



May 2022

NUCLEAR WASTE DOE Needs Greater Leadership Stability and Commitment to Accomplish Cleanup Mission

Accessible Version

GAO Highlight

Highlights of [GAO-22-104805](#), a report to the Committee on Armed Services, House of Representatives

Why GAO Did This Study

EM is responsible for cleaning up legacy nuclear waste from weapons production dating back to World War II. In fiscal year 2021, EM estimated the probable future cost of cleaning up its remaining sites to be \$407 billion. In addition, EM expects to shift from constructing to operating waste treatment facilities in coming years. However, EM's cleanup costs and contract and project management are included on GAO's High Risk List, for various reasons.

House Report 116-442 includes a provision for GAO to review EM's leadership capacity. This report examines the extent to which EM (1) has had sustained and consistent leadership commitment and (2) communicates with its workforce in developing and implementing reforms. GAO reviewed DOE data on changes in EM's leadership, as well as EM memos and reports on its reorganizations. GAO also interviewed current and former top leaders of EM, whose collective tenures cover most of EM's history, as well as other DOE officials and stakeholders.

What GAO Recommends

GAO is making two matters for congressional consideration, including establishing a term appointment for EM's top leader and creating a new DOE under secretary position, and one recommendation that EM should develop a communication strategy for developing and implementing reforms that includes continuous, two-way communication mechanisms. DOE agreed with the recommendation and stated that it is taking actions to improve communication as part of a strategy.

View [GAO-22-104805](#). For more information, contact Nathan Anderson at (202) 512-3841 or andersonn@gao.gov.

May 2022

NUCLEAR WASTE

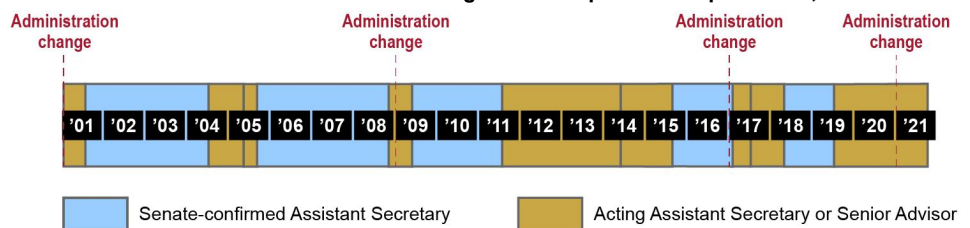
DOE Needs Greater Leadership Stability and Commitment to Accomplish Cleanup Mission

What GAO Found

The Department of Energy's (DOE) Office of Environmental Management (EM) has experienced frequent turnover in its top leadership position, with the average top leader serving for less than 2 years. In the last 2 decades, there have been five Senate-confirmed assistant secretaries (political appointees) and nine acting assistant secretaries or senior advisors (see fig.). Frequent turnover has created challenges for achieving the department's complex and long-term cleanup mission, such as difficulty building relationships with stakeholders, inconsistent and incomplete initiatives, and a focus on short-term actions over long-term priorities, according to those GAO interviewed.

Several options exist that can enhance leadership commitment. Specifically, DOE's Deputy Secretary told GAO that filling EM's top leadership position with a senior career official, rather than a political appointee, could help overcome some of the challenges, if serving for a long enough tenure. Alternatively, GAO has found that term appointments can help agencies facing long-term challenges that require sustained leadership attention over time. For example, GAO has previously supported establishing term appointments of at least 5 to 7 years for certain leadership positions. Legislation establishing a term appointment for EM's top leader could help improve leadership stability, address challenges, and better support EM's long-term mission to clean up nuclear waste by helping create an organizational commitment that can endure across administrations.

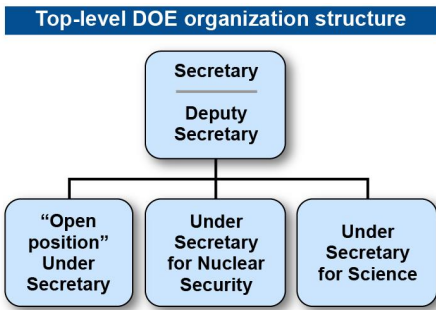
Turnover in the Office of Environmental Management's Top Leadership Position, 2001 to 2021



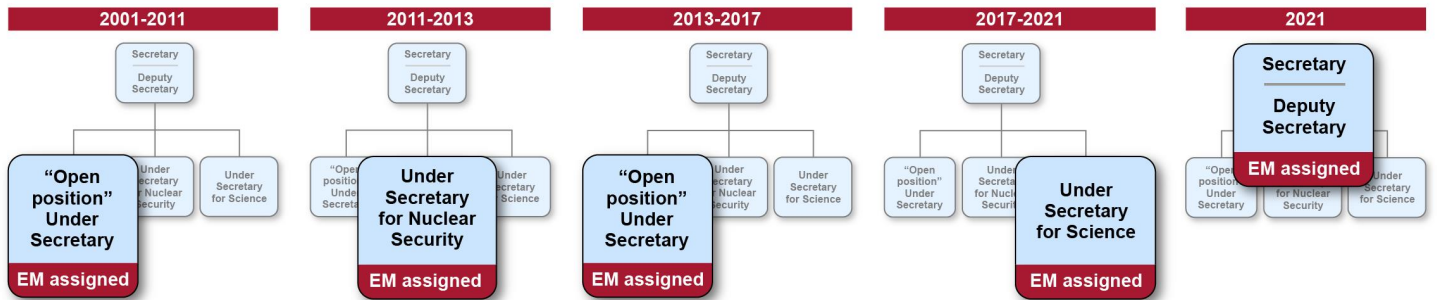
Source: GAO analysis of Department of Energy information. | GAO-22-104805

In addition to frequent turnover in leadership, EM's different positions in DOE's organizational structure have not provided sustained leadership commitment for environmental cleanup. EM has reported to DOE's Deputy Secretary and three under secretaries at different points throughout EM's history (see fig. on next page), but those GAO interviewed said that none of these organizational positions have supplied EM with the consistent leadership it needs. GAO's prior work shows that the nature and scope of the changes needed in federal agencies facing long-standing management challenges and high-risk operations require the sustained commitment of the top political leadership. Congress has previously created new under secretary positions in DOE in the wake of concerns regarding departmental management of and leadership attention to particular mission areas. A new, dedicated DOE under secretary position for nuclear waste management and environmental cleanup could help ensure that EM receives the sustained attention and commitment it needs to make cleanup progress.

