



NATIONAL NUCLEAR SECURITY ADMINISTRATION

Fully Incorporating Leading Practices for Agency Reform Would Benefit Enhanced Mission Delivery Initiative

Report to Congressional Committees

February 2025

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GAO Highlights

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Highlights of [GAO-25-106675](#), a report to congressional committees

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Why GAO Did This Study

NNSA is the busiest it has been since the Cold War as it oversees a \$200 billion nuclear modernization effort. Recognizing the need to address the agency's increased demands, the NNSA Administrator established the Enhanced Mission Delivery Initiative team in January 2022. The team's report made recommendations to help NNSA better deliver on its national and global security missions. Several recommendations affect acquisition and program management at NNSA, which have been on GAO's High Risk List for decades.

A report accompanying the fiscal year 2023 consolidated appropriations act includes a provision for GAO to evaluate the Initiative's proposed implementation. This report (1) describes the Initiative report's findings and recommendations and examines (2) NNSA's plans for implementation and the status of the reforms, and (3) the extent to which NNSA's six reforms GAO identified as at high risk for fraud, waste, abuse, or mismanagement were aligned with selected leading practices for agency reform.

What GAO Recommends

GAO is making eight recommendations to NNSA, including that it define how it will govern follow-on continuous improvement efforts; establish goals and processes to monitor reforms' progress against those goals; and monitor reforms to ensure they do not increase risks of fraud, waste, and abuse. NNSA concurred with all eight recommendations.

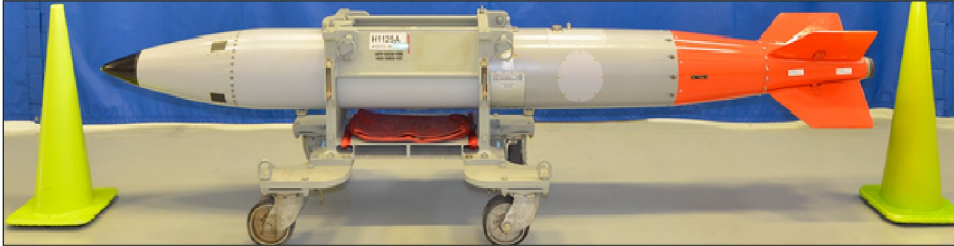
What GAO Found

To address the increased demands of its estimated \$200 billion nuclear weapon modernization effort, in September 2022, the National Nuclear Security Administration (NNSA) published a report titled *Evolving the Nuclear Security Enterprise: A Report of the Enhanced Mission Delivery Initiative*. The report had recommendations for reforming its agency and contractor operating environment that covered many aspects of NNSA's operations, including program and project management, employee recruitment and retention, and contracting.

NNSA used the results from the report to develop 15 reforms, which the agency has implemented through decentralized implementation teams under a central reporting structure. NNSA considers 11 reforms implemented and four ongoing. In addition to the continued development of the ongoing reforms, officials stated they will continue to monitor and modify the implemented reforms. However, the reporting structure that had been in use was disbanded by September 2024, and NNSA has not defined how it will govern follow-on continuous improvement efforts or monitor and report on their status.

Reforms Sought for Managing Weapon Modernization Programs

B-61 bomb, modernized under processes the National Nuclear Security Administration seeks to reform through the Enhanced Mission Delivery Initiative.



Source: Courtesy of Sandia National Laboratories. | GAO-25-106675

NNSA's implementation plans for six of the 15 reforms that GAO selected based on their relation to areas it previously identified as at risk for fraud, waste, abuse, or mismanagement partially aligned with relevant leading practices for successful agency reform. These plans were most in alignment with leading practices on leadership focus and attention. However, most of the plans for the six high-risk reform areas did not fully align with leading practices for setting goals, using data and evidence, monitoring, addressing longstanding management challenges, and engaging key stakeholders. Without establishing goals or processes to collect data and evidence, NNSA will not be able to monitor the effectiveness of implemented and ongoing reforms. Without this information, NNSA cannot assess whether the underlying issues identified in the Enhanced Mission Delivery Initiative report have been addressed. Further, by not monitoring the effects of relevant reforms on high-risk areas or the potential for fraud, waste, and abuse, NNSA will not know if reforms could potentially perpetuate longstanding challenges or increase risks of fraud, waste, and abuse.

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Abbreviations

- Cal/OSHA California Division of Occupational Safety and Health
- DA Design Agency
- DOD Department of Defense
- DOE Department of Energy
- EMDI Enhanced Mission Delivery Initiative
- FFRDC federally funded research and development center
- IPA Intergovernmental Personnel Agreement
- M&O management and operating
- NNSA National Nuclear Security Administration
- OSHA Occupational Safety and Health Administration
- PA Production Agency
- PEMP Performance Evaluation and Measurement Plan
- PER Performance Evaluation Report
- PMI Project Management Institute, Inc.
- PRT product realization team
- SNL Sandia National Laboratories
- S&T science and technology
- TDY temporary duty
- UPF Uranium Processing Facility

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February 6, 2025

The Honorable John Kennedy
Chair
The Honorable Patty Murray
Ranking Member
Subcommittee on Energy and Water Development
Committee on Appropriations
United States Senate

The Honorable Chuck Fleischmann
Chairman
The Honorable Marcy Kaptur
Ranking Member
Subcommittee on Energy and Water Development, and Related Agencies
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 maintaining and modernizing the nation’s nuclear weapons stockpile and leading nonproliferation efforts, among other missions. According to NNSA, the nuclear security enterprise has been asked to take on more work than at any time since the Cold War. This includes the simultaneous sustainment, surveillance, modernization, design, and development of multiple nuclear weapons and components that have not been produced in decades. In 2023, the Congressional Budget Office estimated this modernization effort will cost NNSA over \$200 billion through 2032. Further, NNSA faces significant operational challenges, including delays and cost overruns in major programs and projects.

Recognizing the need to address the increased demands and challenges facing the nuclear security enterprise, the NNSA Administrator established a team in January 2022 to review and provide recommendations to allow NNSA to better deliver on its national and global security missions. NNSA published the team’s report in September 2022, titled *Evolving the Nuclear Security Enterprise: A Report of the Enhanced Mission Delivery Initiative* (EMDI). The report identified 18 recommendations for reform in areas such as contracting, managing the federal and contractor relationship, recruiting and retention of federal and contractor personnel, and program and project management.¹

NNSA relies upon contracted services to accomplish most of its work. Its largest contracts are generally management and operating (M&O) contracts to carry out its program and project work at eight government-owned sites, collectively known as the nuclear security enterprise.² The M&O contractors are responsible for

¹Many of these topics have also been subjects of our recent reports.

²The Federal Acquisition Regulation defines M&O contracts as 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 agency. 48 C.F.R. § 17.601. These contracts originated from the Manhattan Project during World War II.

managing daily operations and executing program and project activities at the sites. NNSA's federal workforce is responsible for (1) portfolio, program, and project management; and (2) oversight, control, integration, and decision-making functions of governance. Contract and project management at DOE—including NNSA—has been on our High Risk List since 1990 because DOE's record of inadequate management and oversight of contractors left the agency vulnerable to waste, fraud, abuse, and mismanagement.³

The Explanatory Statement accompanying the Consolidated Appropriations Act, 2023 includes a provision for us to evaluate the proposed implementation of NNSA's EMDI.⁴ This report (1) describes the EMDI report's findings and recommendations, (2) examines NNSA's plans for EMDI implementation and the status of EMDI reforms, and (3) examines the extent to which selected EMDI implementation plans related to areas we identified as at high risk for fraud, waste, abuse, or mismanagement—such as acquisition and program management—were aligned with selected leading practices for agency reform.

For the first objective, we analyzed the EMDI's report findings and recommendations and discussed them with NNSA officials.

For the second objective, we examined EMDI project charters, success indicator forms, NNSA's EMDI progress tracker, presentation slides, guidance produced by EMDI teams, and other implementation documentation. We analyzed the actions taken by EMDI teams, characteristics of EMDI efforts, changes to EMDI implementation plans over time, and future plans. In addition, to assess these future plans, we reviewed the Project Management Institute, Inc.'s Continuous Improvement Practices.⁵ We also conducted interviews with members of the 14 EMDI implementation teams (out of 15) who had project charters completed by July 2023 to clarify the information in the project charters and other implementation plan documents, identify additional relevant documentation, and fill in information gaps.

For the third objective, we selected six implementation plans out of 15 for review because they were associated with reforms that (1) related to areas we have previously determined are at high risk for fraud, waste, abuse, or mismanagement; and (2) focused on multiple sites. Throughout the report, we refer to these six as "high-risk reforms."

We also determined which of the leading agency reform practices identified in our prior work were most relevant to EMDI implementation plans.⁶ Two analysts independently reviewed the leading practices to determine their relevance to NNSA and selected EMDI reforms. The analysts then met to reconcile any differences and reach agreement on which practices to eliminate as not relevant. We determined that 24 selected key questions under eight leading practices were applicable to EMDI reform implementation plans. See appendix I for our full methodology for selecting which implementation plans met our criteria for high risk and which leading agency reform practices were most relevant.

³GAO, *High-Risk Series: Efforts Made to Achieve Progress Need to Be Maintained and Expanded to Fully Address All Areas*, [GAO-23-106203](#) (Washington, D.C.: Apr. 20, 2023).

⁴Staff of H.R. Committee on Appropriations, 117th Congress, Committee Print on H.R. 2617/ PUBLIC LAW 117-328 at 954 (2023).

⁵The Project Management Institute, Inc. (PMI) is a not-for-profit association that provides global standards for project, program, and portfolio management. These standards are generally recognized as leading practices and used worldwide by private companies, nonprofits, and others.

⁶GAO, *Government Reorganization: Key Questions to Assess Agency Reform Efforts*, [GAO-18-427](#) (Washington, D.C.: June 13, 2018). We developed these leading practices in June 2018 by reviewing our prior work and meeting with staff from the Office of Management and Budget as well as nine subject matter specialists.

We then assessed whether each of the selected EMDI implementation plans aligned, partially aligned, minimally aligned, or did not align with each of the selected leading practices for agency reform. To assess the implementation plans against leading practices for agency reform, two analysts independently compared the implementation plans against each of the selected practices and came to an agreement on the extent to which the plans aligned with the practices. We then conducted follow-up interviews with NNSA officials to obtain additional information regarding areas initially assessed as partially, minimally, or not aligned and incorporated such information into our final assessments as appropriate. See appendix I for the full methodology used to assess NNSA's EMDI implementation plans.

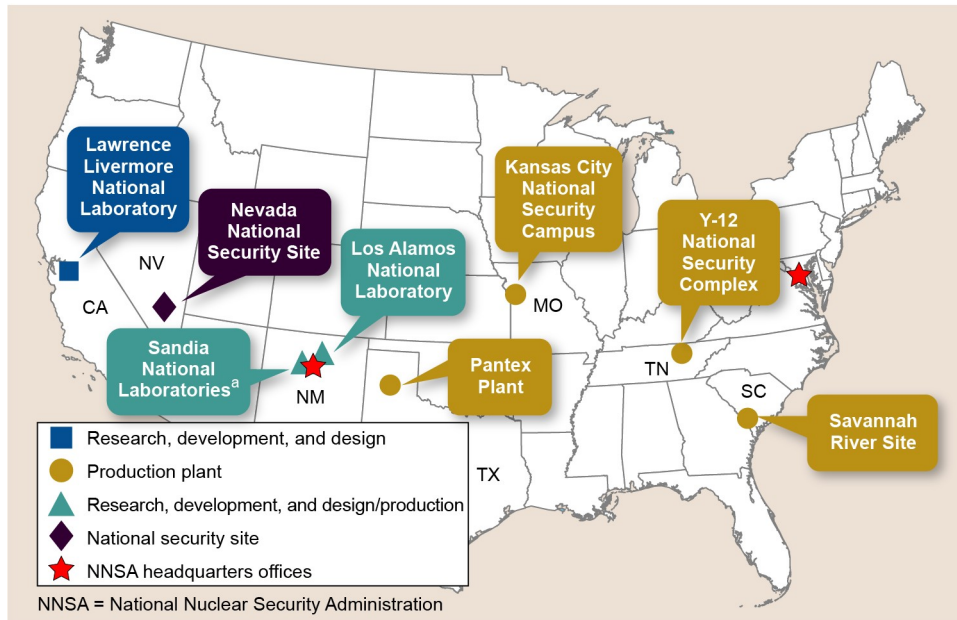
We conducted this performance audit from March 2023 to February 2025 in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions 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

NNSA's Organization

NNSA was established by law in October 1999 as a separately organized agency within DOE in response to long-standing management and governance challenges, especially DOE's management and governance of its nuclear weapons program.⁷ NNSA's current federal workforce is based in headquarters offices located in Washington, D.C.; Germantown, Maryland; and Albuquerque, New Mexico, as well as in field-based offices collocated at eight government-owned, contractor-operated sites (see fig. 1). These eight sites are operated by M&O contractors that manage daily operations and execute program and project activities.

⁷The National Nuclear Security Administration Act, Pub. L. 106-65, div. C, tit. XXXII, § 3211, 113 Stat. 512, 957 (1999) (codified at 50 U.S.C. § 2401) (NNSA Act).

Figure 1: NNSA Headquarters Offices and Nuclear Security Enterprise Field Offices

Sources: GAO presentation of NNSA information; Map Resources (map). | GAO-25-106675

^aSandia National Laboratories has two primary locations in Albuquerque, New Mexico, and Livermore, California.

NNSA sites conduct a wide variety of research, development, testing, and evaluation missions as well as production missions. Three NNSA national laboratories—responsible for nuclear weapons design—are known as design agencies. The four sites that primarily have a production mission are known as production agencies.⁸ Collectively, there were approximately 59,000 M&O contractor staff across NNSA's sites in fiscal year 2022.

NNSA's mission work is generally directed by headquarters-based federal program offices. Federal program managers are to help develop requirements, define performance standards, and ensure that contractors' activities achieve intended outcomes. NNSA's program activities often span multiple sites. For example, any weapon modernization programs generally require all eight sites to collaborate, as do many production modernization programs such as plutonium modernization. Federal field office staff are responsible for multiple oversight functions at the site level—which NNSA describes as mission-enabling—including contract management, safety, and security. As such, federal field office staff are to provide day-to-day oversight of the M&O contractors' performance. NNSA's federal workforce consisted of about 1,800 full-time equivalent employees in fiscal year 2022.

M&O Contracts and the Federal-Contractor Relationship

NNSA obligated about \$18 billion to its M&O contracts in fiscal year 2023. M&O contractors are responsible for managing daily operations and executing program and project activities. The Federal Acquisition Regulation defines M&O contracts as agreements under which the government contracts for the operation, maintenance,

⁸Besides the four sites whose primary mission is production, Los Alamos National Laboratory and Sandia National Laboratories have production roles in addition to their design roles. In addition, Savannah River Site conducts some research, primarily at the Savannah River National Laboratory, which is the DOE Office of Environmental Management's applied research and development laboratory.

or support, on its behalf, of a government-owned or government-controlled research, development, special production, or testing establishment, wholly or principally devoted to one or more major programs of the contracting agency.⁹ According to the Federal Acquisition Regulation, an M&O contract is characterized both by its purpose and by the special relationship it creates between the government and contractor.¹⁰

Since the advent of NNSA, Congress and other observers have raised questions about the nuclear security enterprise's ability to deliver on its mission in a timely and cost-effective manner. Numerous reports and commissions have assessed the governance of the nuclear security enterprise and the special relationship between M&O contractors and the federal managers overseeing them. These external and internal panels have proposed a variety of reforms to improve the management and operation of the nuclear security enterprise to meet the growing challenges of nuclear modernization.¹¹

Similarly, in August 2016, we identified three key attributes associated with DOE's M&O contracts,¹² which included NNSA's M&O contracts:

- **Limited competitive environment.** We found that M&O contracts included longer terms than other federal contracts, so they were competed less frequently. In addition, according to DOE officials at the time, there were few contractors able to perform the highly technical and broad-ranging work that is done under M&O contracts.¹³
- **Broad scopes of work.** DOE M&O contracts had broad scopes of work that covered nearly all aspects of work at a site. Although mission activities of M&O contractors could be highly technical, we found that mission support activities generally accounted for about 25 to 50 percent of contractors' total costs in fiscal year 2015 and encompassed such things as managing infrastructure, facilities, grounds, and security.
- **Closer relationship.** M&O contracts and DOE management practices contributed to a closer relationship between M&O contractors and the government. For example, we reported that M&O contractors were generally more integrated with DOE in how they were paid and in their accounting systems than other types of contractors. With regard to payment, rather than traditional bill payment methods—including invoices, payment approval and authorization, and disbursement of funds—M&O contractors can draw funds directly from federal accounts through "letter of credit financing," and costs are intended to be reviewed annually for their allowability under the contract.

⁹48 C.F.R. § 17.601.

