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Comptroller General
of the United States

Accessible Version

June 28, 2024

The Honorable Jennifer M. Granholm
Secretary
U.S. Department of Energy
1000 Independence Ave., SW
Washington, DC 20585

Priority Open Recommendations: Department of Energy

Dear Secretary Granholm:

The purpose of this letter is to provide an update on the overall status of the Department of Energy's (DOE) implementation of GAO's recommendations and to call your continued personal attention to areas where open recommendations should be given high priority.¹ In November 2023, we reported that, on a government-wide basis, 75 percent of our recommendations made 4 years ago were implemented.² DOE's recommendation implementation rate was 58 percent.

As of June 2024, DOE had 203 open recommendations. Fully implementing these open recommendations could significantly improve agency operations.

Since our May 2023 letter, DOE has implemented seven of our 30 open priority recommendations.

- In December 2023, the Under Secretary of Science and Innovation approved a performance baseline for the U.S. fusion program's International Thermonuclear Experimental Reactor project that included cost and schedule estimates. By approving a performance baseline with final cost and schedule estimates and communicating that information to Congress, DOE is better able to measure the project's progress and allow Congress to make more informed funding decisions. These actions implement our June 2014 recommendation.³
- In an effort to better evaluate priorities, tradeoffs, and alternatives when making budgetary decisions about nuclear modernization programs and projects, the National Nuclear Security

¹Priority recommendations are those that GAO believes warrant priority attention from heads of key departments or agencies. They are highlighted because, upon implementation, they may significantly improve government operations, for example, by realizing large dollar savings; eliminating mismanagement, fraud, and abuse; or making progress toward addressing a high-risk or duplication issue.

²GAO, *Performance and Accountability Report: Fiscal Year 2023*, [GAO-24-900483](#) (Washington, D.C.: Nov. 15, 2023).

³GAO, *Fusion Energy: Actions Needed to Finalize Cost and Schedule Estimates for U.S. Contributions to an International Experimental Reactor*, [GAO-14-499](#) (Washington, D.C.: June 5, 2014).

Administration (NNSA) developed an analytical tool to help make affordability tradeoffs that were reflected in NNSA's recent budget justifications. Specifically, in both its fiscal years 2024 and 2025 budget justifications, NNSA reported its decision to pause three infrastructure projects and prioritize allocating funds to high-priority projects experiencing cost overruns, but which provide greater support to the delivery of warheads on the schedule needed by the military. NNSA's use of its new analytical tool to support decisions about priorities and tradeoffs is consistent with the intent of our April 2017 recommendation.⁴

- In August 2023, DOE identified strengths and weaknesses in the energy sector's implementation of the National Institute of Standards and Technology (NIST) cybersecurity framework and DOE Cybersecurity Capability Maturity Model practices. By taking these actions, DOE has developed a more comprehensive understanding of how energy sector entities use the NIST framework and where to focus DOE resources for cyber risk mitigation efforts. These actions meet the intent of our February 2018 recommendation.⁵
- In April 2023, DOE released a consent-based process that it plans to use for identifying sites for storing the nation's spent nuclear fuel. In addition, in June 2023, DOE announced \$26 million in funding for groups of university, nonprofit, and private-sector partners to work with communities interested in learning more about DOE management of spent nuclear fuel, interim storage facility siting considerations, and consent-based siting. Developing the process could help DOE's efforts to engage the public, cultivate trust, and help DOE prepare to act should Congress amend the Nuclear Waste Policy Act of 1982 to allow for storage and disposal options other than or in addition to the Yucca Mountain repository. DOE's actions meet the intent of our September 2021 recommendation.⁶
- In January 2023, DOE completed a survey of its acquisition workforce to ensure staff obtain the critical skills, competencies, and training needed to support DOE acquisition functions. In April 2023, DOE stated that the survey would be updated and administered periodically in the future. Conducting the survey is responsive to our recommendation.⁷
- In December 2022, NNSA issued its fiscal year 2023 Cybersecurity Program Execution Guidance. The guidance includes criteria for NNSA officials to assess management and operating (M&O) contractor oversight of subcontractor security measures in annual performance evaluations. The criteria explicitly clarified M&O contractors' responsibility to

⁴GAO, *National Nuclear Security Administration: Action Needed to Address Affordability of Nuclear Modernization Programs*, [GAO-17-341](#) (Washington, D.C.: Apr. 26, 2017).

⁵GAO, *Critical Infrastructure Protection: Additional Actions Are Essential for Assessing Cybersecurity Framework Adoption*, [GAO-18-211](#) (Washington, D.C.: Feb. 15, 2018).

⁶GAO, *Commercial Spent Nuclear Fuel: Congressional Action Needed to Break Impasse and Develop a Permanent Disposal Solution*, [GAO-21-603](#) (Washington, D.C.: Sept. 23, 2021). In this report, we found that DOE is limited in its ability to site and construct any interim nuclear waste storage facilities without congressional action. We made four Matters for Congressional Consideration, including that Congress should consider amending the Nuclear Waste Policy Act of 1982, Pub. L. No. 97-425, §§ 111-113, 96 Stat. 2201, 2207-12 (1983) (codified as amended at 42 U.S.C. §§ 10131-33), to authorize a new consent-based process for siting, developing, and constructing consolidated interim storage and permanent repository facilities for commercial spent nuclear fuel.

⁷GAO, *Department of Energy: Improvements Needed to Strengthen Strategic Planning for the Acquisition Workforce*, [GAO-22-103854](#) (Washington, D.C.: Nov. 16, 2021).

validate subcontractor compliance with cybersecurity requirements and met the intent of our September 2022 recommendation.⁸

- In May 2024, DOE expanded its methodology for developing its agency-wide fraud risk assessment and profile by updating relevant guidance and risk profile templates. With these actions, DOE will be better positioned to manage the wide range of fraud risks it faces. DOE's actions meet the intent of our January 2021 recommendation.⁹

We ask for your continued attention to the remaining 23 priority recommendations. We are also adding four new recommendations related to improving project, program, and portfolio management; improving contract management; and improving financial management. This brings the total number of priority recommendations to 27. (See the Enclosure for the list of recommendations).

The 27 open priority recommendations fall into the following eight areas:

Improving project, program, and portfolio management. Historically, DOE has struggled with managing programs and projects, including mitigating the risks of uncontrolled changes to scope, cost, and schedule and meeting program and project goals. We identified six priority recommendations for this area that would improve DOE's management of its major projects, programs, and portfolios. For example, we recommended that the Office of Environmental Management's (EM) final analysis of alternatives for high-level waste pretreatment at the Hanford site include a definition of mission need and life-cycle cost estimates for the baseline alternative consistent with best practices and DOE guidance. This would help ensure DOE's waste treatment decisions reflect the best options or be credible with stakeholders.

In addition, we recommended that NNSA establish an enterprise-wide portfolio management framework for its weapons stockpile and infrastructure maintenance and modernization efforts. Fully implementing this recommendation would provide NNSA with a more structured and defensible approach to managing the billions of dollars of work in the Weapons Activities portfolio.