Office of Environmental Management's Positions in Department of Energy's (DOE) Organizational Chart, 2001 through 2021



Location of Office of Environmental Management (EM) within DOE structure, 2001-2021



Source: GAO analysis of Department of Energy documents. | GAO-22-104805

Note: The functions of the “open position” Under Secretary are determined at the discretion of the Secretary of Energy, and this under secretary has had different titles over time. The Under Secretary for Nuclear Security was created by statute in 1999, and the Under Secretary for Science was created by statute in 2005.

Since 1999, EM leaders have made four major and many minor reforms to EM’s organizational structure. EM communicates with its workforce about organizational reforms using various tools, but it is not taking full advantage of opportunities to involve employees in these reforms. For example, according to some senior DOE and EM officials GAO interviewed, EM has obtained limited employee input about previous organizational reforms, aside from input at the most senior level of EM’s leadership. Some EM officials said that, when EM underwent prior organizational changes, EM’s cleanup work slowed in part because of employee uncertainty about the impact of the changes on their work. GAO’s prior work on agency reforms has demonstrated that a continuous, two-way communication strategy can help respond to employee concerns regarding the effects of potential reforms. By developing such a communication strategy, EM could help maintain the effectiveness of its workforce when implementing future reforms.

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Abbreviations

DOE Department of Energy

EM	Office of Environmental Management
FEVS	Federal Employee Viewpoint Survey
NNSA	National Nuclear Security Administration

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May 3, 2022

The Honorable Adam Smith
Chairman
The Honorable Mike Rogers
Ranking Member
Committee on Armed Services
House of Representatives

For more than 30 years, the Office of Environmental Management (EM) within the Department of Energy (DOE) has been charged with cleaning up contamination from decades of nuclear weapons production and research at sites across the country. In fiscal year 2021, EM estimated the probable future cost of cleaning up its remaining sites to be \$407 billion.¹ This estimated cost—known as EM’s environmental liability—represents the majority of the U.S. government’s overall environmental liability, and on average it has grown at a rate that outpaced EM’s spending over the past decade.² In 2017, we added the U.S. government’s environmental liability to the list of areas that are at high risk for fraud, waste, abuse, and mismanagement or in need of transformation. Contract and project management at EM is also on our High Risk List and, in our 2021 update to the High Risk List, we noted that leadership commitment is the critical element for initiating and sustaining progress in high-risk areas.

EM has described the coming decade as a time of change for the agency, as it shifts from constructing to operating waste treatment facilities at some of its major sites. Our past work has identified key practices for organizational transformations, including practices for communicating

¹Department of Energy, *Agency Financial Report: Fiscal Year 2021*, DOE/CF-0180 (Washington, D.C.: Nov. 17, 2021). EM was originally responsible for 107 sites, 92 of which have been cleaned up as of March 2022. Throughout our review, and at the time that EM estimated these costs in fiscal year 2021, there were 16 sites remaining. EM completed clean up at Brookhaven National Laboratory in March 2022 reducing the number of remaining sites to 15.

²For additional information about factors contributing to EM’s environmental liability, see GAO, *Department of Energy: Program-Wide Strategy and Better Reporting Needed to Address Growing Environmental Cleanup Liability*, [GAO-19-28](#) (Washington, D.C.: Jan. 29, 2019).

reforms.³ House Report 116-442, accompanying H.R. 6395, the William M. (Mac) Thornberry National Defense Authorization Act for Fiscal Year 2021, Pub. L. No. 116-283, includes a provision for us to review EM's leadership stability and capacity. This report examines (1) the extent to which EM has had sustained and consistent leadership commitment and (2) the extent to which EM communicates with its workforce in developing and implementing reforms.

To examine the extent to which EM has had sustained and consistent leadership commitment, we gathered data from DOE on the tenures of those in EM's top leadership position (typically the Assistant Secretary for EM) from 1989 to 2021.⁴ We reviewed studies and articles on leadership tenure. We also analyzed DOE organizational charts from 1989 to 2021 to identify changes in EM's placement within DOE's organizational structure, including changes in associated reporting lines between EM's top leader and the principal officer (typically a DOE Under Secretary or the DOE Deputy Secretary) in charge of overseeing EM.⁵ We also reviewed congressional hearings, legislative reports, and DOE documents.

To examine the extent to which EM communicates with its workforce in developing and implementing reforms, we reviewed documents such as 31 EM organizational charts from 2001 to 2021 and memorandums and other reports related to agency reorganization. We reviewed EM's internal communication tools and DOE's *Organizational Management Report Summary* of EM's results from the Federal Employee Viewpoint Survey

³GAO, *Results-Oriented Cultures: Implementation Steps to Assist Mergers and Organizational Transformations*, [GAO-03-669](#) (Washington, D.C.: July 2, 2003). For the purposes of this report, we use the terms "reform" and "transformation" interchangeably to broadly include any organizational changes—such as transformations, mergers, consolidations, and other reorganizations—and efforts to streamline and improve the efficiency and effectiveness of government operations.

⁴EM was created as a distinct office within DOE in 1989.

⁵For the purposes of this report, we use "placement" to refer to EM's position in DOE's organizational chart and associated reporting lines based on that position. For example, when EM was placed under the Under Secretary for Science in DOE's organizational chart, the top leader in EM reported to the person holding the title of Under Secretary for Science.

(FEVS) for 2019 and 2020, specifically those that captured the views of EM employees on leadership and organizational issues.⁶

For both objectives, we conducted interviews with 17 current and former EM leaders whose tenures, collectively, cover most of EM's history.⁷ We also interviewed other senior DOE and EM officials, as well as stakeholders from state regulatory agencies in states with the largest EM sites by fiscal year 2021 budget request and from a national organization representing the communities affected by cleanup sites.⁸ We compared this information with criteria for leadership commitment, organizational transformations, and agency reform. See appendix I for additional details on our scope and methodology.