¹⁰48 C.F.R. § 17.604.

¹¹External and internal panels have proposed a variety of reforms. For example, see Congressional Advisory Panel on the Governance of the Nuclear Security Enterprise, *A New Foundation for the Nuclear Enterprise* (Washington, D.C.: November 2014). This report is commonly referred to as the Augustine-Mies Panel. Commission to Review the Effectiveness of the National Energy Laboratories, *Securing America's Future: Realizing the Potential of the Department of Energy's National Laboratories* (Washington, D.C.: October 2015). National Academies of Sciences, Engineering, and Medicine and the National Academy of Public Administration, Panel to Track and Assess Governance and Management Reform in the Nuclear Security Enterprise, *Governance and Management of the Nuclear Security Enterprise* (Washington, D.C.: October 2020).

¹²GAO, *Department of Energy: Actions Needed to Strengthen Acquisition Planning for Management and Operating Contracts*, [GAO-16-529](#) (Washington, D.C.: Aug. 9, 2016).

¹³Our report also found that about half of DOE's fiscal year 2015 M&O contract spending was on contracts that were awarded noncompetitively or that received one offer. See [GAO-16-529](#). However, according to NNSA officials, there has been significant competition for NNSA's M&O contract competitions. Since 2015, NNSA has competed six M&O contracts. According to those officials, the number of proposals received for each competition ranged from two to five.

This special federal–contractor relationship that characterizes M&O contracts manifests itself in many ways, including the following:

Contract type and incentives. All NNSA’s M&O contracts are cost-reimbursement contracts, with award or fixed fees. Cost-reimbursement type contracts allow the agency to contract for work when circumstances do not allow the agency to sufficiently define its requirements or estimate its costs to allow for a fixed-price contract. Under a fixed-price contract, a contractor accepts responsibility for completing a specified amount of work for a fixed price. In contrast, under cost-reimbursement contracts, the government reimburses a contractor for allowable costs incurred, to the extent prescribed by the contract. Further, in the case of NNSA’s M&O contracts, the level of work the contractor is directed to complete can change based on the agency’s annual appropriations. The government may also pay a fee that is either fixed at the outset of the contract or adjustable based on performance criteria set out in the contract.

Contract term. According to NNSA officials, since the early 2000s, NNSA’s M&O contracts have generally had a base contract term of 5 years, with options to extend a contract at 1 or 2 year increments up to a term of 10 years. In addition, several of the contracts have included an incentive to earn additional contract term as awards for performance.¹⁴ Some contracts have been or are expected to be extended non-competitively in anticipation of new contract competitions; NNSA has in some cases cited its acquisition capacity as a reason for these delays.

Contract performance evaluation. NNSA evaluates the performance of M&O contractors through annual evaluations. The Performance Evaluation and Measurement Plan is to be developed before the beginning of each fiscal year (that is, the beginning of the evaluation period). It establishes expectations for the site contractor’s performance and describes how the responsible NNSA offices will evaluate and measure performance against those expectations. The plan is to provide the blueprint for how the evaluations will be used to determine award fees, award terms, and any other incentives. The Performance Evaluation Report is to be developed at the end of each evaluation period. NNSA uses this report to document the performance rating and, in some cases, the fees and other incentives that will be awarded to the contractor.

Subcontracting oversight. We have found that a significant amount of work in the nuclear security enterprise is performed through subcontracts. For example, an M&O contractor may enter into a subcontract to obtain access to a specific set of skills or services that it may not possess, such as construction expertise, equipment services, or technology support. NNSA is responsible for monitoring contractors’ compliance with subcontracting requirements by assessing and approving their procurement systems, as well as their policies and procedures. NNSA is to monitor whether an M&O contractor is following its approved procurement system policies and procedures by providing consent to the contractors to award certain subcontracts. NNSA determines the subcontract actions that require consent in accordance with criteria such as subcontract dollar value and type of contract.

For subcontracts that are subject to a consent review, the contractor is to submit a package of information to the local NNSA contracting officer at the field office. The contracting officer either provides consent or raises issues that the contractor must address before awarding the subcontract. Although consent reviews have the

¹⁴Award term incentives enable a contractor to earn additional periods of performance under a current contract by achieving prescribed performance criteria under that contract. NNSA has moved away from including award terms in its M&O contracts. According to NNSA officials, the M&O contractor (Lawrence Livermore National Security, LLC) that manages NNSA’s oldest contract—the Lawrence Livermore National Laboratory M&O contract—earned its last award term several years ago. Further, officials said NNSA has not included award terms in any of its new M&O contracts.

potential to provide contracting officers with important information on the contractor's compliance with requirements, they are subject to a minimum contract value requirement, and, as we previously reported, the number of reviews conducted by field offices each year varies due to different contract value thresholds at each location.¹⁵ DOE guidance recommends that when establishing the threshold for consent reviews, the contracting officer should aim to review enough subcontracts annually to provide the field office with sufficient visibility into subcontracting actions without being overly burdensome on either the contractor or the federal staff.¹⁶

Involvement in contractor human resource issues. The special relationship also means an M&O contractor generally shares more data with the government than non-M&O contractors generally do. This includes NNSA oversight of M&O contractors' human resource functions, including recruitment and retention. NNSA's Contractor Human Resources Branch, through its Office of Partnership and Acquisition Services, works directly with M&O contractors' human resources leaders to review and determine approval of requests related to actions that alter contractor workforce compensation or benefits. In general, any human resources actions that are precedent setting, cost increasing (with respect to the overall cost of the contract), or highly sensitive need NNSA approval, according to NNSA officials. For example, NNSA is responsible for reviewing and approving the M&O contractors' annual compensation increase packages and benefits costs for their workforces. According to NNSA officials, NNSA's guidance identifies over 30 actions requiring approval or review, with multiple NNSA offices' involvement depending on the action. These various actions require approval as they occur and are not annual approvals.

Construction projects. Managing large and complicated sites means construction and maintenance projects of various sizes are a significant element of the scope of M&O contracts. These sites include both unique nuclear facilities and security infrastructure, as well as an extensive network of general infrastructure (offices, roads, and parking). As of June 2024, NNSA's line-item construction project portfolio included over 40 projects collectively estimated to cost over \$50 billion.¹⁷ In addition to those major projects, M&O contractors carry out over 100 minor construction projects each year at NNSA's eight sites.¹⁸ These projects include additions, new or replacement facilities, and installations or upgrades that do not change a facility's footprint.

U.S. Strategic Nuclear Modernization

The 2022 Nuclear Posture Review noted that, in recent years, the international security environment has deteriorated with the U.S. facing, for the first time in its history, two major nuclear powers as strategic competitors and potential adversaries.¹⁹ This evolving threat environment has shortened time frames and increased workload for the nuclear security enterprise. NNSA's scope of work and budget have increased, and

¹⁵GAO, *Department of Energy Contracting: Actions Needed to Strengthen Subcontract Oversight*, [GAO-19-107](#) (Washington, D.C.: Mar. 12, 2019).

¹⁶Department of Energy, Office of Policy, Office of Procurement and Assistance Management, *Consent to Subcontracts on Management and Operating (M&O) Contracts*, Policy Flash 2011-103 (Washington, D.C.: Sept. 23, 2011). According to DOE officials, they issued the guidance as a "policy flash" intended to be followed by a DOE Acquisition Letter. DOE did not issue the letter; however, local and headquarters officials reference the policy flash as good guidance for consent reviews under M&O and non-M&O contracts.

¹⁷Department of Energy, Office of Project Management, *Monthly DOE Project Portfolio Status Report* (Washington, D.C.: June 2024).

¹⁸The minor construction threshold—currently \$34 million—limits what NNSA can spend on these projects. GAO, *National Nuclear Security Administration: Better Performance Tracking and Documentation Needed for Minor Construction Projects*, [GAO-24-105848](#) (Washington, D.C.: Jan. 25, 2024).

¹⁹U.S. Department of Defense, *2022 Nuclear Posture Review: 2022 National Defense Strategy of the United States of America* (Washington, D.C.: Oct. 27, 2022).

NNSA's efforts are centered on simultaneously sustaining and modernizing U.S. nuclear weapons and modernizing and recapitalizing its production infrastructure.²⁰ To meet Department of Defense requirements and congressional direction, NNSA is currently undertaking seven nuclear weapon modernization programs. NNSA's cost estimates for these efforts range from approximately \$3 billion to \$25 billion each. In addition, NNSA plans to conduct two studies to evaluate options to meet potential future military needs.

Concurrent with and in service of NNSA's weapons modernization, NNSA is also modernizing its outdated production infrastructure for capabilities such as those needed to produce plutonium pits, uranium secondaries, high explosives, and non-nuclear components at scale.²¹ NNSA officials have described the \$200 billion effort to modernize, expand, and manufacture a modern, safe, and reliable U.S. arsenal in a limited time frame as the busiest it has been in 3 decades. NNSA also must maintain and plan for its research, development, testing, and evaluation mission—such as subcritical testing, high-powered lasers, and high-performance computing—as well as support its global security mission through nonproliferation and counterproliferation efforts. Accomplishment of all these missions is made more difficult, according to NNSA officials, by employee turnover.

NNSA has faced challenges meeting these missions in a timely and efficient manner. While NNSA successfully completed weapon modernization programs in 2018 and 2020, most major programs and projects have seen schedule slips in the past 5 years. For example, as we reported in December 2024, component issues in the April 2019 time frame caused schedule slips of about 1 year to 18 months for two modernization programs. These delays added about \$850 million to the programs' costs. In August 2023, we found that 18 of NNSA's major construction projects had a combined cost overrun of \$2.1 billion and schedule delays of about 10 years. Since then, cost increases and schedule delays have worsened in many cases. For example, in December 2024, DOE approved NNSA's revised schedule for the Uranium Processing Facility (UPF) at Y-12 that would take 6 more years to complete than planned. This delay will result in cost increases estimated to be up to \$3.8 billion, as of June 2024, according to agency documents. Further, as stated by defense officials in congressional testimony, NNSA will not meet statutory and military requirements to produce 80 plutonium pits per year during 2030. As we found in January 2023, NNSA will not have an overall idea of total program costs or when program objectives, to include the capability to produce 80 pits per year, will be reached until it establishes a comprehensive schedule or cost estimate.²²

²⁰The Department of Defense is also heavily involved in strategic nuclear modernization and is currently developing a new generation of delivery systems, including bombers and cruise missiles, land-based intercontinental ballistic missiles, and submarines carrying sea-launched ballistic missiles. NNSA is responsible for the nuclear warheads and bombs delivered by these systems. GAO, *Nuclear Enterprise: DOD and NNSA Could Further Enhance How They Manage Risk and Prioritize Efforts*, [GAO-22-104061](#) (Washington, D.C.: Jan. 20, 2022).

²¹Most nuclear weapon systems in the U.S. stockpile are two-stage weapons. The first stage (primary) consists of a hollow pit typically made of plutonium and other materials, surrounded by explosive material. The second stage (secondary) may consist of uranium, lithium, and other materials. The primary and the secondary together, housed within a radiation case, are referred to as the weapon's nuclear explosive package. When detonated, these nuclear components produce the weapon's explosive energy, or "yield." GAO, *Nuclear Weapons: Information on the National Nuclear Security Administration's Research Plan for Plutonium and Pit Aging*, [GAO-24-106740](#) (Washington, D.C.: Feb. 29, 2024).

²²GAO, *Nuclear Weapons: NNSA Does Not Have a Comprehensive Schedule or Cost Estimate for Pit Production Capability*, [GAO-23-104661](#) (Washington, D.C.: Jan. 12, 2023). We recommended that NNSA's pit production program develop a life cycle cost estimate for establishing NNSA's pit production capability that aligns with GAO cost estimating best practices. We also reiterated a previous recommendation that the program develop an integrated master schedule that meets best practices for schedule development. NNSA concurred with the recommendations and stated it would develop both, but efforts as of December 2024 have not been comprehensive nor met best practices.

NNSA's Enhanced Mission Delivery Initiative

The deteriorating international security environment, related growth in NNSA's workload, and the agency's challenges executing this modernization mission helped spur EMDI. NNSA officials noted that NNSA's missions are very time constrained and "no-fail." In January 2022, the NNSA Administrator established its EMDI team to review and provide recommendations to allow NNSA's nuclear security enterprise to better deliver its national and global security missions.

The EMDI team was assembled by the Associate Deputy Principal Administrator in January 2022. The team was led by three NNSA senior executives, two senior federal procurement officials (from NNSA and DOE's Office of Science), and one report coordinator. The team conducted about 250 interviews with senior leaders and experts (including mostly current and former NNSA officials and representatives from M&O contractors, as well as some Department of Defense employees) to inform its work. NNSA published its EMDI report in September 2022.²³

According to the report, the EMDI report authors scoped their work to (1) identify obstacles to the nuclear security enterprise's agility and responsiveness to new challenges and requirements and (2) assess the relationships between the federal and M&O workforces, including contractual arrangements and other processes.

Our High Risk List

Since the early 1990s, our High-Risk Series has focused attention on government operations with greater vulnerabilities to fraud, waste, abuse, and mismanagement, or that are in need of transformation to address economy, efficiency, or effectiveness challenges. Since 1990, aspects of DOE's—including NNSA's—acquisition and management have been on our High Risk List because DOE's record of inadequate management and oversight of contractors left the department vulnerable to fraud, waste, abuse, and mismanagement.

In 2023, we updated the title of this high-risk area from Contract and Project Management to Acquisition and Program Management for DOE's NNSA and Office of Environmental Management.²⁴ The title now more accurately represents the full range of challenges we have reported in this high-risk area since 1990. These challenges include issues such as the acquisition function, program and project management, and financial management. We found that NNSA needs to improve oversight of its acquisition processes and better manage its portfolios, programs, and projects.

We rate high-risk areas against five criteria. As of 2023, we determined that for NNSA's Acquisition and Program Management, four of the five criteria needed attention: capacity, action plan, monitoring, and demonstrated progress. We rated the remaining criterion, leadership commitment, as "met" in recognition that NNSA has shown leadership commitment to improving acquisition and program management.

²³National Nuclear Security Administration, *Evolving the Nuclear Security Enterprise: A Report of the Enhanced Mission Delivery Initiative* (EMDI) (Washington, D.C.: September 2022).

²⁴[GAO-23-106203](#).

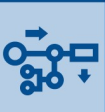
Leading Practices for Agency Reform

We have found that effective government transformation initiatives, such as EMDI, require a combination of people, processes, technologies, and other critical success factors to achieve results. Our June 2018 report describes leading practices that government agencies can use in agency reform efforts, including efforts to streamline and improve the efficiency and effectiveness of operations.²⁵ To develop these leading practices, we reviewed prior work and leading practices on organizational transformations; collaboration; government streamlining and efficiency; fragmentation, overlap, and duplication; high-risk; and on other agency long-standing management challenges. We also identified subject matter specialists knowledgeable about issues related to government reform and strategic human capital management who reviewed and commented on these practices.

Our June 2018 report describes 12 leading practices and identifies 58 key questions that can be used to assess the development and implementation of agency reforms. The 12 leading practices fall under four broad categories: (1) goals and outcomes, (2) process for developing reforms, (3) implementing the reforms, and (4) strategically managing the federal workforce. See figure 2 for a list of the leading practices and examples of key questions.

²⁵[GAO-18-427](#).

Figure 2: Leading Practices and Examples of Key Questions for Assessing Agency Reform Efforts

Categories of leading practices	Leading practices	Examples of key questions
Goals and Outcomes 	<i>What the agency was trying to achieve with its proposed reforms, and who should achieve it.</i> - Establishing Goals and Outcomes - Determining the Appropriate Role of the Federal Government	- To what extent has the agency established clear outcome-oriented goals and performance measures for the proposed reforms? - To what extent has the agency shown that the proposed reforms align with the agency's mission and strategic plan?
Process for Developing Reforms 	<i>What process the agency used to develop the proposed reforms, and what factors were considered.</i> - Involving Employees and Key Stakeholders - Using Data and Evidence - Addressing High-risk Areas and Long-standing Management Challenges - Addressing Fragmentation, Overlap, and Duplication	- How and to what extent has the agency consulted with the Congress, and other key stakeholders, to develop its proposed reforms? - How has the agency determined that the evidence contained sufficiently reliable data to support a business case or cost-benefit analysis of the reforms? - How does the agency plan to monitor the effects proposed reforms will have on high risk areas?
Implementing the Reforms 	<i>What practices the agency put in place to support the successful implementation of proposed reforms.</i> - Leadership Focus and Attention - Managing and Monitoring	- Has the agency established a dedicated implementation team that has the capacity, including staffing, resources, and change management, to manage the reform process? - Has the agency put processes in place to collect the needed data and evidence that will effectively measure the reforms' outcome-oriented goals?
Strategically Managing the Federal Workforce 	<i>What practices the agency used to support the development and implementation of its proposed reforms regarding its workforce.</i> - Employee Engagement - Strategic Workforce Planning - Workforce Reduction Strategies - Employee Performance Management	- How does the agency plan to sustain and strengthen employee engagement during and after the reforms? - What employment- and mission-related data has the agency identified to monitor progress of reform efforts and to ensure no adverse impact on agency mission, and how is it using that data?