We made three recommendations to improve DOE's oversight and management of its large energy demonstration projects. The department has received significant new funding and other support for these types of large energy projects under the Infrastructure Investment and Jobs Act and the budget reconciliation act commonly known as the Inflation Reduction Act of 2022.¹⁰ Implementing our recommendation that DOE document processes for its oversight of large nuclear energy demonstration projects, including the use of external independent reviews, could result in stronger oversight of these large projects and improved project performance. Further, we recommended that DOE revise its process for selecting future carbon capture and storage (CCS) demonstration projects and more consistently administer future projects against

⁸GAO, *Nuclear Weapons Cybersecurity: NNSA Should Fully Implement Foundational Cybersecurity Risk Management Practices*, [GAO-22-104195](#) (Washington, D.C.: Sept. 22, 2022).

⁹GAO, *Department of Energy Contracting: Improvements Needed to Ensure DOE Assesses Its Full Range of Contracting Fraud Risks*, [GAO-21-44](#). (Washington, D.C.: January 13, 2021).

¹⁰Infrastructure Investment and Jobs Act, Pub. L. No. 117-58, 135 Stat. 429 (2021); An Act to provide for reconciliation pursuant to Title I of S. Con. Res. 14, Pub. L. No. 117-169, 136 Stat. 1818 (2022), commonly known as the Inflation Reduction Act of 2022.

established scopes, schedules, and budgets. Implementing these two recommendations would provide DOE with greater assurance that, in future CCS demonstration projects, it can select and negotiate projects that are likely to succeed and mitigate DOE's financial exposure.

Lastly, we recommended that DOE develop plans to address deferred maintenance and repair (DM&R) backlogs and identify funding and time frames needed to reduce the backlogs in congressional budget requests and related reports. Implementing this recommendation would better inform decision makers about how funding levels could affect backlog reduction and help them evaluate the department's budget request.

Improving contract management. Contract management is one of the high-risk areas for the federal government. Aspects of [DOE's contract management](#) are on GAO's [High Risk List](#). We identified three priority recommendations in this area to improve DOE's ability to oversee and manage its contracts. Implementing our two recommendations that EM develop guidance for risk-informed cleanup decision-making and ensure resolution of certain design and construction challenges for particular waste treatment facilities at the Hanford site would improve DOE's contractor oversight and management at nuclear cleanup sites across the country.

In addition, we recommended that DOE consistently compare the inventories of software licenses that are currently in use with information on purchased licenses. Taking such action could allow DOE to identify opportunities to reduce costs on duplicate or unnecessary licenses and better inform investment decisions for the department's widely used software licenses.

Addressing insider threats and cybersecurity. Recent high-profile disclosures of classified information and cyberattacks targeting public and private energy sector components highlight the urgent need to address insider threats in federal agencies and [cybersecurity](#) weaknesses, as indicated in our [High Risk List](#) area related to the nation's critical infrastructure. We have seven priority recommendations in this area—two related to insider threats and five related to cybersecurity. Fully implementing our two priority recommendations to better integrate insider threat responsibilities and ensure that DOE's Insider Threat Program achieves a department-wide approach to managing insider risk would improve DOE's ability to identify insider risks before an incident occurs.

We have five priority recommendations related to cybersecurity that would improve DOE and NNSA's efforts to manage cybersecurity risks. For example, fully implementing our recommendation to develop a cybersecurity risk management strategy would help DOE to clarify risk management strategies across the department to protect its systems and data.

In addition, we recommended that NNSA identify the needed resources to implement foundational cybersecurity practices for the operational technology environment and clarify to M&O contractors that they are required to monitor subcontractor's cybersecurity measures. Fully implementing these two recommendations will better position NNSA to marshal the resources necessary to develop a cybersecurity management framework and help ensure more consistent protection of information and systems.

Because DOE is the sector risk management agency for the energy sector, we urge you to implement our priority recommendation to develop a plan for implementing the federal cybersecurity strategy for the electric grid in coordination with the Department of Homeland Security and other relevant stakeholders. Establishing such a plan, would provide decision-makers improved guidance for allocating resources to address cybersecurity risks and challenges on the grid.

Enhancing energy reliability, security, and resilience. According to the United States Global Change Research Program, U.S. energy infrastructure faces risks from climate change that can affect the nation’s economic and national security. We identified four priority recommendations for this area that could assist DOE in enhancing the reliability, security, and resilience of the nation’s energy infrastructure. We recommended that DOE conduct periodic strategic reviews of the Strategic Petroleum Reserve (SPR) and of the costs and benefits of regional petroleum product reserves for regions identified as vulnerable to fuel supply disruptions. Fully implementing these two recommendations would provide Congress with timely information to inform decisions about the appropriate size of the SPR, and about potential additional regional product reserves in U.S. regions that have been identified as vulnerable to fuel supply disruptions.

Furthermore, we recommended that DOE develop tools for resilience planning. Implementing our recommendation would assist DOE in providing utilities with resilience planning tools to help justify investments in grid resilience. Lastly, finalizing and implementing our recommendation to develop a department-wide strategy for coordinating efforts to enhance electricity grid resilience to the risks of climate change would allow DOE to define goals and measure progress to enhance the resilience of the grid.

Addressing nuclear modernization challenges. NNSA is undergoing an ambitious, decades-long, and costly effort to modernize the nation’s nuclear security enterprise. We identified two priority recommendations in this area to improve NNSA’s ability to manage its complex and expensive plutonium modernization effort. Implementing our recommendations to develop both an integrated master schedule and a programmatic life-cycle cost estimate for plutonium pit production that meet best practices could improve NNSA’s decision-making, the efficiency and effectiveness of its efforts, and the quality of information that it provides to Congress.¹¹

Addressing DOE’s environmental and disposal liability. The federal government’s [environmental liability](#)—an area on our [High Risk List](#)—has been growing for the past 20 years and is likely to continue to increase. DOE is responsible for \$534 billion of the federal government’s \$645 billion reported liability for fiscal year 2023.¹²

We identified two priority recommendations in this area. For example, implementing our recommendation that EM develop performance goals for its new contracting approach could better ensure that the department is achieving desired results and help reduce the costs of cleanup that contribute to DOE’s overall environmental liability.

Improving financial management. DOE receives billions of dollars annually in appropriated funds that remain available indefinitely for obligation and can be carried over each year (known as “carryover” funding) until expended. However, certain benchmarks, or thresholds, that DOE has developed to monitor carryover funding have been applied inconsistently and used ineffectively to review, assess, and manage carryover balances. By implementing our priority

¹¹The National Defense Authorization Act for Fiscal Year 2024, enacted in December 2023, requires the NNSA Administrator to ensure that the Plutonium Modernization program is managed in accordance with GAO’s best practices for schedule development and cost estimating no later than July 14, 2025. Pub. L. No. 118-31, div. C, tit. XXXI, § 3117, 137 Stat. 136, 791 (2023) (codified at 50 U.S.C. § 2538a(h)).

¹²Department of the Treasury, *Financial Report of the United States Government Fiscal Year 2023* (Washington, D.C.: February 2024).

recommendation on documenting the thresholds in a manner that allows departmental elements to apply them consistently, DOE could improve its financial management.

Addressing worker protections. Under federal laws, regulations, and DOE policies, contractors generally must maintain an open environment for raising safety and other concerns without fear of reprisal. DOE has consistently recognized that the contractor employees who carry out the bulk of its mission-related work are an important source of information about potential quality and safety issues at DOE sites.