We conducted this performance audit from February 2021 to May 2022 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

⁶Department of Energy, *Organizational Management Report (OMR) Summary: 2019 Federal Employee Viewpoint Survey (FEVS) Results, Assistant Secretary for Environmental Management (EM)* (Washington, D.C.: n.d.); and *Organizational Management Report (OMR) Summary: 2020 Federal Employee Viewpoint Survey (FEVS) Results, Assistant Secretary for Environmental Management (EM)* (Washington, D.C.: n.d.).

⁷We collectively refer to these current and former leaders as "EM leaders." Of the 10 individuals we interviewed who served as the Principal Deputy Assistant Secretary, five also served as EM's top leader for a period. We were only able to identify one of the second-most-senior leaders that served prior to 1999, and that leader was unavailable for an interview. We refer to all other EM, DOE, and union officials collectively as "senior DOE and EM officials."

⁸To identify the number of interviewees who expressed particular views, we use the following modifiers throughout the report: "some" represents two to four interviewees, "several" represents five to eight interviewees, "many" represents nine to 15 interviewees, "most" represents 16 to 29 interviewees, and "nearly all" represents 29 or more. We considered officials from a particular office, state or local agency, or association to be one interviewee, even though multiple officials or representatives may have participated in the interview. Interviewees responded to semistructured interview questions that were typically open-ended. We did not ask interviewees to comment on the views of other interviewees (e.g., an interviewee's view on the best placement for EM), but we noted opposing views, where appropriate. In order to preserve the anonymity of interviewees, in this report we use general language when describing the examples and remove references to specific places and time, where appropriate.

the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

Background

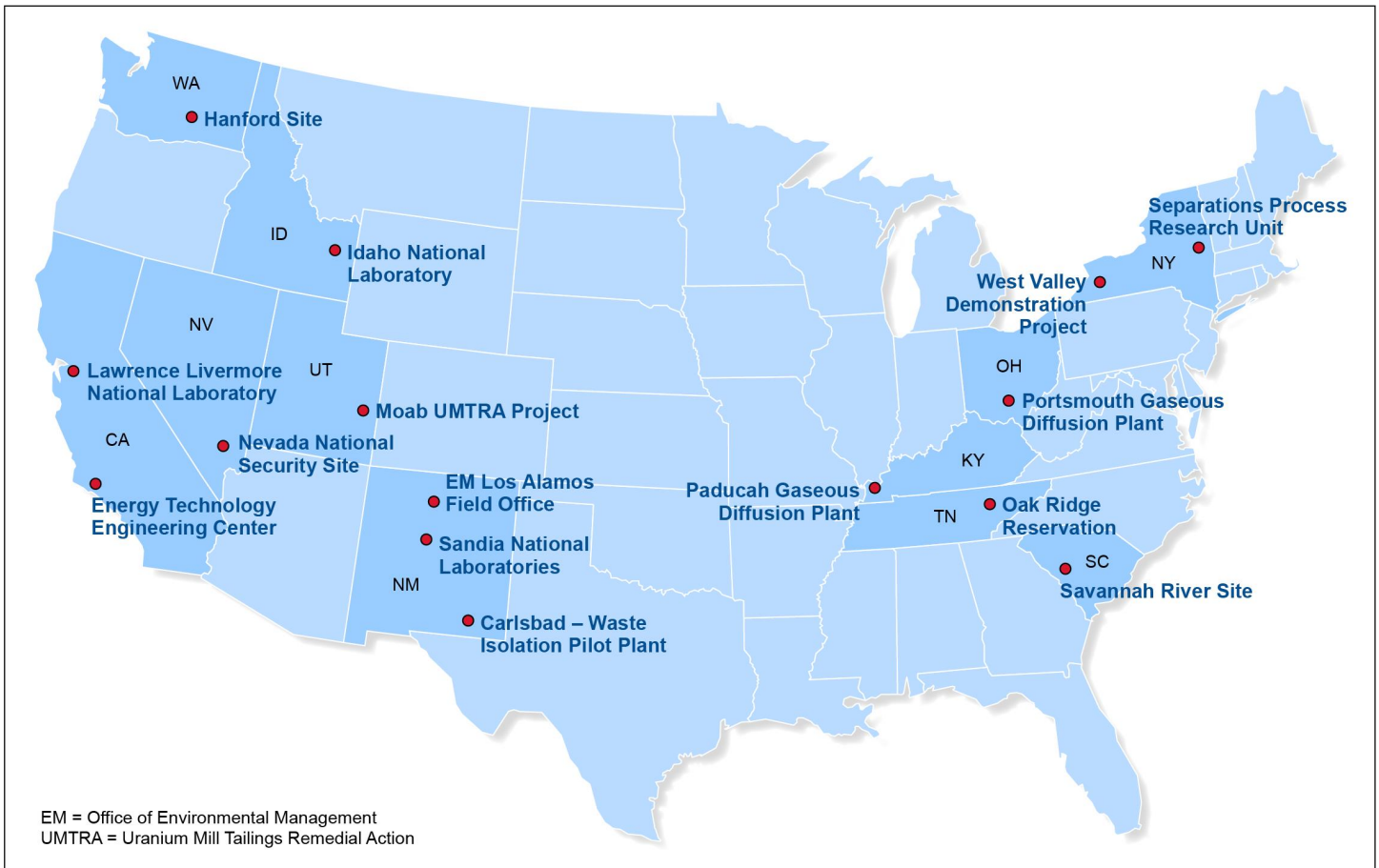
EM's Mission, Budget, and Vision

EM was created in 1989 to complete the cleanup of substantial environmental contamination at sites that were involved in DOE's nuclear weapons production and research, some of it dating back to the Manhattan Project in the 1940s.⁹ The Secretary of Energy established EM in November 1989 to consolidate DOE-wide responsibility for environmental compliance and cleanup and to elevate the issues for better attention from top-level management.¹⁰ Since its creation, EM has shifted its emphasis from identifying and characterizing the waste at sites to active site cleanup. By 2013, EM had reduced the number of contaminated sites from 107 sites in 31 states to 16 sites in 11 states. EM's combined active remediation footprint has been reduced by 90 percent, from approximately 3,300 square miles to less than 300 square miles. EM's cleanup mission at some of the remaining 15 sites is a long-term endeavor, with some cleanup activities expected to last until at least 2070 (see fig. 1).