Sources: GAO; GAO (icons). | GAO-25-106675

NNSA Recommended Changes to Its Operating Environment Based on Findings from Its EMDI Report

The EMDI report described a variety of issues that senior leaders and experts identified with the nuclear security enterprise's current operating environment and proposed 18 recommendations for changing its direction.²⁶ According to the EMDI report, NNSA's current way of operating will not enable the agency to meet its increasing mission workload. Further, the report found that the contractual arrangements, processes, and relationships between federal staff and M&O contractors must change to meet NNSA's mission goals. The

²⁶For purposes of this report, we use 18 as the number of recommendations because the EMDI report numbers them one through 18, and NNSA tracked implementation in that manner. However, recommendation #8 is a four-part recommendation (8a, 8b, 8c, and 8d), which, if counted separately, would be a total of 21 recommendations.

report also found that the nuclear security enterprise is facing “tremendous” workforce attraction and retention issues.

Each recommendation in the report generally has its own discussion of the relevant issues found by the EMDI report team, which appears in the text preceding the recommendation. According to NNSA officials responsible for preparing the EMDI report, the recommendations were based on interviews with senior leaders and findings in past reports from internal and external review panels.²⁷ At least 12 of the 18 recommendations are substantially similar to recommendations made in prior external reviews of the governance of the nuclear security enterprise and the special relationship between M&O contractors and the federal managers, indicating that challenges previously identified had not been fully resolved.

According to NNSA officials, the EMDI report’s recommendations address the need to increase the speed and efficiency of nuclear security enterprise modernization or improve workforce recruitment and retention. In addition, two recommendations are focused on strategic planning efforts. See appendix II for the full text of NNSA’s EMDI report recommendations. We summarize individual findings and recommendations below:

- **Contract award fees (EMDI 1):** The report found that the award and performance fees in NNSA’s current M&O contracts were not a motivator for the majority of the workforce across the enterprise, and the focus on such fees was not appropriate for the special M&O contract relationship. The report recommended that NNSA develop a plan to discontinue the award fee model.
- **Contract terms (EMDI 2):** The report found that contract competitions and transition periods, as well as extending contracts 1 or 2 years at a time, are disruptive. According to the report, the process of recompeting a contract absorbs contractor leadership attention for about 2 years of the contract—the year before the competition and the year of transition after the contract is awarded. The report recommended that NNSA should transition all M&O contracts to a 5-year base period with 5-year extensions.
- **Contract streamlining (EMDI 3):** The report found that there was opportunity to review and revise contracts so that both federal and M&O contractor leadership understand what elements are helpful or detrimental to the M&O model and to streamline the contract. The report recommended that NNSA and M&O contractors streamline existing NNSA contracts using the Office of Science Revolutionary Working Group and the SLAC National Accelerator Laboratory contracts as a model.²⁸
- **Contractor performance evaluation process (EMDI 4):** The report found that Performance Evaluation Measurement Plans and Performance Evaluation Reports were not consistently linked to NNSA’s strategic priorities and were viewed by M&O contractors as being too subjective and inconsistently applied. The report recommended that NNSA should adjust the Performance Evaluation Measurement Plan development and Performance Evaluation Report feedback process to be more transparent, allowing for meaningful feedback from M&O leadership prior to finalization.

²⁷External and internal panels have proposed a variety of reforms. For example, see Congressional Advisory Panel on the Governance of the Nuclear Security Enterprise, *A New Foundation for the Nuclear Enterprise*. This report is commonly referred to as the Augustine-Mies Panel. Commission to Review the Effectiveness of the National Energy Laboratories, *Securing America’s Future*. National Academies of Sciences, Engineering, and Medicine and the National Academy of Public Administration, Panel to Track and Assess Governance and Management Reform in the Nuclear Security Enterprise, *Governance and Management of the Nuclear Security Enterprise*.

²⁸In 2015, DOE established the Revolutionary Working Group to examine the laboratory contract structure at the SLAC National Accelerator Laboratory with the objective of developing a more streamlined approach to improve the partnership between the federal government and M&O contractor and reduce transactional oversight. SLAC National Accelerator Laboratory is an Office of Science site located in Stanford, California. Note: “SLAC” is not an acronym.

- **Controls on contractor salary and benefits (EMDI 5):** The report found that NNSA's internal controls on salary and benefits hinder M&O workforce competitiveness and efforts to recruit and retain qualified personnel. The report recommended that NNSA dramatically reduce or remove internal controls governing M&O employees' direct and variable compensation and allow the M&O contractors to manage their workforces' compensation packages within a given budget.
- **Workforce office space (EMDI 6):** The report found that inadequate workspaces negatively affect NNSA and M&O contractor workforce recruitment and retention. The report recommended that NNSA should improve and modernize its office, light laboratory, and light industrial spaces for its federal and M&O contractor personnel.
- **Retired annuitants (EMDI 7):** The report found that postemployment authorities covering pension-drawing contractor retirees were considered too limited and restrictive to retain much-needed M&O senior experts. The report recommended that NNSA work with the M&O contractors to develop a common plan to allow M&O annuitants and retirees to be compensated fairly for post-retirement service.
- **Risk aversion and processes, procedures, and requirements (EMDI 8a, 8b, 8c, and 8d):** The report found that "risk aversion"—the belief and related behavior that risks must be eliminated instead of managed or accepted—has deeply penetrated NNSA headquarters program offices, field offices, and M&O contractor leadership and workforces. It said that risk aversion has led to an accumulation and interpretation of requirements, procedures, and processes that must be completed before an action or decision is taken, which creates friction in the system. Additionally, the report found that multiple reviews and concurrences consume much time and engender lots of debate, but seldom substantially change the original product or plan content. The report also found that it was challenging to keep up with changes to existing requirements and implementation of newer requirements. According to the report, in a few cases, some requirements were developed without any or only limited consideration of effects on operations, activities, and associated facilities.

The report made a four-part recommendation (8a through 8d) that NNSA should (a) review major processes and procedures to reduce complexity and standardize implementation of requirements across sites and delegate certain approval authorities to field office staff; (b) explore giving M&O contractors greater approval and decision authority without prior federal review, shifting federal review to evaluation of outcomes; (c) establish deadlines for Headquarters approvals, with default approval if the deadline is hit without reply; and (d) require more formal justifications, cost and mission impact determinations, and coordination with impacted field offices and M&O contractors before accepting new or changed directives or requirements.

- **Subcontracting approvals (EMDI 9):** The report found that inconsistencies and perceived redundancies in NNSA's required, "low risk" consent reviews of planned M&O subcontracts increased process time with little benefit. The report recommended that NNSA should reduce approval requirements for M&O contractors' subcontracting actions and consent reviews considered "low risk."
- **Low-risk commercial-like construction (EMDI 10):** The report found construction of low complexity commercial-like buildings or light manufacturing spaces would be helped by reducing competing requirements in DOE orders and state or local construction codes. The report recommended that NNSA reduce requirements for low-risk commercial-like construction and request congressional approval to raise the monetary threshold for what is considered "minor" construction.
- **Risk-taking and risk acceptance (EMDI 11):** The report found that there is no reward for risk taking or risk acceptance, either by M&O contractors or federal staff. This leads, according to the report, to the laboratories being very conservative in testing requirements and overly restrictive in design requirements,

while continually striving for design perfection instead of simply meeting requirements. The report also said that this is counter to the M&O model and that the laboratories have forgotten how to manage risk, due in part to the roughly 40 percent of their workforce with less than 5 years of experience in the nuclear security enterprise. The report recommended that NNSA develop improved training for federal and contractor program managers on the special federal-contractor relationship. It also recommended that NNSA reward risk taking and associated risk management by M&O contractors and federal staff that balances mission, security, safety, and other requirements.

- **Integrated priorities (EMDI 12):** The report found that a lack of inter-program integration and prioritization within NNSA leads to “prioritization collisions” at the sites and inefficient communication to site management—both M&O contractor and field office. The report recommended that NNSA develop and provide an integrated and prioritized mission deliverable list across all aspects of the NNSA portfolio to each operating location.
- **Headquarters’ understanding of field (EMDI 13):** The report found there was a lack of empathy between disparate geographic workforces, with NNSA headquarters staff not recognizing the realities of competing program execution requirements in the field. The report recommended that NNSA increase opportunities for NNSA headquarters staff to work with NNSA field office and M&O workforces through rotations, details, or regular travel.
- **Contractors’ understanding of NNSA headquarters (EMDI 14):** The report found there was a lack of empathy between disparate geographic workforces, with distance from Washington, D.C., removing context and awareness of the pressures driving NNSA headquarters data calls and decisions from many M&O contractors’ employees’ views. The report recommended that NNSA develop a simplified approval process for Intergovernmental Personnel Agreements and a financially neutral approach for M&O employee rotational assignments to encourage effective interaction between headquarters and field expertise.²⁹
- **Data calls, reporting, and briefings (EMDI 15):** The report found that an increased number of data calls, reporting requirements, project controls, reviews, and briefings to federal program managers are burdensome and often do not add value.³⁰ The report recommended that NNSA federal program staff should make fewer data requests, have fewer “federal only” meetings, and allow M&O contractors to participate directly in briefings to internal and external groups, including the Department of Defense and Congress.
- **Process and program controls (EMDI 16):** The report found that accrued process and program controls and reviews consume significant manpower. The report recommended that NNSA’s Office of Defense Programs reduce process and program controls identified through a joint headquarters, field office, and M&O contractor group.
- **Design and production agencies (EMDI 17):** The report found that design and production agencies’ roles and responsibilities lacked clarity and balance. The report did not explain how the relationship was imbalanced or unequal, but said that a more balanced relationship is needed, with equal responsibility and accountability for final product delivery. The report recommended that NNSA’s Office of Defense Programs

²⁹Under the Intergovernmental Personnel Act, employees of the national laboratories can be detailed to work for DOE.

³⁰In February 2019, we issued a report on NNSA’s management of data calls to contractors. We found that information on data calls was not available because NNSA and M&O contractors did not routinely track data calls, and contractors did not identify specific data calls as burdensome. We also found that NNSA had taken several actions to better manage data calls to M&O contractors since 2015. GAO, *Nuclear Security Enterprise: NNSA’s Management of Data Calls to Contractors*, [GAO-19-286R](#) (Washington, D.C.: Feb. 26, 2019).

lead a review to rebalance the relationship between design agencies and production agencies to result in more equal authority and accountability.

- **Science, technology, and engineering infrastructure (EMDI 18):** The report found that there is not an integrated, long-term plan across the nuclear security enterprise to recapitalize and revitalize science and engineering capabilities and infrastructure, including everything from light laboratory and general experimental infrastructure to major new science and engineering capabilities. The report recommended that NNSA develop an integrated strategic plan to revitalize this science, technology, and engineering infrastructure.³¹

NNSA Considers Most EMDI Reforms Implemented but Has Not Formalized How It Will Evaluate Reforms’ Effectiveness or Plan for Future Improvement Efforts

NNSA considers most of the 15 reforms it developed under EMDI implemented, with implementation activities led by decentralized teams under a central reporting structure. Some of the reforms that were pursued changed significantly during implementation from their original conception. Although NNSA considers most EMDI reforms implemented, activities are continuing to monitor reforms, and NNSA plans to pursue further continuous improvement efforts. However, officials told us that the agency has not formalized its approach to governing these longer-term efforts.

Implementation of EMDI-Related Reforms Has Been Executed by Decentralized Teams from Across NNSA

NNSA ultimately developed 15 reforms associated with EMDI, which mostly, but not always, map to the 18 recommendations included in the EMDI report. See table 1 for EMDI reforms and a crosswalk to the original recommendations made in the September 2022 EMDI report.

Table 1: Crosswalk Between Enhanced Mission Delivery Initiative (EMDI) Reforms and Related EMDI Report Recommendations	
EMDI reform	Related EMDI report recommendation(s)
Management and Operating (M&O) Contract Term and Award Fee Model	• EMDI 1 • EMDI 2
Streamline M&O Prime Contracts	EMDI 3
Improve the Corporate Performance Evaluation Process	EMDI 4
Controls on Compensation	EMDI 5
Modernization of Workforce Office Space	EMDI 6
Use of Retired Annuitants	EMDI 7
Addressing Backlog of Telecommunications Security Reviews	Not applicable ^a
Improving the Concurrence Process	Not applicable ^a

³¹We have ongoing work to review this plan in response to a provision in the committee report accompanying S. 2226, a bill for the National Defense Authorization Act for Fiscal Year 2024. S. Rep. No. 118-58, at 387.

EMDI reform	Related EMDI report recommendation(s)
<i>Improving Modernization Programs Efficiency Pilot</i>	• EMDI 8A-D • EMDI 11 • EMDI 15 • EMDI 16 • EMDI 17
<i>Improve M&O Subcontracting Efficiency</i>	EMDI 9
<i>Waive DOE Project Order for Low-Risk Commercial-Like Construction</i>	EMDI 10
<i>Integrated Strategic Priorities List</i>	EMDI 12
<i>Improving Off-Site Assignments</i>	EMDI 13
<i>Increasing Rotations Between M&Os and NNSA</i>	EMDI 14
<i>Develop an Integrated Strategic Plan for Science, Technology & Engineering</i>	EMDI 18

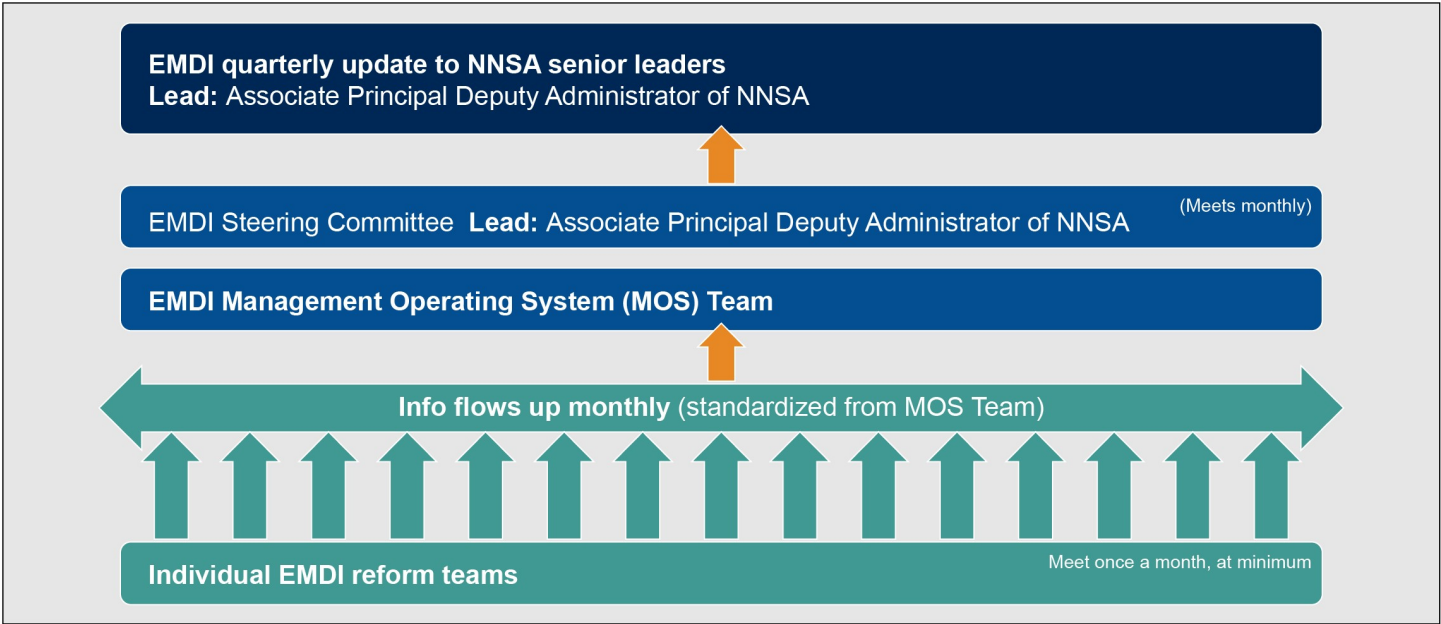
Source: GAO analysis of National Nuclear Security Administration (NNSA) documentation. | GAO-25-106675

^aNNSA officials included two reforms under EMDI implementation teams that were not directly mentioned in the EMDI report's 18 recommendations. NNSA officials told us these were included because they generally addressed EMDI themes of improving speed and efficiency.

NNSA created an implementation team to develop and implement each reform. NNSA officials stated that the 15 implementation teams are composed of employees working on these teams in addition to their regular duties, some of whom were recruited based on their specific positions, skills, and experience. Officials told us that some implementation teams are made up entirely of federal employees, while others include a mix of federal and M&O contractor employees.