We identified two priority recommendations in this area. By implementing our recommendation to revise DOE's Integrated Safety Management policy and guidance, the department would be better able to hold contractors accountable for addressing chilled work environments and increase confidence in the mechanisms for raising safety concerns. Additionally, implementing our recommendation to address the department's Equal Employment Opportunity (EEO) program deficiencies relevant to sexual harassment could help ensure the department's EEO programs effectively prevent and respond to sexual harassment.

In April 2023, we issued our biennial update to our [High Risk List](#). This list identifies government operations with greater vulnerabilities to fraud, waste, abuse, and mismanagement. It also identifies the need for transformation to address economy, efficiency, or effectiveness challenges.¹³ Two of our high-risk areas—[acquisition and program management for DOE's National Nuclear Security Administration and Office of Environmental Management](#) and the [U.S. government's environmental liability](#)—center directly on DOE.

Several other government-wide, high-risk areas also have direct implications for DOE and its operations. These areas include (1) [improving the management of IT acquisitions and operations](#), (2) [strategic human capital management](#), (3) [managing federal real property](#), (4) [ensuring the cybersecurity of the nation](#), and (5) [government-wide personnel security clearance process](#).

In addition to DOE's high-risk areas, we urge your continued attention to the other government-wide, high-risk issues as they relate to DOE. Progress on high-risk issues has been possible through the concerted actions and efforts of Congress, the Office of Management and Budget (OMB), and the leadership and staff in agencies, including DOE. In March 2022, we issued a report on key practices to successfully address high-risk areas, which can be a helpful resource as your agency continues to make progress to address high-risk issues.¹⁴

We also recognize the key role Congress plays in providing oversight and maintaining the focus on our recommendations to ensure they are implemented and produce their desired results. Legislation enacted in December 2022 included a provision for GAO to include any

¹³GAO, *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).

¹⁴GAO, *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).

congressional oversight actions that can help agencies implement priority recommendations and address any underlying issues relating to such implementation.¹⁵

Congress can use various strategies in addressing our recommendations, such as incorporating them into legislation. Congress can also use its budget, appropriations, and oversight processes to incentivize executive branch agencies to act on our recommendations and monitor their progress. For example, Congress can hold hearings focused on DOE's progress in implementing our priority recommendations, withhold funds when appropriate, or take other actions to provide incentives for agencies to act. Moreover, Congress could follow up during the appropriations process and request periodic updates.

Congress also plays a key role in addressing any underlying issues related to the implementation of these recommendations. For example, Congress could pass legislation providing an agency explicit authority to implement a recommendation or requiring an agency to take certain actions to implement a recommendation.

Copies of this report are being sent to the Director of OMB, the Administrator of NNSA, and the appropriate congressional committees. In addition, the report will be available on the GAO website at [Priority Open Recommendation Letters | U.S. GAO](#).

I appreciate DOE's continued commitment to these important issues. If you have any questions or would like to discuss any of the issues outlined in this letter, please do not hesitate to contact me or Mark Gaffigan, Managing Director, Natural Resources and Environment, at 202-512-3841 or gaffiganm@gao.gov. Contact points for our Offices of Congressional Relations and Public Affairs may be found on the last page of this report. Our teams will continue to coordinate with your staff on all the 203 open recommendations, as well as those additional recommendations in the high-risk areas for which DOE has a leading role. Thank you for your attention to these matters.

Sincerely,

A handwritten signature in black ink, reading "Gene L. Dodaro". The signature is fluid and cursive, with a long horizontal stroke extending to the right from the end of the name.

Gene L. Dodaro
Comptroller General
of the United States

Enclosure

cc: The Honorable Jill Hruby, Administrator, National Nuclear Security Administration
The Honorable Shalanda Young, Director, Office of Management and Budget

¹⁵James M. Inhofe National Defense Authorization Act for Fiscal Year 2023, Pub. L. No. 117-263, § 7211(a)(2), 136 Stat. 2395, 3668 (2022); H.R. Rep. No. 117-389 (2022) (accompanying Legislative Branch Appropriations Act, H.R. 8237, 117th Cong. (2022)).

Enclosure

Priority Open Recommendations to the Department of Energy

Improving Project, Program, and Portfolio Management

Hanford Waste Treatment Plant: DOE Is Pursuing Pretreatment Alternatives, but Its Strategy Is Unclear While Costs Continue to Rise. [GAO-20-363](#). Washington, D.C.: May 12, 2020.

Year Recommendation Made: 2020

Recommendation: The Secretary of Energy should direct the Assistant Secretary of Environmental Management to ensure that EM's final analysis of alternatives (AOA) for high-level waste pretreatment at the Hanford site includes a definition of mission need and life-cycle cost estimates for the baseline or status quo alternative, as called for in the best practices for an AOA process that we have identified and in DOE guidance.

Action Needed: DOE agreed with the recommendation. In January 2023, DOE released its Waste Treatment and Immobilization Plant High-Level Waste Treatment AOA. To fully address this recommendation, DOE's AOA should include a definition of mission need and life-cycle cost estimates for the baseline or status quo alternative, consistent with best practices and DOE guidance. As of April 2024, DOE had not incorporated these key elements. Without these key elements of an AOA, EM's waste treatment decisions may not reflect the best options or be credible with stakeholders.

High-Risk Areas: [Acquisition and Program Management for DOE's National Nuclear Security Administration and Office of Environmental Management](#) and the [U.S. Government's Environmental Liability](#)

Director: Nathan J. Anderson, Natural Resources and Environment

Contact Information: andersonn@gao.gov or (202) 512-3841

Nuclear Security Enterprise: NNSA Should Use Portfolio Management Leading Practices to Support Modernization Efforts. [GAO-21-398](#). Washington, D.C.: June 9, 2021

Year Recommendation Made: 2021

Recommendation: The NNSA Administrator should establish an enterprise-wide portfolio management framework. The framework should define the portfolio of weapons stockpile and infrastructure maintenance and modernization programs and its governance roles, as well as include portfolio-level selection criteria, prioritization criteria, and performance metrics.

Actions Needed: NNSA agreed with the recommendation. In its fiscal year 2022 *Stockpile Stewardship and Management Plan*, NNSA defined the Weapons Activities portfolio as including weapons stockpile and infrastructure maintenance and modernization programs. Further, in a June 2021 directive, NNSA identified a position to serve as the portfolio manager. Additionally, in response to a requirement in the National Defense Authorization Act for Fiscal Year 2022, NNSA provided a briefing to Congress in November 2022 regarding progress in addressing our recommendation. In its briefing materials, NNSA provided a structure for the Weapons Activities

portfolio that generally aligns with the Weapons Activities budget structure and includes scopes of work managed by multiple NNSA offices.

NNSA's next steps include establishing the portfolio management process and formalizing it in updated strategic documents. As of April 2024, NNSA estimated that the portfolio management process would be established by December 2024. Completing these steps would satisfy our recommendation and provide NNSA with a more structured and defensible approach to managing the billions of dollars of work in the Weapons Activities portfolio.