⁹DOE and its predecessor entities were not generally subject to external regulation. In the 1970s and 1980s, legal decisions and policy changes brought new scrutiny to DOE's compliance with environmental laws. As we and others have reported, DOE's lack of attention to managing the waste from nuclear weapons production and research activities strained relationships with states and communities. See, for example, GAO, *Managing the Environmental Cleanup of DOE's Nuclear Weapons Complex*, T-RCED-91-27 (Washington, D.C.: Apr. 11, 1991).

¹⁰Department of Energy Memorandum, *Establishment of the Office of Environmental Restoration and Waste Management*, SEN-13-89 (Washington, D.C.: Nov. 16, 1989).

Figure 1: Department of Energy’s Office of Environmental Management Sites Where Nuclear Waste Cleanup Remains



Sources: GAO analysis of Department of Energy information; Map Resources (map). | GAO-22-104805

EM’s cleanup mission includes remediating contaminated soil and groundwater, deactivating and decommissioning contaminated buildings, and constructing and operating facilities to treat millions of gallons of radioactive waste. Among other requirements, state and federal laws shape EM’s work, along with DOE orders and agreements negotiated with its regulators at specific sites (e.g., state agencies and/or the U.S. Environmental Protection Agency), which often specify milestones that EM is supposed to achieve in cleaning up the sites. To carry out its mission, EM received nearly \$7 billion on average annually between 2016 and 2021, out of DOE’s total average annual budget of about \$35 billion over that period, according to DOE budget documents. Over the same

period, EM's environmental liability increased from approximately \$257 billion to \$407 billion.¹¹

In 2020, EM released a strategic vision document describing the coming decade as a time of change, as the agency shifts from years of designing and constructing radioactive waste treatment facilities at three of its major sites to operating these facilities.¹² Since 2020, this vision document has been accompanied by an annual priorities scorecard that defines the agency's priorities for the current fiscal year. Other key planning documents further define EM's approach to conducting its cleanup work, such as its program management protocol, which was released in 2020 and establishes requirements and expectations for planning, budgeting, executing, and evaluating all work within EM.¹³

EM Leadership and Oversight

Since EM's establishment, the agency's top leader has been intended to be an Assistant Secretary.¹⁴ The Department of Energy Organization Act, as amended, establishes eight DOE Assistant Secretaries to be appointed by the President with the advice and consent of the Senate.¹⁵ The statute identifies the responsibilities that are to be assigned to the DOE Assistant Secretaries, including environmental and nuclear waste management responsibilities and functions carried out by the EM Assistant Secretary. The EM Assistant Secretary has responsibilities for nuclear waste management at DOE, which includes the establishment of programs for the treatment, management, storage, and disposal of nuclear wastes, among other responsibilities. When the Assistant Secretary position is vacant, the President may select an official, subject to specific requirements, to perform the tasks of the Assistant Secretary on a temporary basis; this person is generally referred to as the Acting

¹¹According to DOE officials, the Hanford site in Washington State accounts for the majority of this increase in environmental liabilities.

¹²Department of Energy, *EM Vision 2020-2030: A Time of Transition and Transformation* (Washington, D.C.: Mar. 9, 2020).

¹³Department of Energy, *Environmental Management Program Management Protocol* (Washington, D.C.: Oct. 30, 2020).

¹⁴Officials holding the title of Senior Advisor have also been the top leader of EM.

¹⁵Pub. L. No. 95-91, tit. II, § 203, 91 Stat. 565, 570 (1977) (codified as amended at 42 U.S.C. § 7133(a)).

Assistant Secretary.¹⁶ The EM Principal Deputy Assistant Secretary, the second-most-senior position within EM, supports the EM Assistant Secretary in managing the EM program. This position is typically filled by a senior career official. Additional senior leadership positions report to these top two positions and, over the history of EM, have taken on various roles and portfolios, such as oversight of safety and of the field offices.

DOE's principal officers serve under the Secretary of Energy as the department's top leadership and oversee major departmental elements, such as EM, the Office of Science, and the National Nuclear Security Administration (NNSA).¹⁷ The statutory provision establishing DOE's principal officers provides that the department will have three under secretaries to carry out various functions, to include (1) the Under Secretary whose duties are to be determined at the discretion of the Secretary of Energy, which we refer to as the "open position" Under Secretary; (2) the Under Secretary for Nuclear Security, who also serves as the Administrator for the NNSA; and (3) the Under Secretary for Science (see fig. 2).¹⁸ The provision also establishes that DOE will have two other principal officers: the Deputy Secretary and the General Counsel.

Congress established DOE's three under secretary positions in three different acts. First, the 1977 Department of Energy Organization Act established that DOE would have one under secretary (here referred to as the "open position" Under Secretary).¹⁹ Second, the National Defense Authorization Act for Fiscal Year 2000 amended the Department of Energy Organization Act to add the new Under Secretary for Nuclear

¹⁶Under the Federal Vacancies Reform Act of 1998, Pub. L. No. 105-277, Div. C, tit. I, § 151, 112 Stat. 2681, 2681-611–2681-616 (codified as amended at 5 U.S.C. §§ 3345-3349d), an acting officer may serve in a vacant position for no longer than 210 days, beginning on the date of the vacancy, with adjustments to be made if the President submits a nomination for the position and in the case of presidential inaugural transitions.