According to agency officials, NNSA created an EMDI implementation structure in spring 2023 to monitor the progress of the implementation teams. As shown in figure 3, the implementation structure initially required implementation teams to report on their progress monthly through a Management Operating System Team and a Steering Committee—both dedicated to the EMDI effort—to senior NNSA leadership. Agency officials told us that the Management Operating System Team was assigned five full-time staff to support the effort. By September 2024 and as implementation progressed, this structure was disbanded in favor of each implementation team that was still conducting work reporting as needed to the Associate Principal Deputy Administrator of NNSA.

Figure 3: National Nuclear Security Administration’s (NNSA) Implementation Structure for Initial Implementation of Enhanced Mission Delivery Initiative (EMDI) Reforms



Source: GAO adaptation of NNSA presentation. | GAO-25-106675

As part of the EMDI implementation process, the Management Operating System Team provided a template for each implementation team to create a charter for the 15 EMDI reforms. The charters included fields for general information, such as a list of team members, statement of the problem, major deliverables, and performance metrics. Each implementation team completed a charter, which NNSA provided to us.

NNSA Considers Most EMDI Reforms Implemented, and Some Reforms Changed During Implementation from Their Original Conception

As of September 2024, NNSA officials considered 11 EMDI reforms implemented and four as ongoing. According to NNSA, “implemented” means that the EMDI implementation team is no longer taking any significant actions related to implementing the reform. It is not necessarily indicative of whether the underlying issue that was identified in the original EMDI report is addressed or not. Officials have stated that they will continue to monitor the implemented reforms and make modifications to them as necessary.

Four ongoing reforms are still conducting significant actions associated with implementing their reforms. For example, members of the *Improving Off-Site Assignments* reform implementation team stated that, as of April 2024, the team was continuing to search for new ways to share information throughout the agency regarding off-site assignments. Members also told us that the team was continuing to hold meetings to evaluate the agency’s policies for all types of off-site assignments and to identify ways NNSA can improve the program. See table 2 for a full list of EMDI reforms’ implementation status.

Table 2: National Nuclear Security Administration (NNSA) Assessment of Implementation Status of Enhanced Mission Delivery Initiative (EMDI) Reforms, as of September 2024

Title of EMDI reform	Implementation status as of September 2024
<i>M&O Contract Term and Award Fee Model</i>	Implemented
<i>Streamline M&O Prime Contracts</i>	Ongoing
<i>Improve the Corporate Performance Evaluation Process</i>	Implemented
<i>Controls on Compensation</i>	Implemented
<i>Modernization of Workforce Office Space</i>	Implemented
<i>Use of Retired Annuitants</i>	Implemented
<i>Addressing Backlog of Telecommunications Security Reviews</i>	Implemented
<i>Improving the Concurrence Process</i>	Implemented
<i>Improving Modernization Programs Efficiency Pilot</i>	Ongoing
<i>Improve M&O Subcontracting Efficiency</i>	Implemented
<i>Waive DOE Project Order for Low-Risk Commercial-Like Construction</i>	Implemented
<i>Integrated Strategic Priorities List</i>	Implemented
<i>Increasing Rotations Between M&Os and NNSA</i>	Ongoing
<i>Improving Off-Site Assignments</i>	Ongoing
<i>Develop an Integrated Strategic Plan for Science, Technology & Engineering</i>	Implemented

M&O = management and operating; DOE = Department of Energy

Source: NNSA EMDI Tracker. | GAO-25-106675

Note: NNSA has defined “implemented” to mean that the EMDI implementation team is no longer taking any significant actions related to implementing the reform. NNSA officials have stated that they will continue to monitor the implemented reforms and make modifications to them as necessary.

We found that in some cases the reforms NNSA has implemented, or is still working to implement, generally adhere to how the reforms were originally conceived while others have changed significantly. Because NNSA’s definition of “implemented” only considers the extent to which activities on the reform continue, identifying a reform as “implemented” does not necessarily mean it has met all its objectives. As noted above, in part due to decentralized implementation, as well as the varying scopes and types of reforms NNSA pursued, implementation of each reform has progressed at its own pace and with varying degrees of change from the original EMDI report conception. Each reform discussed below describes actions taken by the reform implementation teams and, if applicable, the extent to which the reform changed from its original conception.

- The *M&O Contract Term and Award Fee Model* team told us it decided not to pursue discontinuing the award fee contracting model. Team members said they made this decision because of concerns that, due to federal acquisition regulations on fixed fees, moving from award fees to entirely fixed fees would result in a smaller fee on a percentage basis and thus not serve as a proper incentive. The same team told us that NNSA would extend all existing M&O contracts (excluding the single contract in place at the time to manage and operate Pantex and Y-12, which was extended for Y-12 only) to their maximum term allowed through contract options. Additionally, team members told us that they worked with contracting officers to pursue an acquisition to manage and operate Pantex alone that would last 5 years with three possible 5-year extensions instead of the typical 5-year contract with five possible 1-year extensions. Although NNSA considers this reform implemented, the team stated that it will evaluate the new June 2024 Pantex contract as a model for future contracts as part of the agency’s EMDI follow-up activities.
- The *Streamline M&O Prime Contracts* team determined that the site contract model it had sought for the agency to implement was not applicable to its pilot site, the Lawrence Livermore National Laboratory

(Livermore), due to significant differences between the two sites such as complexity and hazardousness of mission and the organizational structure of the entities that comprise each M&O contractor. Instead of pursuing implementation of the site model contract, the team stated that it was working to improve the contracting process at Livermore by identifying and addressing “pain points.” The team created a list of over 200 pain points. After reviewing the pain points list, members of the team told us that most of the issues were not tied to contract requirements. Rather, officials said that pain points were generally caused by old policies and guidance that were either internal to Livermore or provided by the Livermore Field Office. As of April 2024, NNSA officials stated that this reform effort is ongoing and limited to Livermore and its field office.

- The *Improve the Corporate Performance Evaluation Process* team told us they worked with contracting officers to adjust the Performance Evaluation and Measurement Plans and Performance Evaluation Report feedback processes in a way that NNSA believes will be more transparent, have better alignment on priority timelines, and better identify key outcomes. In addition, the team stated that, as a result of this reform, NNSA has begun piloting a software tool to capture and track performance feedback from offices across NNSA that will also document NNSA’s process of concurrence and approval on performance ratings.³² We found that this reform largely adhered to its original conception, and NNSA considers this reform implemented.
- The *Controls on Compensation* team told us they decided not to pursue the reduction or removal of internal controls governing M&O contractor employees’ direct and variable compensation. NNSA officials said they are not pursuing this reform because it would be challenging to establish whether the costs for certain human resources actions are reasonable and to forecast the increased costs that benefits or salary enhancements would have in the future on the agency’s budget requests. In the team’s project charter, NNSA officials also cited compliance with compensation laws and policies as an obstacle to moving forward. Instead, the team told us they took related actions to provide M&O contractors more flexibility on compensation in 2024.³³ Specifically, in conjunction with M&O contractors, NNSA completed a review of industry surveys used in the agency’s annual Compensation Increase Plan, and NNSA officials said they modified the calendar year 2024 Compensation Increase Plan guidance accordingly.³⁴ NNSA considers this reform implemented.
- The *Modernization of Workforce Office Space* team told us it continued the implementation of office modernization efforts that were underway prior to EMDI, including utilizing new supply chain management strategies, a design library, and project execution board. Efforts also include completing construction of a significant amount of additional office space. According to NNSA documentation, some of these initiatives have been underway since at least 2016, such as the supply chain management strategies, which NNSA uses to increase quality, enhance buying power, and accelerate the delivery for repairing and replacing major common building systems. Officials felt that incorporating these ongoing efforts into EMDI would give

³²In February 2019, in an effort to encourage more transparency, we recommended that NNSA, among other things, specify the process for collecting contractor performance information and describe how officials are to ensure this information can be traced to rating determinations. We will assess implementation of NNSA’s software tool to determine whether it addresses our recommendation. GAO, *Department of Energy: Performance Evaluations Could Better Assess Management and Operating Contractor Costs*, [GAO-19-5](#) (Washington, D.C.: Feb. 26, 2019).

³³NNSA also authorized a one-time, mid-year compensation adjustment in 2022, before the EMDI report was published, which provided M&O contractors the flexibility to implement salary increases based on their needs. NNSA officials said EMDI efforts contributed to the agency’s decision to authorize the adjustment.

³⁴The Compensation Increase Plan is an analysis of the pay of M&O contractor employees’ jobs benchmarked to the pay of similar jobs in approved salary surveys to determine allowable salary increases at the labs, plants, and sites. These salary surveys are identified by M&O contractors and are approved by NNSA, according to NNSA officials. The Compensation Increase Plan is an annual requirement, and NNSA must approve if the proposed increase presented by the contractor exceeds the salary budget projection.

extra focus to their implementation teams and reinforce the importance of these projects. Officials stated that office space modernization efforts are being implemented across the enterprise and include construction of new facilities, development of standard office building designs, and streamlined construction contracting strategies. As of September 2024, officials said that these streamlining initiatives have been used to execute M&O contractor led modernization activities, but they are being evaluated for potential use for federally led acquisitions in the near future. NNSA considers this reform implemented.

- The *Use of Retired Annuitants* team sent out a poll to NNSA's M&O contractors regarding proposed changes to authorities for employing retired annuitants. The team stated that the survey results indicated a preference by most M&O contractors to keep their current systems rather than implement the changes envisioned through the original reform. Team members stated that the contractor at one site, Sandia National Laboratories, did make policy changes allowing annuitants to work more hours with less risk to their pension, but officials stated that these changes were underway prior to EMDI. NNSA considers this reform implemented.
- The *Addressing Backlog of Telecommunications Security Reviews* team told us it created a pilot program to train an NNSA employee to assist with the agency's backlog of telecommunications security reviews, which team members said ensure that agency telecommunications equipment meets specific security standards. As the next stage of the pilot program, the team assigned the fully trained employee to the Sandia Field Office for 1 year in October 2023. In June 2024, the team told us it completed the pilot and reported the average review time was 3 business days, which met the team's target of 10 business days or less. NNSA officials are evaluating the feasibility of implementing the concept at other sites and consider this reform implemented.
- The *Improving the Concurrence Process* team created a 6-month pilot program that allowed congressional reports to be signed by the NNSA Administrator without having to go through DOE review and raised the threshold for what requires concurrence from other NNSA offices with equity in the report, which officials told us is now the agency's standard procedure. Officials stated that this streamlined process reduced the time between NNSA approval of reports for release to Congress and actual release to Congress by over 70% in fiscal year 2024 compared to fiscal year 2022. NNSA considers this reform implemented.
- The *Improving Modernization Programs Efficiency Pilot* team stated that its pilot consists of multiple efforts to improve NNSA's nuclear weapons modernization processes. According to agency officials, senior leaders of NNSA's Office of Defense Programs approved the consolidation of these modernization efforts into one reform because they believed there was significant overlap between them. The team stated that activities associated with the pilot generally fall into four major categories: (1) clarifying roles; (2) streamlining and standardizing requirements; (3) rebuilding trust; and (4) achieving speed, agility, and resilience.

In December 2023, NNSA provided us with documentation of two pilot programs. According to the documents provided, the team created a product realization team (PRT) pilot, which modified attendance policies to reduce federal participation in PRT technical reviews on three weapons modernization programs, the W80-4, W87-1, and W93 programs.³⁵ Additionally, the team said it created a pilot that required federal officials and M&O contractor representatives to negotiate certain new, annual milestones

³⁵PRTs, which consist of experts from the M&O contractors, manage the technical aspects of the technology maturation process. For example, as weapon modernization programs proceed, PRTs assess the technology readiness level of each major component, providing important input to NNSA's program-level technology readiness assessments.

for the W80-4 and W87-1 programs with greater focus on specific program technical deliverables.³⁶ As of September 2024, NNSA officials stated that both the PRT pilot and the milestone pilot have been incorporated into current processes for weapons modernization programs as a regular standard of operation.

Officials also stated that four other projects have begun pilots and have timetables and deliverables through fiscal year 2026. These pilots include a change management pilot that aims to understand and approve changes to projects at the lowest possible levels of leadership; a clean sheet pilot that is investigating how NNSA can begin the production process at Pantex more quickly for certain types of programs; a schedule integration pilot that aims to develop an IT solution to integrate the schedules of various weapons programs; and a training pilot that aims to develop a training course on Federally Funded Research and Development Centers. However, as of September 2024, NNSA did not have a central plan or timeline for these activities.

Overall, this reform is considered ongoing. Because of its breadth and complexity, it is difficult to determine the extent to which reform activities adhere to the original conception of the reform.

- The *Improve M&O Subcontracting Efficiency* team told us it created a pilot program that established a middle category of subcontract reviews that no longer require full consent reviews with NNSA approval. Instead, some subcontracting actions now require only notification to NNSA. Actions \$100 million or over are still subject to review. We found that this reform largely adhered to its original conception, and NNSA considers this reform implemented.
- The *Waive DOE Project Order for Low-Risk Commercial-Like Construction* team helped institutionalize a pilot program begun in 2019, which used commercial construction practices and environmental, safety, and health standards, rather than DOE's Project Order requirements, for projects between the minor construction threshold and \$50 million.³⁷ See figure 4 for an image of a facility built under the pilot. As part of this reform, NNSA issued a supplemental directive in September 2023 that codified the pilot's streamlined project management practices for non-complex, non-nuclear construction projects between the minor construction threshold and \$100 million.³⁸ We found that this element of the reform largely adhered to its original conception, and NNSA considers it implemented. This reform also initially pursued raising the minor construction threshold (up to \$50 million or \$100 million). Instead, NNSA officials told us that they advocated for Congress to amend the minor construction threshold to allow for inflation-based increases. As a result of congressional action, the minor construction threshold was raised from \$25 million in 2021 to \$34 million in February 2024.³⁹ NNSA also considers this element of the reform implemented.

³⁶According to documentation provided by agency officials, NNSA's federal program offices have historically used certain milestones, known as level 2 milestones, to report adherence to and progress for programmatic activities. These level 2 milestones are part of a process the agency developed to support site-specific Performance Evaluation and Measurements Plans.

³⁷This pilot, called the Enhanced Minor Construction-Commercial pilot was laid out in National Nuclear Security Administration, *Memorandum for the Administrator: Approve the Pilot to Streamline the Delivery Model for Commercial-like Line Item Construction Projects* (Washington, D.C.: June 21, 2019).

³⁸National Nuclear Security Administration, *Project Management for Nonnuclear, Non-Complex Capital Asset Acquisition*, SD 413.3-7 (Washington, D.C.: Sept. 8, 2023).

³⁹50 U.S.C. § 2741 (as most recently amended by National Defense Authorization Act for Fiscal Year 2024, Pub. L. No. 118-31, div. C, title XXXII, § 3120, 137 Stat. 136, 787 (2023)).

Figure 4: Emergency Operations Center Built Under a Pilot Related to the *Waive DOE Project Order for Low-Risk Commercial-Like Construction Reform*



Y-12 Emergency Operations Center

Source: Y-12 Projects Management. | GAO-25-106675

- The *Integrated Strategic Priorities List* team told us members reached out to representatives of NNSA field offices to determine their priorities for the fiscal year. The team then integrated these priorities with NNSA's established mission priorities to create a single integrated strategic priorities list. The team believes that the integrated strategic priority list could be used to guide the allocation of NNSA resources and equipment in cases where projects have conflicting needs. We found that this reform largely adhered to its original conception, and NNSA considers this reform implemented. Officials have stated that the agency will continue to create a new integrated strategic priorities list for each fiscal year and to integrate development of the list with the budgeting and performance evaluation processes.
- The *Increasing Rotations Between M&O and NNSA Employees* team stated that the team is working to identify ways to improve the agency's rotational programs and share information about them to increase opportunities for NNSA headquarters staff to work with field office and M&O workforces through rotations, details, or regular travel. NNSA officials stated that such programs are currently limited by high program costs but are important because they increase mutual understanding among the agency's federal and contractor workforces. As of April 2024, NNSA officials stated that this reform effort is ongoing.
- The *Improving Off Site Assignments* team stated that it collected feedback from NNSA sites as part of its attempt to determine how the agency could increase employee participation in off-site assignment programs. NNSA officials stated that the length and relocation costs of the assignments can be a deterrent to potential participants, especially those who are early in their careers. As of April 2024, NNSA officials stated that this reform effort is ongoing, and that the team is working to revise NNSA policies and procedures governing M&O Off-Site Extended Duty Assignments.⁴⁰

⁴⁰Specifically, NNSA officials told us that they are working to revise National Nuclear Security Administration, [NNSA M&O Off-Site Extended Duty Assignments](#), NAP 540.2 (Washington, D.C.: Nov. 22, 2016).