High-Risk Area: [Acquisition and Program Management for DOE's National Nuclear Security Administration and Office of Environmental Management](#)

Director: Allison B. Bawden, Natural Resources and Environment

Contact Information: bawdena@gao.gov or (202) 512-3841

Carbon Capture and Storage: Actions Needed to Improve DOE Management of Demonstration Projects. [GAO-22-105111](#). Washington, D.C.: December 20, 2021.

Year Recommendations Made: 2022

Recommendations: The Principal Deputy Assistant Secretary for the Office of Fossil Energy and Carbon Management should

- (1) incorporate into any future carbon capture and storage (CCS) demonstration project selections a down-selection and allow adequate time for negotiations prior to entering cooperative agreements; and
- (2) take actions to more consistently administer future CCS demonstration projects against established scopes, schedules, and budgets.

Actions Needed: DOE neither agreed nor disagreed with the recommendations. In its response to our report, DOE stated that it was establishing a new Office of Clean Energy Demonstrations that would be better positioned to evaluate our recommendations and develop a corrective action plan. In January 2024, DOE indicated that during fiscal year 2024 it will continue to develop (1) its project management approach and (2) procedures to guide the Office of Clean Energy Demonstrations in overseeing demonstration projects based on their planned scope, schedule, and budgets. As of April 2024, DOE's completion of these actions was pending.

To fully implement these two recommendations, DOE also needs to revise its selection process to incorporate a down-selection process and allow adequate time for due diligence of and negotiations with applications prior to entering into cooperative agreements. Doing so would provide DOE with greater assurance that, in future CCS demonstration projects, it can select and negotiate projects that are likely to succeed and mitigate DOE's financial exposure.

Director: Frank Rusco, Natural Resources and Environment

Contact Information: ruscof@gao.gov or (202) 512-3841

Nuclear Energy Projects: DOE Should Institutionalize Oversight Plans for Demonstrations of New Reactor Types. [GAO-22-105394](#). Washington, D.C.: September 8, 2022.

Year Recommendation Made: 2022

Recommendation: The Secretary of Energy should ensure that the Assistant Secretary for Nuclear Energy and the Director of the Office of Clean Energy Demonstrations coordinate and institutionalize via documentation their processes for providing oversight for large nuclear energy demonstration projects, including the use of external independent reviews, steps for addressing any risks identified, and criteria for which projects should use these processes.

Actions Needed: DOE agreed with the recommendation. In its response to our report, DOE's Offices of Nuclear Energy and Clean Energy Demonstrations stated that they were taking steps to document their processes for providing oversight of large nuclear demonstration projects—including the use of external independent peer reviews—and for ensuring close cooperation with the projects. In April 2024, DOE officials told us they drafted procedures for independent peer reviews that include risk management and independent cost reviews. These independent peer review procedures are being reviewed by subject matter experts in nuclear deployment. DOE officials estimate the review will begin by the end of September 2024.

Finalizing the documentation of these procedures will allow DOE to share best practices across offices, which could result in stronger oversight of large nuclear energy demonstration projects and improved project performance. Further, because the Office of Clean Energy Demonstrations will oversee other large energy demonstration projects going forward, documenting these procedures could result in stronger federal oversight more broadly.

Director: Frank Rusco, Natural Resources and Environment

Contact Information: ruscof@gao.gov or (202) 512-3841

Federal Real Property: Agencies Should Provide More Information about Increases in Deferred Maintenance and Repair. [GAO-24-105485](#). Washington, D.C.: November 16, 2023.

Year Recommendation Made: 2024

Recommendation: The Secretary of Energy should ensure that the department works with its component agencies to develop plans to address their deferred maintenance and repair (DM&R) backlogs and identify the funding and time frames needed to reduce them in congressional budget requests, related reports to decision makers, or both.

Actions Needed: DOE neither agreed nor disagreed with the recommendation. As of March 2024, DOE had established a working group and was developing recommendations for specific changes to inform DOE's fiscal year 2026 budget process. To fully implement this recommendation, DOE should develop plans to address DM&R backlogs and identify the funding and time frames needed to reduce the backlogs in congressional budget requests, related reports to decision-makers, or both.

High Risk Area: [Managing Federal Real Property](#)

Director: Andrew Von Ah, Physical Infrastructure

Contact Information: vonaha@gao.gov or (202) 512-2834

Improving Contract Management

Hanford Cleanup: DOE Has Opportunities to Better Ensure Effective Startup and Sustained Low-Activity Waste Operations. [GAO-22-104772](#). Washington, D.C.: June 14, 2022.

Year Recommendation Made: 2022

Recommendation: The Assistant Secretary of EM should ensure that existing challenges and problems identified in its review of facilities, systems, and components related to Direct-Feed Low-Activity Waste (DFLAW) are resolved by the end of hot commissioning.

Actions Needed: DOE agreed with the recommendation. In May 2023, DOE provided an outline of the actions it was taking. Specifically, DOE directed the contractor responsible for completing DFLAW facilities to identify measures to ensure that the challenges and problems with facilities, systems, and components are resolved by the end of hot commissioning in their proposal for a contract extension.

As of May 2024, DOE had not finalized a contract extension. Resolving all design and construction challenges and problems with the facilities, systems, and components needed to start and sustain DFLAW operations by the end of hot commissioning will help DOE ensure that the costs of addressing existing challenges and problems do not fall to DOE.

High-Risk Area: [Acquisition and Program Management for DOE's National Nuclear Security Administration and Office of Environmental Management](#)

Director: Nathan J. Anderson, Natural Resources and Environment

Contact Information: andersonn@gao.gov or (202) 512-3841

Nuclear Waste Cleanup: DOE Needs to Address Weaknesses in Program and Contractor Management at Los Alamos. [GAO-23-105665](#). Washington, D.C.: July 19, 2023.

Year Recommendation Made: 2023

Recommendation: The Secretary of Energy should direct the Senior Advisor for the Office of Environmental Management (EM) to develop guidance for its cleanup sites on how to incorporate GAO's essential elements of risk-informed decision-making when applying the prioritization schema referenced in EM's 2020 Program Management Protocol.

Action Needed: DOE concurred with the recommendation. At the time of our report, DOE stated that EM is developing further detailed guidance that will incorporate GAO's risk-informed decision-making framework when applying the prioritization schema referenced in the Program Management Protocol. In April 2024, DOE reported that EM was drafting an implementation plan for its Program Management Protocol that will include detailed guidance on areas needing clarification, including prioritization. DOE expects the implementation plan to be completed by September 30, 2024.

To fully implement our recommendation, EM should finalize guidance that informs cleanup sites on how to incorporate the essential elements of GAO's risk-informed decision-making when applying EM's prioritization schema. Doing so will help EM ensure that cleanup sites consistently use a risk-informed approach when making and documenting decisions.

Director: Nathan J. Anderson, Natural Resources and Environment

Contact Information: andersonn@gao.gov or (202) 512-3841

Federal Software Licenses: Agencies Need to Take Action to Achieve Additional Savings. [GAO-24-105717](#). Washington, D.C.: January 29, 2024.

