management practices. The NNSA agrees that it should formally complete an evaluation of the 18 practices identified for improved management practices to determine appropriateness of implementation within NNSA and further develop a plan for implementation of those identified as appropriate.

We appreciate GAO's professionalism and effort of this review, and look forward to the final report and to the overall results achieved by NNSA's acquisition strategy. As stated above, enclosed are specific comments that we believe will help clarify and improve the report in areas that may be confusing or misleading.

If you have any questions concerning this response, please contact JoAnne Parker, Director, Office of Internal Controls, at 202-586-1913.

Sincerely,



Kenneth W. Powers  
Associate Administrator  
for Management and Budget

Enclosure

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# Appendix II: GAO Contact and Staff Acknowledgments

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## GAO Contact

Gene Aloise, (202) 512-3841 or [aloisee@gao.gov](mailto:aloisee@gao.gov)

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## Staff Acknowledgments

In addition to the individual named above, Jonathan Gill, Assistant Director; Jonathan Kucskar; Jeff Larson; Mehrzad Nadji; Alison O'Neill; Tim Persons; Peter Ruedel; Ron Schwenn; Vasiliki Theodoropoulos; and Alyssa Weir made key contributions to this report.

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