The *Develop an Integrated Strategic Plan for Science, Technology, & Engineering* team developed an integrated strategic plan for science, technology, and engineering, which NNSA approved in September 2024. NNSA considers this reform implemented.⁴¹

NNSA Does Not Have a Formal Continuous Improvement Governance Structure in Place to Evaluate the Effectiveness of EMDI Reforms or to Implement Future Reform Efforts

Project Management Institute, Inc. (PMI) on Continuous Improvement

PMI is a not-for-profit association that provides global standards for project, program, and portfolio management. These standards are generally recognized as leading practices and used worldwide by private companies, nonprofits, and others. PMI has also published guidance complementary to these foundational standards. For example, PMI has developed and published a set of continuous improvement practices that the association says need to be considered as part of continuous improvement efforts. One such practice is that agencies should “govern improvement.” PMI states that as part of continuous improvement, “there needs to be some way to monitor and report on, preferably in a lightweight and streamlined manner, the improvement.”

Source: PMI, Inc. | GAO-25-106675

According to NNSA, the organizational structure that was in place initially to implement EMDI reforms gradually disbanded as EMDI implementation progressed, but implementation teams working on ongoing reforms continue their work and report directly to the office of the Associate Principal Deputy Administrator. As described above, the members of these implementation teams are performing this work in addition to their regular duties. Further, for reforms that NNSA considers implemented, officials told us that some activities will continue, including monitoring the reforms and making adjustments to them as needed. NNSA officials have also stated that the agency will pursue additional reform efforts after EMDI. For example, NNSA senior officials described EMDI in March 2023 as a starting point for the agency’s efforts to improve the speed and efficiency of the nuclear security enterprise and to improve employee recruitment and retention.

According to senior NNSA officials, the Office of the Associate Principal Deputy Administrator has taken on the role of overseeing reform efforts broadly. However, these officials also told us that this role has not been formalized as such in agency organizational descriptions of office functions and responsibilities. Further, these officials told us that they have not established processes for governing reform efforts, such as expectations for who is responsible for long-term monitoring of EMDI reforms or reporting on them, or for pursuing anticipated future continuous improvement efforts. According to senior NNSA officials, these actions have not yet been taken because the efforts are new and have been evolving, but they recognized the importance of moving in this direction.

According to the Project Management Institute, Inc.’s Continuous Improvement Practices, organizations should govern improvement by having a way to monitor and report on their improvement activities, preferably in a lightweight and streamlined manner. These monitoring efforts should include development of improvement metrics to measure improvement and whether the improvement is achieving its goals. Without defining how it will govern the work to implement ongoing EMDI reforms, monitor implemented EMDI reforms, and pursue continuous improvement, NNSA is less likely to be able to determine whether its reforms achieve desired goals. Additionally, NNSA may be challenged to maintain the continuity of EMDI reforms and continuous

⁴¹National Nuclear Security Administration, *Developing an Integrated Plan for Revitalization of NNSA Science, Technology, and Engineering* (Washington, D.C.: Sept. 17, 2024). We have ongoing work to review this plan in response to a provision in the committee report accompanying S. 2226, a bill for the National Defense Authorization Act for Fiscal Year 2024. S. Rep. No. 118-58, at 387.

improvement efforts in cases of employee turnover and leadership changes if NNSA's Office of the Associate Principal Deputy Administrator does not have a defined governance structure to carry out monitoring and reporting on EMDI reforms and continuous improvement efforts.

As of September 2024, NNSA has made at least three attempts to pursue continuous improvement efforts post-EMDI, none of which has moved into implementation, further demonstrating the importance of developing a governance approach. It also hired consultants to focus on federal workforce initiatives—a significant shift from the agency's original EMDI efforts that were mainly focused on M&O contractors and the federal-contractor relationship.⁴² Officials told us this contract has ended, but the agency plans to create a request for proposals to hire a consultant with expertise in organizational transformation to continue such efforts. Specifically, NNSA continuous improvement efforts have included the following:

Unlocking Latent Capacity: NNSA officials told us that the agency initially planned to implement an EMDI follow-on effort that they named "Unlocking Latent Capacity." Officials subsequently told us that this title did not catch on among the agency's workforce, and probably would have limited the initiative's effectiveness.

EMDI 2.0: Because of the concerns above, NNSA developed a new initiative to replace Unlocking Latent Capacity. Senior officials referred to this second version of post-EMDI activities as "EMDI 2.0" in public remarks at a conference in February 2024. According to agency documentation, EMDI 2.0 involved reforms that were aimed at improving the agency's communication, workforce and training, risk management, and systems and processes.

Senior officials told us that they hoped EMDI 2.0 would transform EMDI into a broader effort led mainly by the agency's middle leadership. For example, a senior NNSA official stated in February 2024 that EMDI 2.0 would involve many small-scale initiatives and allow lower-level NNSA officials to look for ways to do their jobs better with the overall goal of reducing the agency's aversion to risk. However, officials told us that due to the initiative's association with the agency's original EMDI efforts, NNSA employees perceived EMDI 2.0 as a top-down initiative that depended on guidance from senior leadership. As a result, EMDI 2.0 did not inspire the type of agencywide participation that senior leadership had intended to promote.

Continuous improvement: As of September 2024, officials told us that the agency had begun pursuing a yet unnamed continuous improvement effort. Without establishing how it will manage, monitor, and report on the status of those efforts, NNSA may be limited in its ability to determine whether EMDI reforms and continuous improvement are achieving their goals.

NNSA's Implementation of EMDI Reforms Related to GAO High-Risk Areas Partially Aligned with Selected Leading Practices for Agency Reform

We found that NNSA's implementation plans for the six high-risk EMDI reforms we reviewed partially aligned with selected leading practices for successfully achieving agency reform. We selected six out of 15 reforms for review that we identified as at high risk for fraud, waste, abuse, or mismanagement. While we focused our

⁴²Officials told us that EMDI was unpopular within NNSA because the agency's federal workforce felt left out. Officials also stated that there was a perception within the agency that EMDI focused too heavily on the needs of the M&O contractors.

analysis on the implementation plans and associated documentation for these six reforms, the leading practices are applicable to all 15 reforms. Our past work has shown that agency reforms are more likely to be successful in refocusing and enhancing agency missions and achieving efficiency and effectiveness if they followed these leading practices.⁴³

EMDI reforms are relevant to several high-risk functions at NNSA and long-standing management challenges. For example, three of the six reforms we reviewed are about contracting practices, which are a key focus of the DOE Acquisition and Program Management high-risk area that has been on GAO's High Risk List for over 3 decades. A fourth reform, the *Improving Modernization Programs Efficiency Pilot*, is also related to DOE Acquisition and Program Management. Nuclear weapons modernization programs, such as the W87-1 and W80-4, are among NNSA's largest and most complex acquisition programs—each costing tens of billions of dollars—and are considered by NNSA and Congress to be major acquisitions. In addition, NNSA is simultaneously modernizing production infrastructure—the facilities and programs needed to modernize U.S. nuclear weapons. Challenges with capital asset acquisitions—which include large construction projects—for this production infrastructure have also figured prominently in our reporting on this area of GAO's High Risk List.⁴⁴

We identified the high-risk reforms by assessing whether NNSA's EMDI reform implementation plans (1) were related to areas that are at high risk for fraud, waste, abuse, or mismanagement, as we have described in our High-Risk Series; and (2) had actions focused on multiple sites. Six reforms met those two criteria. We then evaluated NNSA's implementation plans for these six selected high-risk EMDI reforms against eight leading practices for agency reform.⁴⁵ Of the six reforms we selected, NNSA considers five to be implemented. The one ongoing reform is the *Improving Modernization Programs Efficiency Pilot*.⁴⁶ See figure 5 for the alignment of these high-risk reforms with the eight selected leading practices. In particular, NNSA's plans were most closely aligned with the selected leading reform practices on leadership focus and attention.

⁴³GAO-18-427.

⁴⁴DOE defines a capital asset as land, structures, equipment, and intellectual property, which are used by the federal government and have a useful life of 2 years or more.

⁴⁵GAO-18-427. We selected 8 of 12 leading practices for agency reform that were most applicable to assessing EMDI reforms. See appendix I for a full description of our scope and methodology.

⁴⁶While one reform is ongoing, the basis for our assessment of the reforms is their implementation plans and associated documentation, which are all completed.

Figure 5: Alignment of Selected Enhanced Mission Delivery Initiative (EMDI) Reforms with Leading Practices for Agency Reform

Title of EMDI reform	Leading practices							
	Establishing goals and outcomes	Involving employees and key stakeholders	Addressing high-risk areas and management challenges	Using data and evidence	Leadership focus and attention	Managing and monitoring	Strategic workforce planning	Employee engagement
M&O contract term and award fee model	Partially aligned	Partially aligned	Minimally aligned	Minimally aligned	Aligned	Partially aligned	Minimally aligned	Minimally aligned
Improve the corporate performance evaluation process	Partially aligned	Partially aligned	Minimally aligned	Minimally aligned	Aligned	Partially aligned	Minimally aligned	Aligned
Modernization of workforce office space	Partially aligned	Partially aligned	Minimally aligned	Partially aligned	Aligned	Partially aligned	Minimally aligned	Aligned
Improving modernization programs efficiency pilot	Partially aligned	Partially aligned	Minimally aligned	Minimally aligned	Partially aligned	Minimally aligned	Minimally aligned	Partially aligned
Improve M&O subcontracting efficiency	Partially aligned	Partially aligned	Minimally aligned	Minimally aligned	Partially aligned	Aligned	Minimally aligned	Aligned
Waive DOE project order for low-risk commercial-like construction	Partially aligned	Partially aligned	Minimally aligned	Aligned	Aligned	Partially aligned	Minimally aligned	Partially aligned

■ Aligned
 ■ Partially aligned
 ■ Minimally aligned
 ■ Not aligned

M&O = management and operating; DOE = Department of Energy

Source: GAO analysis of National Nuclear Security Administration documents. | GAO-25-106675

Note: We identified six EMDI reforms that (1) related to one of our high-risk areas and (2) had actions focused on multiple sites.

Establishing goals and outcomes. All six EMDI reforms we reviewed partially aligned with leading practices for establishing goals and outcomes in agency reform efforts. Our prior work shows that establishing a mission-driven strategy and identifying specific desired outcomes to guide that strategy are critical to developing reforms and achieving intended results.⁴⁷ For example, designing proposed reforms to achieve specific, identifiable goals encourages decisionmakers to reach a shared understanding of the purpose of the reforms. Further, agreement on specific goals can help decisionmakers determine what problems genuinely need to be fixed, how to balance differing objectives, and what steps need to be taken to create long-term gains.

We found that for several of the selected high-risk reforms, NNSA did not clearly articulate reform goals and how achieving those goals would achieve desired outcomes. EMDI implementation team charters often used EMDI report language verbatim; however, as noted above, many EMDI reform activities changed during implementation from the original recommendations in the report. For several reforms, NNSA's implementation

⁴⁷GAO-18-427. Outcomes are defined as the desired results of products and services delivered by a program or activity.

team charters either did not document the goals the reform was trying to achieve or were not updated to reflect changes to goals as reform efforts changed.

For example, a stated outcome of the reform *Modernization of Workforce Office Space* was improved employee recruitment and retention. However, NNSA did not provide documentation showing clear connections between the main goal and success indicator of the reform—increased square footage of new or improved office, light lab, and light industrial space—and the outcome of improved recruitment and retention. Further, the *Waive DOE Project Order for Low-Risk Commercial-Like Construction* reform implementation team listed different goals and success indicators to measure those goals in the reform’s charter, success indicator form, and other documents as the reform changed during implementation—making it unclear whether increases to the minor construction threshold remained a goal of the reform. Without documentation with clearly linked goals—especially as reform efforts change—it is difficult to align the results of a program’s products and services with how well or if the reform has been executed.

Additionally, EMDI reform implementation plans did not always ensure that goals were clearly linked to outcomes. For example, NNSA’s charter for its *Improving Modernization Programs Efficiency Pilot* reforms includes several efficiency related goals, such as improvement in efficiency of requirements and procedures and increased efficiency in mission execution. However, the outcomes and performance measures in NNSA’s success indicator forms were “adherence to pilot rules” and “effectiveness of pilot rules.” These were to be measured through a qualitative survey of participants, not through explicit measures of efficiency. The success indicator forms and implementation memo also did not include plans for collecting data on improved efficiency. NNSA officials stated that the team is exploring appropriate metrics to measure the effectiveness of the ongoing pilots.

Without the establishment of clear goals and outcomes, reforms may not ultimately address the issues they set out to address. Additionally, without clear goals and associated outcomes, NNSA may not be able to measure whether reforms are achieving the desired result. Further, the lack of clear goals and outcomes will make mandated congressional reporting on whether all EMDI reforms are achieving desired results challenging.⁴⁸ This is applicable to all reforms—implemented or ongoing, high risk or not—that have not established clear goals and outcomes.

Involving employees and key stakeholders. All six EMDI reforms we reviewed partially aligned with leading practices for involving employees and key stakeholders during the development of reforms. Our prior work has shown that involving employees, Congress, and other key stakeholders directly and continuously in the development of any major agency reform increases effectiveness of organizational change and makes stakeholders more likely to accept and embrace the new changes.⁴⁹ Further, involving employees and stakeholders helps facilitate the development of reform goals and objectives and incorporate insights from a frontline perspective. For instance, key stakeholders can provide insights based on their roles that can improve the development of reforms and identify obstacles and challenges that proposed reforms may face.

⁴⁸The National Defense Authorization Act for Fiscal Year 2024 includes a provision directing NNSA to provide briefings, concurrent with budget submissions for fiscal years 2025 through 2029, on the status of the implementation of the 18 principal recommendations and associated sub-elements of such recommendations, including whether the outcome of implementation is achieving the desired result, among other things. Pub. L. No. 118-31, § 3134, 137 Stat. 136, 805 (2023). As of September 2024, NNSA’s Office of Cost Estimating and Program Evaluation was developing its first report to in response to this provision.

⁴⁹[GAO-18-427](#).

EMDI implementation teams provided evidence of efforts to involve employees through communication and outreach, such as town halls, newsletters, and periodic working group meetings.⁵⁰ For example, the *Improve M&O Subcontracting Efficiency* implementation team engaged employees through regular meetings. In addition, the implementation team for the *Improve the Corporate Performance Evaluation Process* reform met regularly with program offices and field offices, holding 26 meetings from October 2023 to April 2024. While the EMDI reforms we reviewed conducted various communications and outreach to employees, EMDI teams did not have a documented strategy for listening and responding to the concerns of employees regarding the effects of the potential reforms. Having a two-way communications strategy is central to forming effective internal and external partnerships that are vital to the success of any organization and can ensure all employee and key stakeholder voices are heard in the development of reforms.

EMDI teams provided limited or no evidence of communication with other key stakeholders and customers such as Congress, the Defense Nuclear Facilities Safety Board, and DOE components such as the Office of Enterprise Assessments and Office of Project Management.⁵¹ For example, officials from those DOE components and the Defense Nuclear Facilities Safety Board stated that they had not been contacted by either the EMDI report team or any EMDI implementation teams as the EMDI reforms were being developed. These officials also expressed concerns regarding how potential changes to risk acceptance and risk management could affect their areas of responsibility.

NNSA officials stated that there was a discussion with DOE's Office of Project Management and Congress regarding the non-nuclear, commercial like construction pilot that formed the basis of EMDI report recommendation 10; however, those interactions predated the EMDI report. Further, NNSA has provided some status updates on EMDI reform implementation; however, those updates occurred after the reforms were already developed.

Similar to communication efforts with employees, EMDI teams did not have a documented strategy for listening and responding to the concerns of key stakeholders regarding the effects of the potential reforms. A documented strategy could have facilitated outreach to key stakeholders such as Congress and the Defense Nuclear Facilities Safety Board.

Not involving key stakeholders can reduce the effectiveness of organizational change, as well as the likelihood those stakeholders will accept and embrace the new changes of NNSA's reforms. In not including key stakeholders, NNSA's EMDI implementation teams may have missed insights from those stakeholders that could have improved the reforms or identified obstacles or challenges that the reforms may face. NNSA has the opportunity to improve communication with stakeholders for future reforms and continuous improvement efforts.

Addressing high-risk areas and long-standing management challenges. We found that all six EMDI reforms we reviewed minimally aligned with leading practices for addressing high-risk areas and long-standing management challenges. Our prior work has shown that reforms improving the effectiveness and responsiveness of the federal government often require addressing long-standing weaknesses in how some

⁵⁰We did not assess the effectiveness of these communications and outreach or whether employees felt engaged with EMDI.