Year Recommendation Made: 2024

Recommendation: The Secretary of Energy should ensure that the agency consistently compares the inventories of software licenses that are currently in use with information on purchased licenses to identify opportunities to reduce costs and better inform investment decision-making for its widely used licenses on a regular basis. At a minimum, it should consistently implement its procedures for comparing the inventories of licenses in use to purchase records.

Action Needed: DOE concurred with the recommendation. At the time of our report, DOE stated that it would begin periodically comparing the inventory of product suites procured to the Master Device Record gathered by sites to identify variances between the installed software suites and the software entitlements. In April 2024, DOE reported that it is developing a prototype that will validate the use of products from 20 software vendors with procurement information from the vendor and the Master Device Records. DOE estimated completing the prototype by September 30, 2025. However, to fully address this recommendation, DOE should ensure that it consistently implements procedures for comparing inventories of software licenses currently in use to available purchase records.

High-Risk Area: [Improving the Management of IT Acquisitions and Operations](#)

Potential Financial Benefit if Implemented: \$1 million or more

Director: Carol C. Harris, Information Technology and Cybersecurity Issues

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Addressing Insider Threat and Cybersecurity

Critical Infrastructure Protection: Actions Needed to Address Significant Cybersecurity Risks Facing the Electric Grid. [GAO-19-332](#). Washington, D.C.: August 26, 2019.

Year Recommendation Made: 2019

Recommendation: The Secretary of Energy, in coordination with the Department of Homeland Security and other relevant stakeholders, should develop a plan aimed at implementing the federal cybersecurity strategy for the electric grid and ensure that the plan addresses the key characteristics of a national strategy, including a full assessment of cybersecurity risks to the grid.

Actions Needed: DOE agreed with the recommendation. As of April 2024, DOE did not have an estimated date for issuing a plan that addresses key characteristics needed to implement a national strategy, such as fully assessing cybersecurity risks to the electricity grid. DOE needs to develop a plan for implementing the federal cybersecurity strategy for the electric grid and coordinate that plan with the Department of Homeland Security and other relevant stakeholders. Until DOE develops a plan and ensures it addresses all of the key characteristics of a national strategy—including a full assessment of cybersecurity risks—decision-makers responsible for allocating resources to address risks and challenges will be operating with limited guidance.

High-Risk Area: [Ensuring the Cybersecurity of the Nation](#)

Directors: Frank Rusco, Natural Resources and Environment; and Marisol Cruz Cain, Information Technology and Cybersecurity

Contact Information: ruscof@gao.gov or (202) 512-3841; cruzcaim@gao.gov or (202) 512-5017

Cybersecurity: Agencies Need to Fully Establish Risk Management Programs and Address Challenges. [GAO-19-384](#). Washington, D.C.: July 25, 2019.

Year Recommendation Made: 2019

Recommendation: The Secretary of Energy should develop a cybersecurity risk management strategy that includes the key elements identified in this report.

Action Needed: DOE agreed with the recommendation. In January 2022, DOE's Enterprise Cybersecurity Program Plan (E-CSPP), issued its risk management amplification guidance that addressed most elements of a risk management strategy that we identified in our report. However, as of April 2024, DOE had not provided additional evidence to show that it had incorporated details on its approach to risk tolerance in its enterprise cybersecurity program plan.

To fully address the recommendation, DOE needs to provide supplemental information to describe how risk tolerance is incorporated into its enterprise cybersecurity program. Without ensuring that its plans provide such information, DOE may lack a clear organization-wide understanding of acceptable risk levels and appropriate risk response strategies to protect its systems and data.

High-Risk Area: [Ensuring the Cybersecurity of the Nation](#)

Director: Marisol Cruz Cain, Information Technology and Cybersecurity Issues

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Nuclear Weapons Cybersecurity: NNSA Should Fully Implement Foundational Cybersecurity Risk Management Practices. [GAO-22-104195](#). Washington, D.C.: September 22, 2022.

Year Recommendations Made: 2022

Recommendations:

- (1) The NNSA Administrator should direct the Office on Information Management to identify the needed resources to implement foundational practices for the operational technology (OT) environment, such as by developing an OT activity business case for consideration in NNSA's planning, programming, budgeting, and evaluation process; and
- (2) The Director of NNSA's Office of Acquisition and Project Management should clarify and reinforce to management and operating (M&O) contractors, such as by a policy flash or other communication, that they are required to monitor subcontractor's cybersecurity measures.

Actions Needed: NNSA agreed with the recommendations. In response to our report, in December 2022, NNSA updated its revised Cybersecurity Program Execution Guidance and, according to an NNSA document, intends to add further clarifying guidance in its planned revision of Supplemental Directive 205.1, Baseline Cybersecurity Program. In April 2024, NNSA estimated that the Baseline Cybersecurity Program Directive would be completed in September 2024. However, NNSA has not provided the revised guidance document and it is unclear how the guidance will be incorporated in the agency’s contractor performance evaluation process.

To fully implement our recommendations and ensure GAO’s ability to assess the extent to which NNSA’s revised guidance documents will support the agency’s evaluation of contractor performance, NNSA needs to finalize the revised Baseline Cybersecurity Program Directive. Fully implementing our recommendations will better position NNSA to marshal the resources necessary to develop an operational technology cybersecurity management framework that aligns with foundational risk management practices. NNSA would also close gaps in M&O contractor oversight of subcontractors and ensure more consistent protection of information and systems.

High-Risk Area: [Acquisition and Program Management for DOE’s National Nuclear Security Administration and Office of Environmental Management](#)

Director: David B. Hinchman, Information Technology and Cybersecurity; and Allison B. Bawden, Natural Resources and Environment

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Privacy: Dedicated Leadership Can Improve Programs and Address Challenges, [GAO-22-105065](#). Washington, D.C.: September 22, 2022.

Year Recommendation Made: 2022

Recommendation: The Secretary of Energy should establish a time frame for fully defining the role of the senior agency official for privacy (SAOP) or other designated privacy official in reviewing and approving system categorizations, overseeing privacy control assessments, and reviewing authorization packages, and document these roles.

Actions Needed: DOE agreed with the recommendation. In response to our report, DOE stated that its Office of the Chief Information Officer was in the process of updating DOE Order 206.1, DOE Privacy Program, which DOE officials say will document and define the SAOP’s role in reviewing and approving system categorizations, overseeing privacy control assessments, and reviewing authorization packages. In April 2024, DOE stated that it had taken action to address this recommendation and is reviewing the order internally.

To fully address this recommendation, DOE would need to provide relevant updated policies and procedures that define and document the role of the SAOP, or other privacy officials, in reviewing and approving system categorizations, overseeing privacy control assessments, and reviewing authorization packages. Completing this update and review will help DOE ensure that privacy protections are adequately incorporated in systems with personally identifiable information.

High-Risk Area: [Ensuring the Cybersecurity of the Nation](#)

Director: Jennifer R. Franks, Information Technology and Cybersecurity Issues

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Nuclear Security: DOE Should Take Actions to Fully Implement Insider Threat Program. [GAO-23-105576](#). Washington, D.C.: May 24, 2023.

Year Recommendations Made: 2023

Recommendations:

- (1) The Insider Threat Program senior official should establish a process to better integrate insider threat responsibilities, ensuring that the senior official can centrally manage all aspects of the Insider Threat Program.
- (2) The Secretary of Energy should ensure that the Insider Threat Program achieves a single, department-wide approach to managing insider risk.