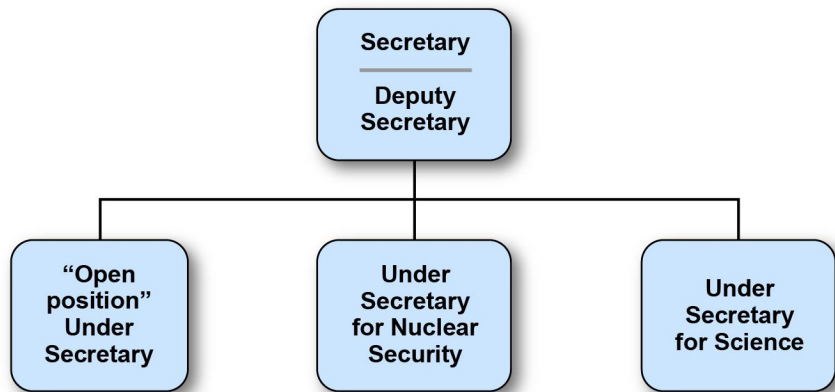
¹⁷NNSA's mission is, in part, to maintain the nation's nuclear weapons stockpile and prevent nuclear weapon proliferation. The Office of Science is the lead federal agency supporting basic research in the physical sciences and is responsible for most of DOE's national laboratories.

¹⁸42 U.S.C. § 7132, as amended in 2005.

¹⁹Pub. L. No. 95-91, tit. II, § 202(b), 91 Stat. 565, 569 (1977) (codified at 42 U.S.C. § 7132(d)).

Security.²⁰ Third, the Energy Policy Act of 2005 again amended the Department of Energy Organization Act to add the new Under Secretary for Science.²¹

Figure 2: Department of Energy’s Principal Officers



Source: GAO analysis of Department of Energy (DOE) documents. | GAO-22-104805

Note: DOE’s General Counsel is also designated as a principal officer. See 42 U.S.C. § 7132(e).

EM’s Organizational Structure

EM is composed of headquarters offices and field sites (collectively referred to as the EM complex), which work together to advance EM’s cleanup mission. Contractors with significant federal oversight conduct EM’s on-the-ground cleanup work. According to EM’s *Strategic Vision: 2021-2031*, EM currently has a workforce of approximately 33,000 federal and contractor employees. EM has field offices, each led by a field manager, to oversee the cleanup work performed by contractors at its 15 remaining sites.

Authorities, roles, and responsibilities in EM are divided between headquarters and field sites. For example, over the last decade, authorities have been delegated to different levels of the organization, such as office directors and field managers. EM has also experienced a

²⁰Pub. L. 106-65, Div. C, tit. XXXII, § 3202, 113 Stat. 512, 954 (1999) (codified at 42 U.S.C. § 7132(c)).

²¹Pub. L. 109-58, tit. X, § 1006(a), 119 Stat. 594, 930 (2005) (codified at 42 U.S.C. § 7132(b)).

variety of changes to its organizational structure over time, including major reorganizations, which required secretarial notification, and smaller changes for which such notification was not necessary.²²

DOE Has Experienced Frequent Leadership Turnover in EM and Inconsistent Commitment in Its Top Positions

Frequent turnover in EM's top leadership position has created challenges for achieving DOE's complex cleanup mission. In addition, DOE's organizational structure has not provided sustained leadership commitment for addressing DOE's long-term environmental cleanup responsibilities.

Frequent Turnover in EM's Top Leadership Position Has Created Challenges for Achieving DOE's Long-Term and Complex Cleanup Mission

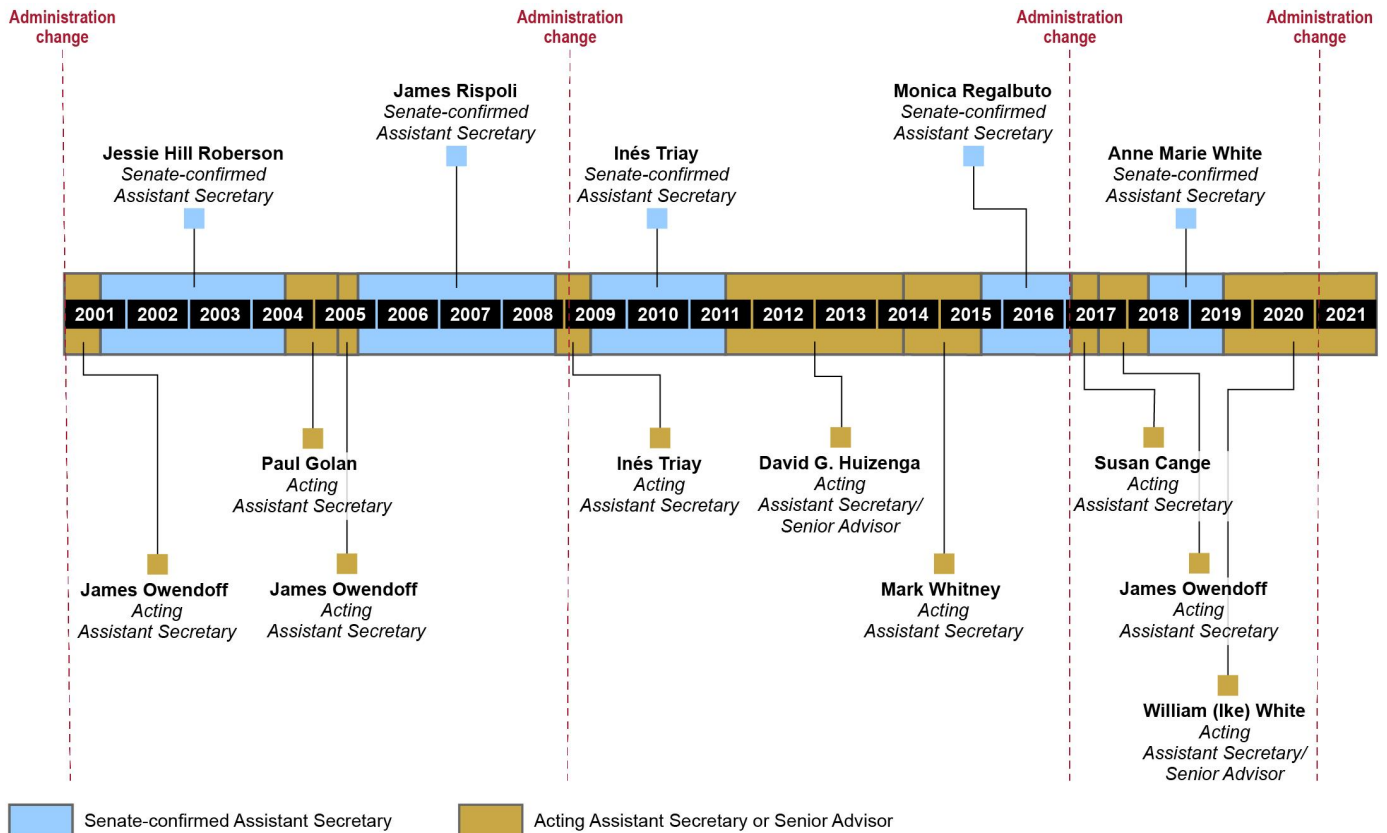
EM's top leader has changed frequently since the agency's creation. Since 1989, 16 individuals have served as EM's top leader, with an average tenure of about 1 year and 9 months each.²³ In roughly the last 5 years, the average tenure has decreased. Specifically, since January