⁵¹The mission of the Defense Nuclear Facilities Safety Board is to provide independent analysis, advice, and recommendations to the Secretary of Energy to inform the Secretary, in the role of the Secretary as operator and regulator of the defense nuclear facilities of DOE, in providing adequate protection of public health and safety at such defense nuclear facilities, including with respect to the health and safety of employees and contractors at such facilities.

federal programs and agencies operate.⁵² Agency reforms provide an opportunity to address the high-risk areas and government-wide challenges to which we and others have called attention to for their vulnerability to fraud, waste, abuse, and mismanagement, or are in need of transformation.

Our High-Risk Series, DOE Office of Inspector General Management Challenges reports, and other reviews have noted a long, persistent history of schedule delays and cost overruns in NNSA programs and projects and concerns regarding the effectiveness of NNSA's management of these efforts. For example, as of June 2024, more than half of NNSA's construction projects with approved performance baselines had breached or were in danger of breaching their cost and schedule baselines. In our High-Risk Series and our other reports, we have recommended that NNSA's management could be improved through the use of important program and project management tools by federal managers, such as integrated master schedules, lifecycle cost estimates, and earned value management.⁵³ NNSA has generally accepted these recommendations, but the agency's progress in implementing them has been mixed. In addition, our high-risk series has frequently found inadequate oversight of contractors and a need to identify root causes of long-standing acquisition and management challenges.

For this report, we found that NNSA's actions minimally aligned with leading practices because EMDI implementation plans generally did not consider how proposed reforms would address high-risk concerns, either to improve conditions that have resulted in a program or function being considered high risk or to ensure that reform activities would not exacerbate these concerns. Specifically, EMDI implementation plans did not mention improving the use of program and project management tools such as schedules and cost estimates. In some cases, the plans indicated the potential to decrease the involvement of federal program and project managers and use of these tools, as well as potentially decrease federal oversight of contractors. For example, the *Improving Modernization Programs Efficiency Pilot* reform calls for NNSA to delegate approval and decision authority to M&O contractors and reduce federal review; however, its implementation plans did not examine how these changes would affect program and project management risks or risks of fraud, waste, and abuse.

Further, all six EMDI implementation plans did not propose to monitor the effects of the reforms on high-risk areas—such as acquisition and program management—or address risks of fraud, waste, and abuse. In several cases, NNSA officials noted that they did not discuss previously identified high-risk areas and long-standing management challenges because those issues were not mentioned in the September 2022 EMDI report.

The importance of examining how reforms could affect program and project management risks and the potential for negative effects from reduced federal review and oversight of contractors is highlighted by reports on the Uranium Processing Facility's cost and schedule growth. NNSA's March 2024 root cause analysis cited contractor performance below expectations as a root cause for the project exceeding its approved cost and schedule parameters. Further, the Y-12 project management office identified a focus on contractor professional judgement over federal project management opinion as a causal factor for why this poor performance and the associated \$4 billion cost increase and 6-year schedule delay were not identified and communicated sooner.

Not considering how reforms could ameliorate or exacerbate high-risk areas could reduce the effectiveness of NNSA's EMDI reforms that are relevant to high-risk areas or to future relevant reforms. Further, by not monitoring the effects of relevant reforms on high-risk areas or the potential for fraud, waste, and abuse, NNSA

⁵²GAO-18-427.

⁵³GAO-23-106203.

will not know if reforms could potentially perpetuate long-standing challenges or increase risks of fraud, waste, and abuse.

Using data and evidence. We found that five of the six EMDI reforms we reviewed either minimally or partially aligned with leading practices for use of data and evidence in developing agency reforms. Our prior work has shown that agencies are better equipped to address management and performance challenges when managers effectively use data and evidence, such as from program evaluations and performance data, to inform development and design of reforms.⁵⁴ When reforming a given program, the use of data and evidence is critical for setting program priorities and allocating resources and for taking corrective action to solve performance problems and ultimately improve results.

Where NNSA's EMDI reforms partially or minimally aligned with this leading practice, the implementation teams for those reforms relied primarily on testimonial evidence—interviews with NNSA officials and M&O contractor representatives—to develop EMDI reforms and generally did not seek or use other types of data and evidence in developing the reforms. Senior NNSA officials stated in March 2024 that NNSA did not gather much quantitative data for EMDI. Implementation team officials noted that they relied on the EMDI report when developing their reforms, which was based on interviews and expert opinion, not other types of data such as program or project performance or workforce data.

Our prior work and guidance from Office of Management and Budget recommend that agencies build a portfolio of high-quality, credible sources of evidence—rather than a single type—to support decision-making.⁵⁵ Further, according to Office of Management and Budget, different sources of evidence have varying degrees of credibility. Generally, using multiple types of data enhances credibility and the credibility of testimonial evidence of the kind that informed the EMDI report is enhanced when supported by other evidence. In not using evidence such as program evaluations and performance data, NNSA was not well positioned to receive the benefits of potentially highly credible sources. NNSA was also at risk of misidentifying root causes for issues, which could result in poorly designed reforms or reforms that ultimately do not achieve their objective because they are aimed at the wrong cause.

For example, the implementation plans for the *Improving Modernization Programs Efficiency Pilot* reform did not include documented business cases or root cause analyses, and they did not use performance data to develop the reforms. Officials said they relied on the EMDI report, which was based on expert interviews. Further, the *Modernization of Workforce Office Space* reform linked office space to recruitment and retention without citing evidence about how or why the two are related in order to inform space planning.

In contrast, the *Waive DOE Project Order for Low-Risk Commercial-Like Construction* reform did align with leading practices of using data and evidence. The implementation team used data and evidence such as a program evaluation of a pilot of streamlined requirements for non-complex, non-nuclear construction as well as other construction cost and schedule data to develop the reform.

⁵⁴GAO-18-427.

⁵⁵GAO, *Evidence-Based Policymaking: Practices to Help Manage and Assess the Results of Federal Efforts*, GAO-23-105460 (Washington, D.C.: July 12, 2023). Office of Management and Budget, *Phase 1 Implementation of the Foundations for Evidence-Based Policymaking Act of 2018: Learning Agendas, Personnel, and Planning Guidance*, Memorandum M-19-23 (Washington, D.C.: July 10, 2019).

Without the effective, consistent use of a portfolio of high-quality, credible data and evidence to develop ongoing and future reforms, NNSA does not have assurance it is properly setting priorities or allocating resources, nor that it is taking the right corrective action or that the actions taken could achieve the goals of the reform.

Leadership focus and attention. Four of the six EMDI reforms we reviewed generally aligned with leading practices for leadership focus and attention. Our prior work on organizational transformations shows that incorporating change management practices improves the likelihood of successful reforms and that organizational transformations, such as reforms, should be led by a dedicated team of leaders to manage the effort.⁵⁶ All EMDI reforms clearly identified the leadership responsible and the implementation team leadership.

Two reforms partially aligned with leading practices for leadership focus and attention. For these reforms, NNSA had minimal documentation or evidence that the agency provided the reforms' implementation teams with sufficient resources and sufficient capacity to manage the reform process. However, in those cases, NNSA officials told us that they had sufficient capacity and resources and would provide what was needed.

Managing and monitoring. Five of the six EMDI reforms we reviewed either partially or minimally aligned with leading practices for managing and monitoring reform efforts. We have found that agencies should put processes in place to collect the needed data and evidence that will effectively manage and monitor the reforms' outcome-oriented goals.⁵⁷ This leading practice builds on some of the previously discussed leading practices for developing reforms in that an agency must have developed clear goals and outcomes in order to later monitor against them.

Some EMDI reforms we reviewed did not have processes in place to collect the needed monitoring data and evidence to measure if goals are being achieved.⁵⁸ In part, NNSA did not develop data and evidence collection processes for managing and monitoring some reforms because, as noted above, it had not established clear milestones, deliverables, or data-based performance measures clearly linked to goals and outcomes in developing the reforms.

For example, NNSA's *Improving Modernization Programs Efficiency Pilot* reform minimally aligned with the leading practice. The reform's charter stated a goal to improve efficiency in the nuclear security enterprise, and an implementation memo noted plans to gather feedback from entities involved through a qualitative survey. However, the implementation plans did not identify a process to collect data and evidence needed to measure goals related to efficiency.

Without developing processes to collect the needed data and evidence to manage and monitor reforms against their goals, NNSA may not be able to effectively measure if implemented and ongoing reforms are achieving their goals. Further, without collecting the needed monitoring data and evidence, NNSA may have difficulty meeting a requirement for the agency to report to Congress on whether implementation of all EMDI reforms is

⁵⁶GAO-18-427.

⁵⁷GAO-18-427.

⁵⁸In September 2024, NNSA officials stated that they were working on development of appropriate metrics to measure effectiveness of the reforms.

achieving the desired results.⁵⁹ Finally, future continuous improvement efforts would benefit from developing processes to collect monitoring data and evidence from their inception.

Strategic workforce planning. All six EMDI reforms we reviewed minimally aligned with leading practices for strategic workforce planning for reform efforts. Our prior work has found that at the heart of any serious change management initiative are the people—because people define the organization’s culture, drive its performance, and embody its knowledge base.⁶⁰ This leading practice has several elements including (1) strategic planning to assess workforce needs and whether the agency will have the needed resources and capacity in place for the proposed reforms, (2) assessing the effects of the proposed agency reforms on the current and future workforce, and (3) identifying employment and mission-related data to ensure reform efforts do not adversely impact agency mission. Not conducting workforce planning, assessing the potential effects of reforms on the workforce, or assessing the potential for adverse effects on agency mission could also lead to unsuccessful change or mission failures.

With regard to conducting strategic workforce planning and assessing workforce needs, NNSA officials cited broad agencywide strategic workforce planning efforts that are underway. However, the six EMDI reforms we reviewed minimally aligned with this leading practice because the EMDI implementation plans we reviewed did not document workforce needs or planning for how reforms would affect federal or contractor workforces. For example, while several of the reforms we reviewed entailed changes in federal and contractor roles—including in the contractor performance evaluation, subcontracting oversight, and weapon modernization processes—implementation plans did not include documented workforce needs or workforce planning.

Further, the plans did not include assessments of the effects of the proposed agency reforms on the current and future workforce or potential adverse impacts or risks to agency mission. Implementation plans we reviewed also did not identify employment and mission-related data, document these data, or provide plans to collect data regarding potential adverse impacts or risks to agency mission. For example, even though the EMDI reforms we assessed were related to areas critical to mission success and at high risk for fraud, waste, and abuse—such as acquisition and program management—implementation plans for changes in contract oversight and the roles of federal managers did not assess potential adverse impacts to those federal managers or to NNSA’s mission. During our review, several current and former federal managers expressed concerns about some EMDI reforms potentially hindering their ability to oversee contractors.

Without assessing specific workforce needs, assessing the effects of implemented and ongoing reforms on the current and future workforce or identifying potential risks to agency mission, NNSA may not have the right people to help ensure successful change or be aware of issues that could lead to unsuccessful change by negatively affecting the mission.

Employee engagement. Five of the six EMDI reforms we reviewed aligned or partially aligned with leading practices for employee engagement during reform implementation. Research on both private- and public-sector organizations has found that increased levels of engagement—generally defined as the sense of purpose and commitment employees feel toward their employer and its mission—can lead to better organizational performance.⁶¹ Communication from management is a key driver of employee engagement and,

⁵⁹National Defense Authorization Act for Fiscal Year 2024, Pub. L. No. 118-31, §3134, 137 Stat. 136, 805 (2023).

⁶⁰GAO-18-427.

⁶¹GAO-18-427.

similar to efforts for other key stakeholders as discussed above, having a two-way communications strategy that listens and responds to concerns of employees can help ensure employees' voices are heard.

In general, we found evidence of EMDI reforms' efforts to strengthen employee engagement through activities such as town halls and an agencywide employee newsletter. In addition, some implementation teams held working group meetings to engage employees at several levels throughout the nuclear security enterprise. For example, the implementation team for the *Improve M&O Subcontracting Efficiency* reform held monthly meetings that included cross-sections of employees and holds a community of practice as a weekly forum for federal and M&O contractor employees and NNSA managers to share best practices.

Some EMDI reforms were assessed to have partially aligned with leading practices because implementation plans did not clearly demonstrate two-way communication, and several plans lacked a documented two-way communication strategy. NNSA officials told us that they will continue to engage employees on the reforms in many ways, including expanded working group meetings and utilizing EMDI ambassadors. However, without a documented strategy NNSA does not have assurance its communications reach all groups, and important employee voices could be missed.

Conclusions

Through EMDI, NNSA has indicated a desire to improve efficiency and effectiveness and enhance the nuclear security enterprise's ability to achieve its critical missions. NNSA has implemented 11 reforms identified through EMDI and plans to continue implementing the other four EMDI reforms, monitor those that are implemented and ongoing, and modify reforms as necessary. NNSA has also indicated plans to pursue future, as yet undefined, continuous improvement and reform efforts. However, NNSA has not established an implementation structure that would govern improvement efforts or how the agency will monitor and report on the status and effectiveness of these efforts. Without establishing how it will manage, monitor, and report on the status of those efforts, NNSA may be limited in its ability to determine whether EMDI reforms and continuous improvement are achieving their goals. In addition, defining its governance of improvement could help maintain the continuity of EMDI reforms and additional continuous improvement efforts in the event of employee turnover and leadership changes.

NNSA's implementation of six reforms we identified as at high risk for fraud, waste, abuse, or mismanagement partially aligned with leading practices for agency reform, potentially reducing the effectiveness of NNSA's stated efforts to streamline and improve the efficiency and effectiveness of agency and contractor operations. The leading practices are applicable to all EMDI reforms—not just those associated with high-risk areas—as well as future continuous improvement efforts. In some cases, the opportunity to follow leading practices for implemented reforms may have passed, but in these cases, taking actions to better follow leading practices could strengthen ongoing and future reforms and increase their chances of success.

Specifically, for the six high-risk reforms we reviewed, implementation plans and associated documentation did not consistently

1. establish goals and outcomes for reform efforts;
2. maintain alignment of goals and outcomes with reform efforts as they changed;

3. ensure two-way communication between reform effort leaders and key stakeholders and affected employees;
4. monitor effects on high-risk areas, such as acquisition and project management, to ensure that reforms' outcomes would not perpetuate long-standing challenges or increase risks of fraud, waste, and abuse;
5. use a portfolio of high-quality, credible data and evidence as the basis for developing reform efforts;
6. develop processes to collect data and evidence to monitor progress toward achieving reforms' goals and objectives; or
7. assess effects on the workforce from the reforms.

Fully addressing these leading practices would better position NNSA to ensure its reform efforts successfully address the issues identified by EMDI and achieve the increased efficiency and effectiveness the agency desires.

Recommendations for Executive Action

We are making eight recommendations to NNSA:

The Office of NNSA's Associate Principal Deputy Administrator should define how it will govern continuing activities on EMDI reforms and future continuous improvement activities, including how it will monitor and report on the status of those activities. (Recommendation 1)

The NNSA Associate Principal Deputy Administrator should ensure that goals and associated outcomes are established and documented for all implemented and ongoing reforms. (Recommendation 2)

The NNSA Associate Principal Deputy Administrator should ensure that EMDI reform goals remain aligned with outcomes as reform efforts change for all implemented and ongoing reforms. (Recommendation 3)

The Office of the NNSA Associate Principal Deputy Administrator should document a strategy for continuous two-way communication on reforms with key stakeholders and employees, which should be part of governing ongoing and future continuous improvement efforts. (Recommendation 4)

The NNSA Associate Principal Deputy Administrator should monitor the effects of EMDI and future reforms on high-risk areas to ensure relevant reform efforts do not perpetuate long-standing challenges or increase risks of fraud, waste, and abuse. (Recommendation 5)

The NNSA Associate Principal Deputy Administrator, in developing ongoing and future reforms, should ensure that reform teams develop and use a portfolio of high-quality, credible data and evidence, such as root cause analysis or program evaluations. (Recommendation 6)

The NNSA Associate Principal Deputy Administrator should establish processes to collect the needed data and evidence to monitor implemented, ongoing, and future reforms against their goals. (Recommendation 7)

The NNSA Associate Principal Deputy Administrator should assess strategic workforce needs specific to reforms, including whether reforms are appropriately resourced, the effects of agency reforms on the current

and future workforce, and the potential adverse impacts to agency mission for all implemented and ongoing reforms. (Recommendation 8)

Agency Comments

We provided a draft of this report to NNSA for review and comment. NNSA concurred with all eight of our recommendations and stated that it will address the recommendations and incorporate the lessons learned and leading practices from this report as it defines and documents continuous improvement activities going forward. NNSA estimates it will complete a continuous improvement guiding principles document by August 2025. NNSA's comments are reproduced in appendix III.

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

If you or your staff have any questions about this report, please contact me at (202) 512-3841 or bawdena@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 key contributions to this report are listed in appendix IV.

A handwritten signature in dark ink, appearing to read 'Allison Bawden', with a stylized, flowing script.