Actions Needed: DOE agreed with the recommendations. As of April 2024, DOE designated a new senior official for the Insider Threat Program and produced a Near-Term Strategy that identified key actions to take in response to our recommendations, including that the Insider Threat Program Senior official clarify program roles and responsibilities and hire a liaison to coordinate referrals between certain DOE offices.

To fully address the recommendations, DOE needs to better integrate its insider threat responsibilities, or DOE's program will continue to face significant challenges that preclude it from having an effective or fully operational program.

High-Risk Area: [Acquisition and Program Management for DOE's National Nuclear Security Administration and Office of Environmental Management](#)

Director: Allison Bawden, Natural Resources and Environment

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Enhancing Energy Reliability, Security, and Resilience

Strategic Petroleum Reserve: DOE Needs to Strengthen Its Approach to Planning the Future of the Emergency Stockpile. [GAO-18-477](#). Washington, D.C.: May 30, 2018.

Year Recommendations Made: 2018

Recommendations: The Secretary of Energy should:

- (1) take actions to ensure that the agency periodically conducts and provides to Congress a strategic review of the Strategic Petroleum Reserve (SPR) that, among other things, takes into account changes in crude oil and petroleum product market conditions and contains additional analysis, such as the costs and benefits of a wide range of different SPR sizes; and

- (2) conduct or complete studies on the costs and benefits of regional petroleum product reserves for all U.S. regions that have been identified as vulnerable to fuel supply disruptions, and the Secretary should report the results to Congress.

Actions Needed: In May 2018, DOE agreed with the recommendation to conduct periodic strategic reviews of the SPR and provide this information to Congress. In September 2018, DOE stated that a 5-year time interval between reviews was an appropriate timeframe and would allow current strategic plans to be implemented and assessed. At the time, DOE officials told us that the department would complete a SPR Long-Term Strategic Review by the end of fiscal year 2021—5 years from the last review in 2016. As of March 2024, DOE continued to review edits and comments to a Long-Term Strategic Plan. To fully address this recommendation, DOE needs to take action to ensure that it undertakes a strategic review on a periodic basis going forward.

In May 2018, DOE disagreed with the second recommendation to conduct or complete studies on the costs and benefits of regional petroleum product reserves. DOE stated that the agency's position is that government-owned and -operated regional petroleum product reserves are an inefficient and expensive solution to respond to regional fuel supply disruptions. DOE continues to disagree and noted that given the inefficient and expensive nature of storing refined petroleum products in above-ground tanks, it would be an inappropriate use of taxpayer funds to conduct any additional studies on the use of federal government owned storage of refined petroleum products.

However, the Quadrennial Energy Review of 2015 recommended that similar analyses be completed for other areas deemed by DOE to be vulnerable to fuel supply disruptions. Therefore, we continue to believe that conducting these analyses, would provide Congress with information needed to make decisions about regional product reserves. To address this recommendation, DOE needs to conduct these analyses and it has not done so as of April 2024.

Director: Frank Rusco, Natural Resources and Environment

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Electricity Grid: Opportunities Exist for DOE to Better Support Utilities in Improving Resilience to Hurricanes. [GAO-21-274](#). Washington, D.C.: March 5, 2021.

Year Recommendation Made: 2021

Recommendation: The Secretary of Energy should establish a plan, including time frames, as appropriate, to guide the agency's efforts to develop tools for resilience planning, such as performance measures for resilience, a framework for resilience planning, and additional information on the cost of long-term power outages.

Action Needed: DOE agreed with the recommendation. In June 2021, DOE officials told us that its Office of Cybersecurity, Energy Security, and Emergency Response (CESER) is establishing a plan of action for energy sector risk management, building on several completed and ongoing elements led by DOE program offices for resilience planning, including tools for resilience planning, frameworks for resilience planning, and information on the long-term costs of power outages. In April 2024, DOE-CESER told us it aimed to complete this plan by September 30,

2024, pending availability of funds. Establishing a plan to guide DOE efforts to develop tools for resilience planning would help utilities justify resilience investments and improve grid resilience.

High-Risk Area: [Limiting the Federal Government's Fiscal Exposure by Better Managing](#)

[Climate Change Risks](#)

Director: Frank Rusco, Natural Resources and Environment

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Electricity Grid Resilience: Climate Change Is Expected to Have Far-reaching Effects and DOE and FERC Should Take Actions. [GAO-21-346](#). Washington, D.C.: March 5, 2021.

Year Recommendation Made: 2021

Recommendation: The Secretary of Energy should develop and implement a department-wide strategy to coordinate its efforts that defines goals and measures progress to enhance the resilience of the electricity grid to the risks of climate change.

Action Needed: DOE agreed with the recommendation. In August 2022, DOE officials briefed Congress on recent updates to the Grid Modernization Initiative (GMI) strategy. The strategy includes an all-hazards approach to characterize and implement system resilience. According to DOE, the GMI strategy will serve as the foundation for the departmentwide climate change strategy that GAO recommended. In April 2024, DOE revised the strategy based on the Office of Management and Budget (OMB) comments, and, according to DOE, OMB is currently reviewing the revised strategy. To fully address this recommendation, DOE's strategy should define goals and measure progress to enhance the resilience of the electricity grid to the risks of climate change.

High-Risk Area: [Limiting the Federal Government's Fiscal Exposure by Better Managing](#)

[Climate Change Risks](#)

Director: Frank Rusco, Natural Resources and Environment

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Addressing Nuclear Modernization Challenges

Nuclear Weapons: NNSA Should Further Develop Cost, Schedule, and Risk Information for the W87-1 Warhead Program. [GAO-20-703](#). Washington, D.C.: September 9, 2020.

Year Recommendation Made: 2020

Recommendation: The NNSA Administrator should direct the Office of Defense Programs' plutonium program office to ensure that the integrated master schedule in development for pit production meets NNSA integrated master schedule standards, consistent with best practices for schedule development.

Action Needed: NNSA agreed with the recommendation. However, in January 2023, we found that the pit production integrated master schedule that NNSA implemented on October 1, 2021, did not meet minimum qualifications to be considered an integrated master schedule, according to published best practices in [GAO's Schedule Guide](#). In response, NNSA stated that it would continue to refine its integrated master schedule for plutonium pit production to align it with GAO best practices. In December 2023, the National Defense Authorization Act for Fiscal Year 2024 required the NNSA Administrator to ensure that the Plutonium Modernization program is managed in accordance with GAO best practices for schedule development and cost estimating no later than July 14, 2025.¹⁶ In April 2024, NNSA stated that it was in the process of developing an integrated master schedule for plutonium pit production that is consistent with best practices. NNSA estimated that it would complete this schedule by December 31, 2024. To fully implement this recommendation, NNSA needs to develop its integrated master schedule using GAO best practices. Developing this schedule could improve NNSA's decision-making for managing this complex and expensive program, the efficiency and effectiveness of its efforts, and the quality of information that it provides to Congress.

High-Risk Area: [Acquisition and Program Management for DOE's National Nuclear Security Administration and Office of Environmental Management](#)

Director: Allison B. Bawden, Natural Resources and Environment

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Nuclear Weapons: NNSA Does Not Have a Comprehensive Schedule or Cost Estimate for Pit Production Capability. [GAO-23-104661](#). Washington, D.C.: January 12, 2023.