²²We define organizational structure as consisting of units, roles, responsibilities, authorities, and reporting lines. We consider major changes to be those that required EM to submit a Memo of Reorganization to the Secretary of Energy. In addition, we consider both major and minor changes to organizational structures to be reforms, as described in our past work, including GAO, *Government Reorganization: Key Questions to Assess Agency Reform Efforts*, [GAO-18-427](#) (Washington, D.C.: June 13, 2018). See the section of this report entitled "EM Leaders Have Implemented Multiple Organizational Reforms across the EM Complex" for additional details about changes to EM's organizational structure.

²³These 16 individuals have served in varying capacities, including Senate-confirmed Assistant Secretary, Acting Assistant Secretary, and Senior Advisor. One of these 16 individuals served as Acting Assistant Secretary multiple nonconsecutive times. In calculating the length of tenures, we consider consecutive tenures of the same individual in different capacities to be one tenure. For example, for an individual who served as Acting Assistant Secretary before becoming Senate confirmed, we count both the Acting and Senate-confirmed periods as this individual's tenure.

2017, four individuals have served as EM's top leader, with an average tenure of about 1 year and 3 months each (see fig. 3).²⁴

Figure 3: Office of Environmental Management Leader Tenures, 2001 through 2021



Source: GAO analysis of Department of Energy information. | GAO-22-104805

Note: In addition to the 11 individual leaders named in this figure, five other individuals served as EM's top leader from 1989 to 2001.

Nearly all of those we interviewed—EM leaders, senior DOE and EM officials, and stakeholders—told us that short tenures in EM's top leadership position have created several challenges for EM. They described some of the negative effects of the short leadership tenures that they observed: difficulty building relationships with external

²⁴During this period, EM's top leader served for periods ranging from approximately 5 months to 2 years and 10 months.

stakeholders; inconsistent and incomplete initiatives; and focus on short-term actions to the detriment of long-term priorities.

- **Difficulty building relationships with external stakeholders.** Many of those we interviewed said that relationships with individuals or groups external to EM are affected by frequent changes in EM's top leader. One former EM leader said that developing relationships and building trust with local communities, regulators, and DOE leadership is a key function of EM's top leader. According to this former EM leader, short tenures mean that there is not enough time for the EM leader to fulfill this function. Some EM leaders and stakeholders also told us that frequent turnover has damaged the credibility and perceived authority of EM's top leader. For example, one stakeholder told us that DOE lost credibility with the local community when a former EM leader made a cleanup commitment at a site and then left the agency shortly thereafter. Another stakeholder said that EM's top leader has changed so often that the stakeholder no longer pays attention to the individual in that position and instead seeks out lower levels of EM leadership when issues arise.
- **Inconsistent and incomplete initiatives.** Many of those we interviewed said that short tenures in EM's top position have affected the consistency and implementation of initiatives started by those leaders. They told us that they have observed initiatives started and then left unfinished; cycles of starting, pausing, and reworking programs and policies based on new leaders' directions; and, at times, dramatic shifts in leadership priorities and focus that disrupt cleanup work and introduce confusion and uncertainty among EM employees. One senior DOE official said that many EM leaders bring in new approaches to contract and project management but that frequent leadership turnover means that the approaches are not in place long enough for EM to judge their effectiveness. According to several of those we interviewed, one reason that short-tenured EM leaders may not have enough time to develop and implement their initiatives is because new leaders must spend a substantial amount of time—from 6 months to a few years, depending on a leader's background—learning about the agency and the varied history and status of its 15 sites. Once they overcome this learning curve, leaders' time in office may end shortly thereafter.
- **Focus on short-term actions over long-term priorities.** Several of those we interviewed told us that short tenures in EM's top leadership position have resulted in short-term actions that do not align with EM's long-term mission. They explained that, because EM leaders typically expect to be in the position for only a limited period, these leaders

seek out short-term accomplishments that, in officials' views, are at odds with EM's decades-long clean-up mission. For example, one senior EM official described a leader's short-term initiative at a site as challenging to implement because it took attention and resources away from construction of a major capital asset project. Similarly, one EM leader said that some of EM's most challenging issues exist because previous leaders made decisions without considering long-term implications. This leader told us that previous EM leaders entered into cleanup agreements that provided EM with short-term solutions but that the long-term consequences of such agreements have proven difficult for EM to manage.

The DOE Deputy Secretary told us in January 2022 that filling EM's top leadership position with a senior career official, rather than a political appointee, could help overcome some of these challenges. Specifically, the Deputy Secretary said that a senior career official, if serving for a long enough tenure, could help improve the consistency and completeness of initiatives and bring focus to EM's long-term priorities. The Deputy Secretary acknowledged that achieving such successes could depend on the specific background and characteristics of the individual filling the position, rather than on any features of EM's organizational structure.

We have previously reported on the importance of sustained leadership attention in federal agencies facing complex, long-term management challenges, noting that the length of time often needed to provide meaningful and sustainable results can easily outlast the tenures of top political appointees.²⁵ To reduce turnover in positions that require sustained leadership attention, we and others have identified establishing term appointments—appointments with specific term lengths set in statute—as an option that Congress may consider.²⁶ For example, we have previously proposed that Congress consider establishing term

²⁵GAO, *Organizational Transformation: Implementing Chief Operating Officer/Chief Management Officer Positions in Federal Agencies*, [GAO-08-34](#) (Washington, D.C.: Nov. 1, 2007).