Allison Bawden
Director, Natural Resources and Environment

Appendix I: Objectives, Scope, and Methodology

The Explanatory Statement accompanying the Consolidated Appropriations Act, 2023 includes a provision for us to evaluate the proposed implementation of the National Nuclear Security Administration's (NNSA) Enhanced Mission Delivery Initiative (EMDI).¹ Our report (1) describes the EMDI report's findings and recommendations; (2) examines NNSA's plans for EMDI implementation and the status of EMDI reforms; and (3) examines the extent to which NNSA's EMDI implementation plans related to areas we identified as at high risk for fraud, waste, abuse, or mismanagement—such as acquisition and program management—were aligned with selected leading practices for agency reform.

To describe these objectives, we reviewed the EMDI report—*Evolving the Nuclear Security Enterprise: A Report of the Enhanced Mission Delivery Initiative*—and other agency documents from NNSA headquarters and field sites, including charters, forms, and a tracking tool; guidance from NNSA and the individual implementation teams; and EMDI implementation plans. We interviewed members of EMDI implementation teams—including federal officials from NNSA headquarters and field offices and management and operating (M&O) contractors from various sites. We assessed NNSA's efforts against the Project Management Institute, Inc.'s Continuous Improvement Practices² and *Government Reorganization: Key Questions to Assess Agency Reform Efforts*.³

Describing the EMDI Report's Findings and Recommendations

To describe the EMDI report's findings and recommendations, we reviewed the EMDI Report published by NNSA in September 2022. We analyzed and summarized the report's findings and recommendations. We also attended conference panels on the report, held in February 2023 and 2024, and conducted interviews via videoconference or in-person with NNSA officials to understand the report's recommendations and context.

Examining NNSA's Plans for EMDI Implementation and the Status of EMDI Reforms

To examine NNSA's plans for EMDI implementation and the status of EMDI reforms, we examined documents from the implementation phase of the reforms, including EMDI project charters, success indicator forms, NNSA's EMDI progress tracker, presentation slides, guidance produced by EMDI implementation teams, and other implementation documentation. NNSA produced project charters for each of the 15 EMDI reforms.⁴ Implementation teams filled out success indicator forms that described performance metrics. NNSA's

¹Staff of H.R. Committee on Appropriations, 117th Congress, Committee Print on H.R. 2617/ PUBLIC LAW 117-328 954 (2023).

²The Project Management Institute, Inc. is a not-for-profit association that provides global standards for project, program, and portfolio management. These standards are generally recognized as leading practices and used worldwide by private companies, nonprofits, and others. Project Management Institute, Inc., Continuous Improvement Practices (2025) (available at www.pmi.org.)

³GAO, *Government Reorganization: Key Questions to Assess Agency Reform Efforts*, GAO-18-427 (Washington, D.C.: June 13, 2018). We developed these leading practices in June 2018 by reviewing our prior work and meeting with staff from the Office of Management and Budget as well as nine subject matter specialists.

⁴The EMDI report made 18 recommendations. During implementation NNSA translated the 18 original recommendation into 15 reforms, each with their own implementation team.

Management Operating System team maintained a progress tracker, updated monthly, which was an Excel spreadsheet tracking updates for each EMDI recommendation.⁵ Using these documents, we analyzed the actions taken by EMDI teams, various characteristics of EMDI efforts, changes to EMDI implementation plans, and NNSA's plans for the future.

In analyzing NNSA's future plans, we also reviewed the Project Management Institute, Inc.'s Continuous Improvement Practices. The Project Management Institute, Inc. is a not-for-profit association that provides global standards for project, program, and portfolio management. These standards are generally recognized as leading practices and used worldwide by private companies, nonprofits, and others.

We conducted interviews with the 14 EMDI implementation teams (out of 15) who had project charters completed by July 2023. We met with team members via videoconference or in-person to clarify the information in the project charters and other implementation plan documents, identify additional relevant documentation, and fill in information gaps. We did not interview the implementation team for the *Develop an Integrated Strategic Plan for Science, Technology & Engineering* reform because it did not have a charter at the time. Additionally, we are currently reviewing this strategic plan more in-depth, as a Senate report accompanying a bill for the National Defense Authorization Act for fiscal year 2024 includes a provision for us to review the plan once it is issued.⁶

Examining NNSA's EMDI Implementation Plans' Alignment with Selected Leading Agency Reform Practices

To examine the extent to which NNSA's high-risk EMDI implementation plans followed selected leading practices for agency reform, we followed a multi-step process to identify and then assess the EMDI implementation plans for high-risk reforms and the relevant leading practices. In summary, we determined

1. which implementation plans met our criteria for high risk;
2. which of the leading practices for agency reform and 58 key questions used to assess those leading practices were most applicable to EMDI's implementation plans; and finally,
3. whether each of the selected EMDI implementation plans aligned, partially aligned, minimally aligned, or did not align with each of the selected leading practices for agency reform. To assess the implementation plans against the selected leading practices for agency reform, two analysts independently compared the implementation plans against each of the selected key questions and came to an agreement on the extent to which the plans aligned with the practices. We then conducted follow-up interviews with NNSA officials to obtain additional information regarding areas initially assessed as partially, minimally, or not aligned and incorporated such information into our final assessments as appropriate.

⁵In their progress tracker, NNSA describes reforms as "complete." NNSA defined "complete" to mean that the EMDI implementation team is no longer taking any significant actions related to implementing the reform. NNSA officials have stated that they will continue to monitor the completed reforms and make modifications to them as necessary. Throughout our report, we use the term "implemented" instead of "complete" for clarity.

⁶Committee report accompanying S. 2226, a bill for the National Defense Authorization Act for Fiscal Year 2024. S. Rep. No. 118-58, at 387.

Our Determination of High-Risk Reforms

To determine which of the 15 EMDI reforms were high risk, we assessed whether the reforms had (1) actions focused on multiple sites and (2) connections to areas included in our 2023 High Risk Update.⁷ To be selected, a reform had to meet both criteria.

First, we identified the implementation plans with actions focused on multiple sites. We then identified the implementation plans for reforms that covered issues with significant connections to an area in our 2023 High Risk Update. We have previously found that acquisition and program management in the Department of Energy, including NNSA, is an area of high risk due to vulnerability for fraud, waste, abuse, and mismanagement. Challenges we have reported include issues related to management and oversight of contractors, the acquisition process, program and project management, and financial management.

Two analysts independently reviewed relevant EMDI documentation, such as project charters, corresponding records of interview, and other relevant documentation. They also reviewed our Fiscal Year 2023 High Risk Update to determine whether an implementation plan met the selection criteria. The analysts then came to an agreement on which reform implementation plans met the criteria. They determined that six of 15 EMDI reforms met our criteria for high risk. See table 3 for the results of this analysis. Our subsequent analyses and findings are thus applicable only to the six high-risk reforms and are not generalizable to the other reforms.

Table 3: Results of High-Risk Reform Selection

Title of EMDI reform	Multi-site scope	High Risk List connection	Meets sample selection requirements?
<i>Management and Operating (M&O) Contract Term and Award Fee Model (EMDI 1 and 2)</i>	X	X	Yes
<i>Streamline M&O Prime Contracts (EMDI 3)</i>		X	No
<i>Improve the Corporate Performance Evaluation Process (EMDI 4)</i>	X	X	Yes
<i>Controls on Compensation (EMDI 5)</i>	X		No
<i>Modernization of Workforce Office Space (EMDI 6)</i>	X	X	Yes
<i>Use of Retired Annuitants (EMDI 7)</i>			No
<i>Addressing Backlog of Telecommunications Security Reviews</i>			No
<i>Improving the Concurrence Process</i>	X		No
<i>Improving Modernization Programs Efficiency Pilot (EMDI 8a-d, 11, 15, 16, and 17)</i>	X	X	Yes
<i>Improve M&O Subcontracting Efficiency (EMDI 9)</i>	X	X	Yes
<i>Waive DOE Project Order for Low-Risk Commercial-Like Construction (EMDI 10)</i>	X	X	Yes
<i>Integrated Strategic Priorities List (EMDI 12)</i>	X		No
<i>Improving Off-Site Assignments (EMDI 13)</i>	X		No
<i>Increasing Rotations Between M&Os and NNSA (EMDI 14)</i>	X		No

DOE = Department of Energy

Source: GAO analysis of National Nuclear Security Administration (NNSA) documentation. | GAO-25-106675

⁷GAO, *High-Risk Series: Efforts Made to Achieve Progress Need to Be Maintained and Expanded to Fully Address All Areas*, [GAO-23-106203](#) (Washington, D.C.: Apr. 20, 2023).

Note: The reform for Enhanced Mission Delivery Initiative (EMDI) recommendation 18, known as *Develop an Integrated Strategic Plan for Science, Technology & Engineering*, was not included in our sample selection analysis, as the implementation team had not completed the project charter for the reform and did not have other implementation plans available for review in time for our analysis in September 2023. This recommendation is considered the 15th EMDI reform effort.

Our Determination of Selected Leading Agency Reform Practices

In order to select the leading practices that were relevant to our analysis of NNSA’s EMDI reforms, we reviewed the leading practices for agency reform and key questions used to assess them as outlined in our June 2018 report *Government Reorganization: Key Questions to Assess Agency Reform Efforts*. In that report, we issued a set of 58 key questions grouped into 12 leading practices that federal agencies should consider when developing and implementing reforms. To develop these leading practices, we reviewed prior work and leading practices on organizational transformations; collaboration; government streamlining and efficiency; fragmentation, overlap, and duplication; high-risk; and on other agency long-standing management challenges. We also identified subject matter specialists knowledgeable about issues related to government reform and strategic human capital management who reviewed and commented on these practices.

Two analysts independently reviewed the leading practices and key questions to determine whether each was applicable to EMDI implementation plans. To do so, analysts read the descriptions and assessed which leading practices and key questions were not applicable to the EMDI reforms. For example, EMDI was not a reorganization of the agency, so Workforce Reduction Strategies and its related key questions were not considered relevant. The analysts then met to reconcile any differences and reach agreement on which practices to eliminate as not relevant. After eliminating practices and questions deemed not relevant, we determined that 24 remaining key questions under eight leading practices were applicable to EMDI reform implementation plans. Table 4 lists the leading practices we selected and the related key questions we used to assess alignment with the leading practices.

Table 4: Selected Leading Practices and Key Questions	
Leading practice	Key questions
Establishing goals and outcomes	To what extent has the agency established clear outcome-oriented goals and performance measures for the proposed reforms? To what extent has the agency shown that the proposed reforms align with the agency’s mission and strategic plan? To what extent has the agency considered the likely costs and benefits of the proposed reforms? If so, what are they? To what extent has the agency included both short-term and long-term efficiency initiatives in the proposed reforms?
Involving employees and key stakeholders	How and to what extent has the agency consulted with Congress and other key stakeholders to develop its proposed reforms? How and to what extent has the agency engaged employees and employee unions in developing the reforms (e.g., through surveys, focus groups) to gain their ownership for the proposed changes? How and to what extent has the agency involved other stakeholders, as well as its customers and other agencies serving similar customers or supporting similar goals, in the development of the proposed reforms to ensure the reflection of their views? Is there a two-way continuing communications strategy that listens and responds to concerns of employees regarding the effects of potential reforms?

Leading practice	Key questions
Using data and evidence	What data and evidence have the agency used to develop and justify its proposed reforms? How has the agency determined that the evidence contained sufficiently reliable data to support a business case or cost-benefit analysis of the reforms?
Addressing high-risk areas and long-standing management challenges	How specifically has the agency considered high-risk issues, agency Inspector General's major management challenges, and other external and internal reviews in developing its reform efforts? How does the agency plan to monitor the effects proposed reforms will have on high-risk areas? Has the agency addressed ways to decrease the risk of fraud, waste, and abuse of programs as part of its proposed reforms? How have findings and open recommendations from GAO and the agency Inspectors General been addressed in the proposed reforms?
Leadership focus and attention	Has the agency designated a leader or leaders to be responsible for the implementation of the proposed reforms? Has agency leadership defined and articulated a succinct and compelling reason for the reforms (i.e., a case for change)? How will the agency hold the leader or leaders accountable for successful implementation of the reforms? Has the agency established a dedicated implementation team that has the capacity, including staffing, resources, and change management, to manage the reform process?
Managing and monitoring	What implementation goals and timeline have been set to build momentum and show progress for the reforms? Has the agency put processes in place to collect the needed data and evidence that will effectively measure the reforms' outcome-oriented goals?
Strategic workforce planning	To what extent has the agency conducted strategic workforce planning to determine whether it will have the needed resources and capacity, including the skills and competencies, in place for the proposed reforms or reorganization? How has the agency assessed the effects of the proposed agency reforms on the current and future workforce, and what does that assessment show? What employment- and mission-related data has the agency identified to monitor progress of reform efforts and to ensure no adverse impact on agency mission, and how is it using that data?
Employee engagement	How does the agency plan to sustain and strengthen employee engagement during and after the reforms?

Source: GAO analysis of leading practices for agency reform. | GAO-25-106675

Note: Selected leading practices and questions were originally published in GAO, *Government Reorganization: Key Questions to Assess Agency Reform Efforts*, [GAO-18-427](#) (Washington, D.C.: June 13, 2018).

Our Assessment Against Selected Leading Practices for Agency Reform

After finalizing our selection of leading practice key questions, we operationalized the questions by developing a rubric specific to EMDI listing the types of evidence we would expect to see in reforms' implementation plans and associated documentation to show alignment with the selected leading practices. For each question, we assessed the extent to which EMDI project teams' implementation plans for reforms we had previously identified as high risk aligned with the list of evidence to determine a leading practice key question rating. Once a final determination was made for each key question, an overall rating for the selected leading practice was generated aggregating the individual question ratings. We used the following rating scale: aligned, partially aligned, minimally aligned, or did not align. Tables 5 and 6 provide more detail about our rating system and scoring methodology.

Table 5: Rating System for Assessing the Extent to Which NNSA’s Implementation of Enhanced Mission Delivery Initiative Reforms Aligned With Leading Practices for Agency Reform Efforts

Analysts made one of four qualitative determinations based on whether the National Nuclear Security Administration (NNSA) demonstrated evidence of the leading practice as outlined in each key question.

Rating	Description
Aligned	NNSA has reported actions that are generally or fully responsive to the leading practice and has provided documentation or other forms of evidence to support their actions align with the leading practice.
Partially aligned	NNSA has reported actions that are responsive for some elements of the leading practice, but not other elements. NNSA has provided documentation or other forms of evidence to support that their actions for those elements align with the leading practice. OR NNSA has taken actions that are mostly responsive to the leading practice but has not provided sufficient documentation or other forms of evidence. OR NNSA has not taken actions that are responsive to the leading practice, but they have stated they will take actions that are responsive and have provided evidence they are in the process of developing them.
Minimally aligned	NNSA has reported actions that are responsive for a small portion of the elements of the leading practice, but not the main element or focus. OR NNSA has indicated or stated they will take action, but has not provided an action plan, timeline, or supporting evidence that it will be done.
Not aligned	NNSA has not reported actions that are responsive to the leading practice and has not provided documentation or other forms of evidence.

Source: GAO analysis of leading practices for agency reform. | GAO-25-106675

Table 6: Our Process for Determining Final Ratings for the Extent to Which the National Nuclear Security Administration (NNSA) Met Leading Practices for Agency Reform Efforts

Category	Step	Step information
Determining leading practice key question ratings	Step 1	Two team members independently coded each implementation plan against the list of evidence needed to answer and rate the selected leading practice questions and independently determined a rating for each question.
Determining leading practice key question ratings	Step 2	These team members met to determine if there were questions/leading practices for which we had insufficient information to make a determination and developed agency follow up questions/requests for additional information.
Determining leading practice key question ratings	Step 3	After the agency provided additional information, each team member again independently reviewed and evaluated the implementation plans and questions to incorporate the new information and make any rating adjustments.
Determining leading practice key question ratings	Step 4	Team members met to resolve any differences in coding and agree to a final determination for each leading practice question rating. They documented the determination and any major changes and justifications.
Determining leading practice ratings	Step 5	Once the analysts agreed on final determinations for each question, an overall rating for the leading practice was generated aggregating the individual question ratings as follows: Aligned: all questions for the leading practice subcategory were generally aligned Partially aligned: question ratings for the leading practice subcategory were mixed, with less than half rated minimally aligned or lower Minimally aligned: more than half of question ratings for the leading practice subcategory were minimally aligned or lower Not aligned: all questions for the leading practice subcategory were not aligned In the event that a leading practice with an even number of questions had a split score between “minimally aligned” and “partially aligned,” analysts deferred to the higher score (partially aligned) when assigning the overall leading practice score. If a leading practice with an even number of questions had a score split between “partially,” “minimally,” and “not aligned,” analysts deferred to the median score. No split score would result in a leading practice score being “aligned” or “not aligned” as only “aligned” in all questions qualified for an “aligned” leading practice score and only “not aligned” in all questions qualified as a “not aligned” leading practice score.
Review	Step 6	After these final rating determinations were made for all selected implementation plans, we provided the results to NNSA for external review, interviewed NNSA officials to obtain additional information regarding those areas judged as less than aligned, and incorporated any additional information provided by NNSA, as appropriate.