Year Recommendation Made: 2023

Recommendation: The NNSA Administrator should ensure that the head of the Plutonium Modernization program develops a life-cycle cost estimate for establishing NNSA's pit production capability that aligns with GAO cost estimating best practices.

Actions Needed: NNSA concurred with the recommendation. NNSA officials said that they plan to develop a life-cycle cost estimate by September 30, 2025, after establishing baseline cost and schedule estimates for the Savannah River Plutonium Processing Facility and the Los Alamos Plutonium Pit Production Project. We noted in our response to agency comments that this time frame means the program will have reached major milestones in fiscal years 2024 and 2025 without a life-cycle cost estimate, according to NNSA's plans. During this time, NNSA will have spent billions of dollars without having an overall estimate of total program costs.

As of April 2024, NNSA officials said they are on track to develop the cost estimate by September 30, 2025. To fully implement this recommendation, NNSA needs to develop its programmatic life-cycle cost estimate using GAO best practices. Developing this estimate could

¹⁶The National Defense Authorization Act for Fiscal Year 2024, enacted in December 2023, requires the NNSA Administrator to ensure that the Plutonium Modernization program is managed in accordance with GAO's best practices for schedule development and cost estimating no later than July 14, 2025. Pub. L. No. 118-31, div. C, tit. XXXI, § 3117, 137 Stat. 136, 791 (2023) (codified at 50 U.S.C. § 2538a(h)).

improve NNSA's decision-making for managing this complex and expensive program and the quality of information that it provides to Congress.

High-Risk Area: [Acquisition and Program Management for DOE's National Nuclear Security Administration and Office of Environmental Management](#)

Director: Allison B. Bawden, Natural Resources and Environment

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Addressing DOE's Environmental and Disposal Liability

Hanford Cleanup: DOE's Efforts to Close Tank Farms Would Benefit from Clearer Legal Authorities and Communication. [GAO-21-73](#). Washington, D.C.: January 7, 2021.

Year Recommendation Made: 2021

Recommendation: The Secretary of Energy should direct the Assistant Secretary of EM to obtain the assistance of an independent, third-party mediator to help reach agreement with the state of Washington's Department of Ecology on a process for assessing the contaminated soil and what role the Nuclear Regulatory Commission (NRC) should play in this process.

Action Needed: DOE agreed with the recommendation. DOE had previously told us that it was involved in mediated discussions with the U.S. Environmental Protection Agency and Washington's Department of Ecology that started in June 2020. In April 2024, the three parties announced that they had concluded these mediated discussions. But the agreement does not appear to address our recommendation to agree on a process for assessing the contaminated soil and what role the Nuclear Regulatory Commission should play.

To fully implement this recommendation, DOE needs to resolve this significant disagreement with the state of Washington. By using an independent mediator to help reach agreement on these issues, DOE would be better positioned to avoid future cleanup delays.

High-risk Area: [U.S. Government's Environmental Liability](#)

Director: Nathan J. Anderson, Natural Resources and Environment

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Nuclear Waste Cleanup: Actions Needed to Determine Whether DOE's New Contracting Approach is Achieving Desired Results. [GAO-22-105417](#). Washington, D.C.: September 28, 2022.

Year Recommendation Made: 2022

Recommendation: The Assistant Secretary of EM should develop and document specific performance goals for the End State Contracting Model (ESCM) and measures to track progress toward achieving them. EM should use this performance information to improve the ESCM and to better ensure that it is achieving desired results.

Actions Needed: EM concurred with this recommendation. As of April 2024, EM has taken steps to require each task order associated with End State Contracting Model contracts to

document key metrics for use in assessing performance. In addition, EM officials told us they are in the process of developing new guidance that will require the consistent use of specific metrics to assess the performance of individual contracts, and the End State Contracting Model initiative as a whole. Until EM implements measurable performance goals and can assess its progress toward meeting them, EM risks continuing to award billions of dollars through a new contracting approach that it has not verified is achieving the desired results in improving EM's contracting for environmental cleanup.

High-Risk Area: [Acquisition and Program Management for DOE's National Nuclear Security Administration and Office of Environmental Management](#)

Director: Nathan J. Anderson, Natural Resources and Environment

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Addressing Insider Threat and Cybersecurity

Critical Infrastructure Protection: Actions Needed to Address Significant Cybersecurity Risks Facing the Electric Grid. [GAO-19-332](#). Washington, D.C.: August 26, 2019.

Year Recommendation Made: 2019

Recommendation: The Secretary of Energy, in coordination with the Department of Homeland Security and other relevant stakeholders, should develop a plan aimed at implementing the federal cybersecurity strategy for the electric grid and ensure that the plan addresses the key characteristics of a national strategy, including a full assessment of cybersecurity risks to the grid.

Actions Needed: DOE agreed with the recommendation. As of April 2024, DOE did not have an estimated date for issuing a plan that addresses key characteristics needed to implement a national strategy, such as fully assessing cybersecurity risks to the electricity grid. DOE needs to develop a plan for implementing the federal cybersecurity strategy for the electric grid and coordinate that plan with the Department of Homeland Security and other relevant stakeholders. Until DOE develops a plan and ensures it addresses all of the key characteristics of a national strategy—including a full assessment of cybersecurity risks—decision-makers responsible for allocating resources to address risks and challenges will be operating with limited guidance.

High-Risk Area: [Ensuring the Cybersecurity of the Nation](#)

Directors: Frank Rusco, Natural Resources and Environment; and Marisol Cruz Cain, Information Technology and Cybersecurity

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Cybersecurity: Agencies Need to Fully Establish Risk Management Programs and Address Challenges. [GAO-19-384](#). Washington, D.C.: July 25, 2019.

Year Recommendation Made: 2019

Recommendation: The Secretary of Energy should develop a cybersecurity risk management

strategy that includes the key elements identified in this report.

Action Needed: DOE agreed with the recommendation. In January 2022, DOE's Enterprise Cybersecurity Program Plan (E-CSPP), issued its risk management amplification guidance that addressed most elements of a risk management strategy that we identified in our report. However, as of April 2024, DOE had not provided additional evidence to show that it had incorporated details on its approach to risk tolerance in its enterprise cybersecurity program plan.

To fully address the recommendation, DOE needs to provide supplemental information to describe how risk tolerance is incorporated into its enterprise cybersecurity program. Without ensuring that its plans provide such information, DOE may lack a clear organization-wide understanding of acceptable risk levels and appropriate risk response strategies to protect its systems and data.

High-Risk Area: [Ensuring the Cybersecurity of the Nation](#)

Director: Marisol Cruz Cain, Information Technology and Cybersecurity Issues

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Nuclear Weapons Cybersecurity: NNSA Should Fully Implement Foundational Cybersecurity Risk Management Practices. [GAO-22-104195](#). Washington, D.C.: September 22, 2022.