²⁶According to a 2021 Congressional Research Service report, term appointments establish norms and expectations for the tenure of these positions for potential appointees. Congressional Research Service, *Appointment and Confirmation of Executive Branch Leadership: An Overview*, R44083 (Washington, D.C.: Mar. 17, 2021). This report notes that statutory term appointments currently exist for various senior-level positions in a number of agencies, bureaus, commissions, and boards in the federal government, typically with lengths of terms ranging from 4 to 7 years.

appointments of at least 5 to 7 years for certain positions at federal agencies with long-term management challenges.²⁷

In addition, a 2021 report from the Partnership for Public Service identifies term appointments as a way to enhance leadership continuity and reduce turnover in key positions.²⁸ The report states that formally converting key positions to term appointments can encourage stability and expertise in crucial roles while still allowing the Senate to maintain its advice and consent powers. It notes several characteristics of leadership positions that may benefit from term appointments, including

- if a position requires long-term perspective and responsibility,
- if a position requires deep technical expertise, and
- if a position relies on perspectives from external stakeholders.

Those we interviewed described EM's top leadership position as requiring each of these characteristics. Further, empirical data from a 2012 study support the idea that term appointments are associated with longer tenures.²⁹ The study found that individuals serving in selected presidentially appointed, Senate-confirmed positions with terms fixed by statute had longer tenures, on average, than appointees to positions

²⁷Specifically, in 2007, we proposed that Congress consider strategies such as term appointments in implementing Chief Operating Officer/Chief Management Officer positions within federal agencies. We noted that providing such positions with term appointments of about 5 to 7 years would be one way to help ensure that long-term management and transformation initiatives provided meaningful and sustainable results. See [GAO-08-34](#) and GAO, *Defense Business Transformation: Achieving Success Requires a Chief Management Officer to Provide Focus and Sustained Leadership*, [GAO-07-1072](#) (Washington, D.C.: Sept. 5, 2007).

²⁸Partnership for Public Service, *Unconfirmed: Why Reducing the Number of Senate-Confirmed Positions Can Make Government More Effective* (Washington, D.C.: August 2021). This report also identified other options, such as converting political appointments to non-political career roles. However, based on our interviews, there may be some additional disadvantages associated with these options.

²⁹M. Dull et al. "Appointee Confirmation and Tenure: The Succession of U.S. Federal Agency Appointees, 1989-2009," *Public Administration Review*, vol. 72, no. 6 (November-December 2012).

without such terms, after controlling for several other factors that might influence tenure.³⁰

EM's top leadership position is not a term appointment, but several of those we interviewed told us that establishing a term appointment for the position could help increase the duration of a leader's tenure for what some said is one of the most difficult jobs in government. Some of those we interviewed said that, with a term appointment, a candidate would accept the position with a stronger internal commitment and expectation to stay in the job for a set length of time. They also told us that a term appointment could help insulate the position from political pressure—an issue cited by several of those we interviewed as a reason why EM's top leadership job is so difficult.³¹ For example, EM leaders told us that the competing demands and divergent interests of local stakeholder groups, congressional interests, and regulatory agencies mean that, at any given time, one or more of these groups strongly disapprove of an EM leader's performance. In addition, some EM leaders described seeing opportunities to allocate EM resources more strategically but said that pursuing such changes was difficult or impossible in the face of pressure from different groups. Legislation that establishes a term appointment for EM's top leader could help improve stability, address challenges associated with short leadership tenures, and better support progress toward EM's long-term mission.

DOE's Organizational Structure Has Not Provided Sustained Leadership Commitment for Environmental Cleanup

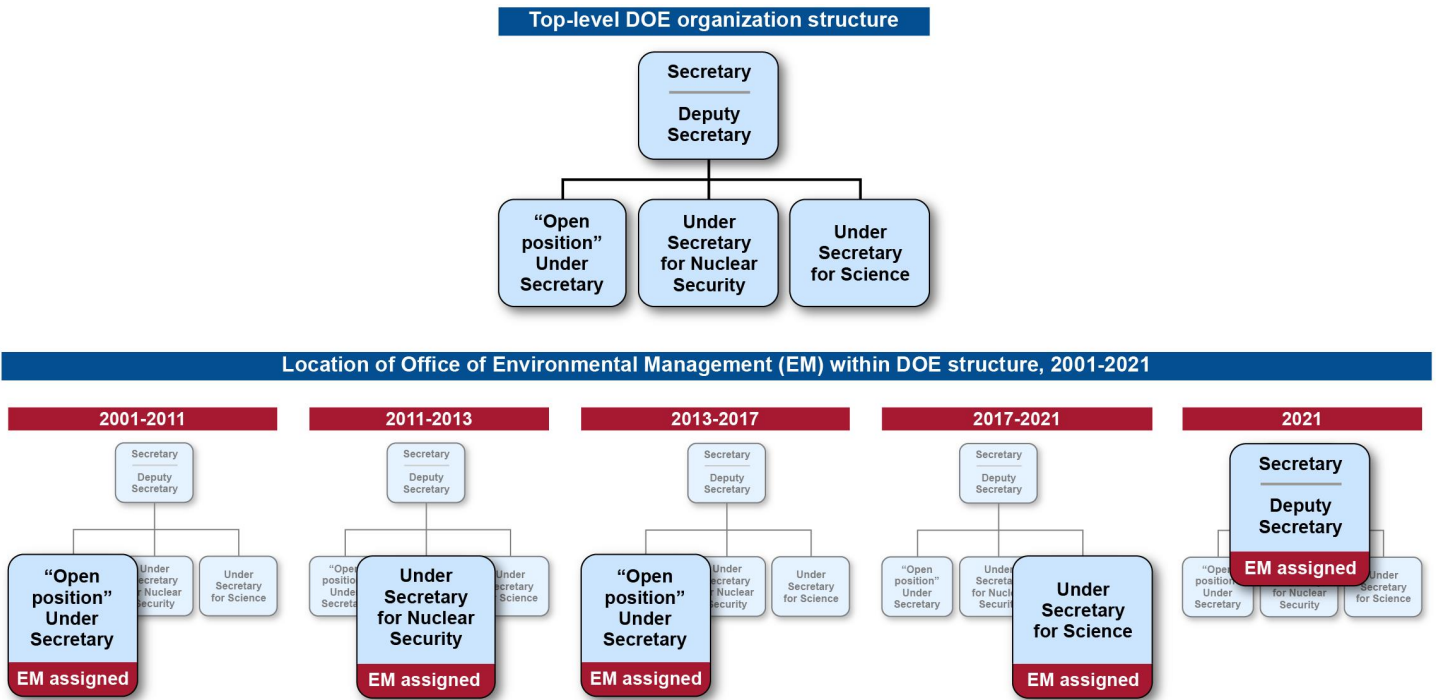
EM has reported to each of DOE's principal officers (aside from the General Counsel) over the course of EM's history. Specifically, since