Source: GAO analysis of leading practices for agency reform. | GAO-25-106675

To make these assessments, we used NNSA’s implementation plans such as project charters, success indicator forms, and related reform implementation documentation; interviews with NNSA and contractor officials; written responses to requests for information from NNSA officials regarding EMDI; and available data on EMDI reforms. We shared the criteria against which we evaluated the EMDI implementation plans and our preliminary findings with NNSA officials. We then discussed our preliminary assessment results with the officials to obtain additional information regarding areas judged as partially, minimally, or not aligned and incorporated such information into our assessments as appropriate.

Appendix II: List of Enhanced Mission Delivery Initiative (EMDI) Recommendations

The National Nuclear Security Administration (NNSA) published a report in September 2022, titled *Evolving the Nuclear Security Enterprise: A Report of the Enhanced Mission Delivery Initiative*, known as the EMDI report. Below is a consolidated list of the full recommendations from the report.

Recommendation 1 – NNSA should develop a plan to discontinue the award fee contracting model, returning to intent of the federally funded research and development center (FFRDC) concept.

Recommendation 2 – NNSA should transition all managing and operating (M&O) contracts at our national laboratories, plants, and sites to a 5-year base period with performance-based 5-year extensions.

Recommendation 3 – NNSA and the M&Os should review the existing NNSA contracts, using the Office of Science “Revolutionary Working Group” model, to streamline the contracts and gain alignment on the contract scope and requirements.¹

Recommendation 4 – NNSA should adjust the Performance Evaluation and Measurement Plan (PEMP) development and Performance Evaluation Report (PER) feedback process to be more transparent, allowing for meaningful feedback prior to finalization.²

Recommendation 5 – NNSA should dramatically reduce or remove internal controls governing M&O employee direct and variable compensation and allow the M&O to manage their workforce within a given budget.

Recommendation 6 – NNSA should redouble its efforts to improve and modernize workforce offices (secure and unclassified), light laboratory, and light industrial spaces for its federal and M&O personnel.

Recommendation 7 – NNSA should work with the M&Os to develop a common plan to allow M&O annuitants and retirees to be compensated fairly for post-retirement service that contributes to the delivery of the primary NNSA missions. This plan should identify legal risks, internal M&O policies, and any Department of Energy (DOE)/NNSA policies that restrict direct service of annuitants/retirees to the M&O and avenues to address or accept the risk and any necessary policy changes.

¹In 2015, the Department of Energy (DOE) established the Revolutionary Working Group to examine the laboratory contract structure at the SLAC National Accelerator Laboratory with the objective of developing a more streamlined approach to improve the partnership between the federal government and M&O contractor and reduce transactional oversight. SLAC National Accelerator Laboratory is an Office of Science site located in Stanford, CA. Note: “SLAC” is not an acronym.

²The Performance Evaluation and Measurement Plan is developed before the beginning of each fiscal year (that is, the beginning of the evaluation period). It establishes expectations for the site’s contractor performance and describes how the responsible NNSA offices will evaluate and measure performance against those expectations. The plan provides the blueprint for how the evaluations will be used to determine award fees, award terms, and any other incentives. The Performance Evaluation Report is developed at the end of each evaluation period. NNSA uses this report to document the performance rating and, in some cases, the fees and other incentives that will be awarded to the contractor.

Recommendation 8a – NNSA should review major processes and procedures to reduce complexity and standardize implementation of requirements across sites. NNSA should develop the criteria, including first the definition of roles and responsibilities, for delegation of approvals from the headquarters program or functional offices heads to the cognizant Field Office Manager or lower level, particularly those involving operational and execution decisions.

Recommendation 8b – NNSA should explore giving M&Os greater approval and decision authority for operations and programmatic execution without a priori federal review. Federal roles would shift to evaluation of outcomes a posteriori to determine if additional direction is required.

Recommendation 8c – Where such delegation is not feasible, NNSA should explore establishing suspense date timelines for approval requests at headquarters, with the default being request approval at the end of the timeline.

Recommendation 8d – NNSA should implement improvements in how new or changed directives/requirement sets are accepted by NNSA. Directives process improvements should focus on the need for more formal justifications, cost and mission impact determinations prior to their promulgation, and greater coordination with impacted field offices and M&O organizations.

Recommendation 9 – NNSA has developed and should enforce a risk-based audit process for contracting actions and procurement packages based on an approved M&O contracting system. Package approvals should cease unless audits reveal a systematic issue. NNSA should also uniformly raise procurement approval thresholds to a standard value, e.g., \$20 million to \$25 million, and apply it to subcontracts as well. This threshold may be lowered at a site if the M&O contracting system fails multiple audits.

Recommendation 10 – NNSA should use the existing exemption process to waive low-risk commercial-like construction (e.g., office buildings, light manufacturing facilities) from DOE Order 413.3B requirements. Their construction should follow commercial building codes and, wherever possible, adopt approved Occupational Safety and Health Administration (OSHA) and state safety standards, e.g., California Division of Occupational Safety and Health (Cal/OSHA). NNSA should request congressional approval to raise the threshold for minor construction/general plant projects from \$25 million to \$50 million or \$100 million.

Recommendation 11 – NNSA should develop improved training for federal and contractor program managers that defines the special M&O and FFRDC relationship, identifies the unique role each side plays, and encourages the assessment of risk. NNSA should reward risk taking and associated risk management by M&O and federal staff that balances mission, security, safety, and other requirements. Rewards can be in the form of recognition, monetary, or career promotions.

Recommendation 12 – NNSA, as part of the revised PEMP process, shall develop and provide an integrated and prioritized NNSA mission deliverable list across all aspects of the NNSA portfolio to each operating location. This list should reflect the Administrator's highest priority mission deliverables for the year and align with the NNSA's strategic goals. The list should be developed during the planning phase of the annual planning, programming, budgeting, and execution process. "Get the Job Done" lists may supplement the strategic priorities but cannot obstruct them.

Recommendation 13 – NNSA should redouble efforts to rotate or send on regular/extended temporary duty (TDY) headquarters program and functional staff with decision authority to the sites to work directly with the field office and M&O workforces in execution of programmatic work.

Recommendation 14 – NNSA should work with the department to develop a simplified approval process for Intergovernmental Personnel Agreements (IPAs) and a financially neutral approach to extended TDY or rotations for M&O employees to encourage effective interaction between headquarters and the field expertise.³

Recommendation 15 – The federal program staff should rely upon a standard set of schedule and execution data that sites automatically generate and minimize specialized data calls requiring manual manipulation. The number of “Federal only” meetings should be held to a minimum and the M&O technical leads should be incorporated, where possible, to brief directly to internal and external groups, including the Department of Defense (DOD), Congress, etc.

Recommendation 16 – To achieve the desired culture change, NNSA’s Office of Defense Programs should review and reduce process and program controls through a joint headquarters, field, and M&O group with the goal of holding the sites accountable for technical execution of the program and incentivize cross-site teamwork while providing transparency and keeping federal managers informed of emergent issues with major cost and schedule impacts.

Recommendation 17 – NNSA’s Office of Defense Programs should lead a review to rebalance the Design Agency (DA) and Production Agency (PA) relationship so there is more equal authority and accountability, including a risk-based process for design and production acceptance. The DAs and PAs should have a shared fate so that they are jointly accountable to a production schedule for a product that meets threshold requirements. This review should also clarify the technical, engineering, and programmatic integration role between NNSA, Sandia National Laboratories (SNL), and the rest of the nuclear security enterprise.

Recommendation 18 – NNSA should develop an integrated strategic plan among its M&O partners to revitalize the science, technology, and engineering base. To inform the annual planning and budget programming process, this plan would call for time-phased investments in new and recapitalized facilities, capabilities, and investments in the science and technology workforce.

³Under the Intergovernmental Personnel Act employees of the national laboratories can be detailed to work for DOE.

Appendix III: Comments from the National Nuclear Security Administration/Department of Energy



Department of Energy
Under Secretary for Nuclear Security
Administrator, National Nuclear Security Administration
Washington, DC 20585



January 16, 2025

Ms. Allison B. Bawden
Director, Natural Resources
and Environment
U.S. Government Accountability Office
Washington, DC 20548

Dear Ms. Bawden:

Thank you for the opportunity to review the Government Accountability Office (GAO) draft report, *NNSA: Fully Incorporating Leading Practices for Agency Reform Would Benefit Enhanced Mission Delivery Initiative* (GAO-25-106675). The Department of Energy's National Nuclear Security Administration (NNSA) appreciates GAO's recognition of its work to identify and implement numerous impactful reforms based on recommendations from the Enhanced Mission Delivery Initiative (EMDI) team.

NNSA concurs with the auditors' recommendations to further enhance our current practices, including continuous monitoring and expanded documentation of the results of reform activities to ensure critical goals and outcomes are achieved. NNSA will address the recommendations and incorporate the lessons learned and best practices from this report as it defines and documents guiding principles for governance of continuous improvement activities going forward, including EMDI and future Enterprise-wide initiatives.

The enclosed management decision outlines the specific actions planned and timelines for addressing each of the report's recommendations. If you have any questions about this response, please contact Dean Childs, Director, Audits and Internal Affairs, at (202) 836-3327.

Sincerely,

Jill Hruby

Enclosure

Enclosure

NATIONAL NUCLEAR SECURITY ADMINISTRATION
Management Decision

"NNSA: Fully Incorporating Leading Practices for Agency Reform Would Benefit Enhanced Mission Delivery Initiative" (GAO-25-106675)

The Government Accountability Office recommends the Department of Energy's National Nuclear Security Administration (DOE/NNSA):

Recommendation 1: Define how it will govern continuing activities on EMDI reforms and future continuous improvement activities, including how it will monitor and report on the status of those activities.

Management Response: Concur. NNSA will document a set of guiding principles outlining expectations for governing EMDI and future continuous improvement initiatives, including monitoring and reporting on the status of those activities. The initial estimated completion date for these actions is August 31, 2025.

Recommendation 2: Ensure that goals and associated outcomes are established and documented for all implemented and ongoing reforms.

Management Response: Concur. NNSA will establish and document goals with associated outcomes for all implemented and ongoing EMDI reforms and future continuous improvement initiatives. This expectation will be captured in the guiding principles document outlined in response to Recommendation 1. The initial estimated completion date for these actions is August 31, 2025.

Recommendation 3: Ensure that EMDI reform goals remain aligned with outcomes as reform efforts change for all implemented and ongoing reforms.

Management Response: Concur. NNSA will monitor EMDI reform goals and outcomes as reform activities change to ensure they are adjusted as appropriate and remain in alignment. This expectation will be captured in the guiding principles document outlined in response to Recommendation 1. The initial estimated completion date for these actions is August 31, 2025.

Recommendation 4: Document a strategy for continuous two-way communication on reforms with key stakeholders and employees, which should be part of governing ongoing and future continuous improvement efforts.

Management Response: Concur. NNSA will document a strategy for two-way communication with key stakeholders and employees in ongoing and future continuous improvement initiatives. This expectation will be captured in the guiding principles document outlined in response to Recommendation 1. The initial estimated completion date for these actions is August 31, 2025.

Enclosure

Recommendation 5: Monitor the effects of EMDI and future reforms on high-risk areas to ensure relevant reform efforts do not perpetuate longstanding challenges or increase risks of fraud, waste, and abuse.

Management Response: Concur. NNSA will enhance its processes for monitoring the effects of EMDI and future improvement initiatives to ensure they align effectively with actions to address other challenges and high-risk areas. This expectation will be captured in the guiding principles document outlined in response to Recommendation 1. The initial estimated completion date for these actions is August 31, 2025.

Recommendation 6: In developing ongoing and future reforms, ensure that reform teams develop and use a portfolio of high-quality, credible data and evidence, such as root cause analysis or program evaluations.

Management Response: Concur. NNSA will include the expectation that reform teams identify and use credible and reliable data and evidence to monitor and evaluate the results of ongoing and future improvement initiatives in the guiding principles document outlined in response to Recommendation 1. The initial estimated completion date for these actions is August 31, 2025.

Recommendation 7: Establish processes to collect the needed data and evidence to monitor implemented, ongoing, and future reforms against their goals.

Management Response: Concur. NNSA will outline expectations and criteria for collecting data and evidence to monitor and evaluate the results of ongoing and future improvement initiatives in the guiding principles document outlined in response to Recommendation 1. The initial estimated completion date for these actions is August 31, 2025.

Recommendation 8: Assess strategic workforce needs specific to reforms, including whether reforms are appropriately resourced, the effects of agency reforms on the current and future workforce, and the potential adverse impacts to agency mission for all implemented and ongoing reforms.

Management Response: Concur. NNSA will incorporate expectations for assessing strategic workforce needs specific to reforms, consistent with this recommendation, in the guiding principles document outlined in response to Recommendation 1. The initial estimated completion date for these actions is August 31, 2025.

Accessible Text for Appendix III: Comments from the National Nuclear Security Administration/Department of Energy

Department of Energy
Under Secretary for Nuclear Security
Administrator, National Nuclear Security Administration
Washington, DC 20585

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Appendix IV: GAO Contact and Staff Acknowledgments

GAO Contact

Allison Bawden at (202) 512-3841 or bawdena@gao.gov

Staff Acknowledgments

In addition to the contact named above, Jonathan Gill (Assistant Director), Ryan Gottschall (Analyst in Charge), Adrian Apodaca, Antoinette Capaccio, Cindy Gilbert, Gwen Kirby, Maura Sullivan, Jimmy Toscano, Sarah Veale, James Walters, and Ari Watson made key contributions to this report. Also contributing to this report were Penney Harwell Caramia, Jeffery Carr, and Benjamin Licht.

Related GAO Products

National Nuclear Security Administration: Assessments of Nuclear Weapon Acquisitions. [GAO-25-106048](#). Washington, D.C.: Dec. 17, 2024.

National Nuclear Security Administration: Actions Needed to Improve Integration of Production Modernization Programs and Projects. [GAO-24-106342](#). Washington, D.C.: July 9, 2024.

National Nuclear Security Administration: Actions to Recruit and Retain Federal Staff Could Be Improved. [GAO-24-106167](#). Washington, D.C.: May 29, 2024.

National Nuclear Security Administration: Improvements Needed for Overseeing Contractor Workforce Recruitment and Retention Efforts. [GAO-24-106861](#). Washington, D.C.: May 29, 2024.

National Nuclear Security Administration: Better Performance Tracking and Documentation Needed for Minor Construction Projects. [GAO-24-105848](#). Washington, D.C.: Jan. 25, 2024.

National Nuclear Security Administration: Assessments of Major Projects. [GAO-23-104402](#). Washington, D.C.: Aug. 17, 2023.

Department of Energy Contracting: Additional Actions Could Further Strengthen Competition. [GAO-23-105209](#). Washington, D.C.: Jan. 24, 2023.

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Contractor Oversight: Information On the NNSA's Burdensome Regulatory Requirements. [GAO-21-496R](#). Washington, D.C.: June 16, 2021.

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Nuclear Security Enterprise: NNSA's Management of Data Calls to Contractors. [GAO-19-286R](#). Washington, D.C.: Feb. 26, 2019.

Project Management: DOE and NNSA Should Improve Their Lessons-Learned Process for Capital Asset Projects. [GAO-19-25](#). Washington, D.C.: Dec. 21, 2018.

Department of Energy: Actions Needed to Strengthen Acquisition Planning for Management and Operating Contracts. [GAO-16-529](#). Washington, D.C.: Aug. 9, 2016.

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National Nuclear Security Administration: Actions Needed to Clarify Use of Contractor Assurance Systems for Oversight and Performance Evaluation. [GAO-15-216](#). Washington, D.C.: May 22, 2015.

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High-Risk Series: Key Practices to Successfully Address High-Risk Areas and Remove Them from the List. [GAO-22-105184](#). Washington, D.C.: Mar. 3, 2022.

High-Risk Series: Dedicated Leadership Needed to Address Limited Progress in Most High-Risk Areas. [GAO-21-119SP](#). Washington, D.C.: Mar. 2, 2021.

High-Risk Series: Substantial Efforts Needed to Achieve Greater Progress on High-Risk Areas. [GAO-19-157SP](#). Washington, D.C.: Mar. 6, 2019.

High-Risk Series: Progress on Many High-Risk Areas, While Substantial Efforts Needed on Others. [GAO-17-317](#). Washington, D.C.: Feb. 15, 2017.

High-Risk Series: Key Actions to Make Progress Addressing High-Risk Issues. [GAO-16-480R](#). Washington, D.C.: Apr. 25, 2016.

High-Risk Series: An Update. [GAO-15-290](#). Washington, D.C.: Feb. 11, 2015.

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High-Risk Series: An Update. [GAO-05-207](#). Washington, D.C.: Jan. 1, 2005.

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