Year Recommendations Made: 2022

Recommendations:

(1) The NNSA Administrator should direct the Office on Information Management to identify the needed resources to implement foundational practices for the operational technology (OT) environment, such as by developing an OT activity business case for consideration in NNSA's planning, programming, budgeting, and evaluation process; and

(2) The Director of NNSA's Office of Acquisition and Project Management should

clarify and reinforce to management and operating (M&O) contractors, such as by a policy flash or other communication, that they are required to monitor subcontractor's cybersecurity measures.

Actions Needed: NNSA agreed with the recommendations. In response to our report, in December 2022, NNSA updated its revised Cybersecurity Program Execution Guidance and, according to an NNSA document, intends to add further clarifying guidance in its planned revision of Supplemental Directive 205.1, Baseline Cybersecurity Program. In April 2024, NNSA estimated that the Baseline Cybersecurity Program Directive would be completed in September 2024. However, NNSA has not provided the revised guidance document and it is unclear how the guidance will be incorporated in the agency's contractor performance evaluation process.

To fully implement our recommendations and ensure GAO's ability to assess the extent to which NNSA's revised guidance documents will support the agency's evaluation of contractor performance, NNSA needs to finalize the revised Baseline Cybersecurity Program Directive. Fully implementing our recommendations will better position NNSA to marshal the resources

necessary to develop an operational technology cybersecurity management framework that aligns with foundational risk management practices. NNSA would also close gaps in M&O contractor oversight of subcontractors and ensure more consistent protection of information and systems.

High-Risk Area: [Acquisition and Program Management for DOE's National Nuclear Security Administration and Office of Environmental Management](#)

Director: David B. Hinchman, Information Technology and Cybersecurity; and Allison B. Bawden, Natural Resources and Environment

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Privacy: Dedicated Leadership Can Improve Programs and Address Challenges, [GAO-22-105065](#). Washington, D.C.: September 22, 2022.

Year Recommendation Made: 2022

Recommendation: The Secretary of Energy should establish a time frame for fully defining the role of the senior agency official for privacy (SAOP) or other designated privacy official in reviewing and approving system categorizations, overseeing privacy control assessments, and reviewing authorization packages, and document these roles.

Actions Needed: DOE agreed with the recommendation. In response to our report, DOE stated that its Office of the Chief Information Officer was in the process of updating DOE Order 206.1, DOE Privacy Program, which DOE officials say will document and define the SAOP's role in reviewing and approving system categorizations, overseeing privacy control assessments, and reviewing authorization packages. In April 2024, DOE stated that it had taken action to address this recommendation and is reviewing the order internally.

To fully address this recommendation, DOE would need to provide relevant updated policies and procedures that define and document the role of the SAOP, or other privacy officials, in reviewing and approving system categorizations, overseeing privacy control assessments, and reviewing authorization packages. Completing this update and review will help DOE ensure that privacy protections are adequately incorporated in systems with personally identifiable information.

High-Risk Area: [Ensuring the Cybersecurity of the Nation](#)

Director: Jennifer R. Franks, Information Technology and Cybersecurity Issues

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Nuclear Security: DOE Should Take Actions to Fully Implement Insider Threat Program. [GAO-23-105576](#). Washington, D.C.: May 24, 2023.

Year Recommendations Made: 2023

Recommendations:

- (1) The Insider Threat Program senior official should establish a process to better integrate insider threat responsibilities, ensuring that the senior official can centrally manage all aspects of the Insider Threat Program.
- (2) The Secretary of Energy should ensure that the Insider Threat Program achieves a single, department-wide approach to managing insider risk.

Actions Needed: DOE agreed with the recommendations. As of April 2024, DOE designated a new senior official for the Insider Threat Program and produced a Near-Term Strategy that identified key actions to take in response to our recommendations, including that the Insider Threat Program Senior official clarify program roles and responsibilities and hire a liaison to coordinate referrals between certain DOE offices.

To fully address the recommendations, DOE needs to better integrate its insider threat responsibilities, or DOE's program will continue to face significant challenges that preclude it from having an effective or fully operational program.

High-Risk Area: [Acquisition and Program Management for DOE's National Nuclear Security Administration and Office of Environmental Management](#)

Director: Allison Bawden, Natural Resources and Environment

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Improving Financial Management

Financial Management: DOE and NNSA Have Opportunities to Improve Management of Carryover Balances. [GAO-22-104541](#). Washington, D.C.: July 25, 2022.

Year Recommendation Made: 2022

Recommendation: The DOE Chief Financial Officer should document DOE's and NNSA's percentage target thresholds to more clearly describe how the thresholds should be applied to uncosted balances and better define the purpose of the percentage targets to ensure that EM, NNSA, and other departmental elements apply the thresholds consistently.

Action Needed: DOE concurred with the recommendation. At the time of our report, DOE stated that the department would establish a working group to provide recommendations regarding the appropriate use of uncosted balance thresholds as a budget execution metric, including how thresholds are established, reviewed, and used in DOE's budget formulation process. As of April 2024, DOE reported that the working group provided recommendations to the department that are under review. Revised metrics based on these recommendations will be included in DOE's revision to its existing policy, which officials estimate will be completed in September 2024.

To fully address this recommendation, DOE should document DOE's and NNSA's percentage target thresholds to more clearly describe how the thresholds should be applied to uncosted balances and better define the purpose of the percentage targets to ensure that EM, NNSA, and other departmental elements apply the thresholds consistently.

Director: Allison B. Bawden, Natural Resources and Environment

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Addressing Worker Protections

Department of Energy: Whistleblower Protections Need Strengthening. [GAO-16-618](#). Washington, D.C.: July 11, 2016.

Year Recommendation Made: 2016

Recommendation: The Secretary of Energy should revise DOE's Integrated Safety Management policy and guidance to clarify what constitutes evidence of a chilled work environment and define the appropriate steps that DOE should take to hold contractors accountable for creating a chilled work environment.

Actions Needed: DOE agreed with the recommendation. However, DOE's revised Integrated Safety Management Policy 450.4A does not define the appropriate steps that DOE should take to hold contractors accountable for creating a chilled work environment. As of April 2024, officials said they were reviewing several policies and orders that will help address the issues related to our recommendation. DOE needs to revise its safety management policy and guidance to include the elements that we recommended. In doing so, DOE would be better able to hold contractors accountable for addressing chilled work environments and increase contractor employee confidence in the mechanisms for raising safety concerns.

Director: Allison B. Bawden, Natural Resources and Environment

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Sexual Harassment: NNSA Could Improve Prevention and Response Efforts in Its Nuclear Security Forces. [GAO-21-307](#). Washington, D.C.: April 19, 2021.

Year Recommendation Made: 2021

Recommendation: The Secretary of Energy should fully implement plans to address the department's Equal Employment Opportunity (EEO) program deficiencies relevant to sexual harassment and work with NNSA to fully implement plans to address the agency's EEO program deficiencies relevant to sexual harassment.

Actions Needed: DOE agreed with the recommendation. As of April 2024, DOE reported that the Equal Employment Opportunity Commission verified that DOE has addressed nine of the ten program deficiencies relevant to sexual harassment and that NNSA has addressed two of three. DOE has also reported establishing a new EEO complaints division in February 2024. To fully implement this recommendation, DOE should fully implement its plans to address its remaining EEO program deficiencies relevant to sexual harassment and work with NNSA to address its remaining deficiency.

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