³⁰The study controlled for other factors that might influence tenure, such as whether a position is the head of an agency and whether a position's primary responsibilities included specialized scientific or technical knowledge.

³¹Some of those we interviewed brought up a disadvantage of establishing a term appointment for EM's top leader, saying that a leader whose term extends across presidential administrations may find it difficult to build trust with the new administration. However, as noted by the 2021 Congressional Research Service report, many term appointees serve at the pleasure of the President, meaning that such appointees can be removed by the President at any time, for any reason. The purpose of the term appointment is to provide an expectation for the length of tenure; such an expectation may inhibit, but does not prevent, removal of an appointee by the President.

2001, EM has had periods of reporting to the Deputy Secretary and to each of the three DOE under secretaries—the “open position” Under Secretary, the Under Secretary for Nuclear Security, and the Under Secretary for Science (see fig. 4).³² Appendix II provides additional detail on EM’s leadership, placement, and organizational structure changes.

Figure 4: EM’s Positions in DOE’s Organizational Chart, 2001 through 2021



Source: GAO analysis of Department of Energy (DOE) documents. | GAO-22-104805

Note: The functions of the “open position” Under Secretary are determined at the discretion of the Secretary of Energy, and this under secretary has had different titles over time. The Under Secretary for Nuclear Security was created by statute in 1999, and the Under Secretary for Science was created by statute in 2005.

In each of these periods, the Deputy Secretary or the Under Secretary in charge of EM has also been responsible for other major DOE elements:

- In 2001, the “open position” Under Secretary—then referred to as the Under Secretary for Energy, Science, and Environment—had

³²The “open position” Under Secretary has had different titles over time. For example, beginning in 2013, it was called the Under Secretary for Management and Performance and, beginning in 2017, it was called the Under Secretary of Energy.

responsibility for EM, along with the Offices of Science, Fossil Energy, and Energy Efficiency and Renewable Energy, among others.³³

- In 2011, the Under Secretary for Nuclear Security began to oversee EM. This position also had responsibility for NNSA, whose mission is, among other things, to maintain the nation’s nuclear weapons stockpile. NNSA’s budget was about twice as large as EM’s budget during this time (roughly, fiscal years 2011 to 2013).³⁴
- In 2013, the “open position” Under Secretary—then referred to as the Under Secretary for Management and Performance—again began to oversee EM and also had responsibility for DOE’s mission support offices, such as the Offices of Project Management Oversight and Assessments, Chief Human Capital Officer, and Chief Information Officer.
- In 2017, the Under Secretary for Science began to oversee EM and also had responsibility for the Office of Science, which is the lead federal agency supporting basic research in the physical sciences and is responsible for most of DOE’s national laboratories. It had a budget similar in size to EM’s during this time (roughly, fiscal years 2017 to 2021).³⁵
- In 2021, the DOE Deputy Secretary began to oversee EM. This position has a number of department-wide responsibilities, including serving as DOE’s Chief Operating Officer, and also oversees mission support offices, such as the Offices of Enterprise Assessments, Chief Human Capital Officer, and Chief Financial Officer.

Most of the EM leaders, senior DOE and EM officials, and stakeholders we interviewed said that, positioned alongside these other major DOE elements, EM has not consistently received the sustained leadership commitment that is needed, given the size and scope of its mission and challenges. Many described EM as too big and too different from the other parts of DOE for a single leader to effectively oversee it in addition to the other major DOE elements. Several of those we interviewed said that oversight of EM by a principal officer is a time-intensive responsibility, with some saying it requires daily interaction with EM leadership. They

³³In 2005, the Office of Science moved to the portfolio of the newly created Under Secretary for Science; the “open position” Under Secretary retained oversight of EM and the other offices that had been in its portfolio since 2001.

³⁴For example, in fiscal year 2012, EM’s budget was about \$5.7 billion, and NNSA’s budget was \$11 billion.

³⁵For example, in fiscal year 2019, EM’s budget was about \$7.2 billion, and the Office of Science’s budget was about \$6.6 billion.

said that principal officers who have other major responsibilities have not had the capacity to consistently provide EM with this level of attention.

In addition, several of those we interviewed described EM's cleanup mission as fundamentally different from other parts of DOE, such as NNSA and the Office of Science. Some said that EM's placement alongside NNSA, for instance, in effect relegated the cleanup mission to a secondary priority, as many people working within this principal officer's portfolio viewed NNSA's nuclear weapons work as more pressing. Several of those we interviewed told us that any potential synergies the department hoped to gain by placing EM alongside other major DOE elements either did not materialize or were outweighed by the drawbacks of such placements, such as inattention from a principal officer with competing priorities.³⁶

According to several of those we interviewed, principal officers may be reluctant to add EM to their portfolios because of EM's challenging mix of technical, regulatory, and political issues. They described a sense that this has resulted in EM being consigned to placements where the principal officer in charge is not interested in advocating for or supporting the cleanup mission. For example, one EM leader told us that the principal officer in charge during this leader's tenure had no interest in EM and was uncomfortable working on nuclear cleanup issues. Another EM leader described the principal officer in charge during their tenure as being solely interested in a different part of the portfolio and, as a result, asking to be informed about EM's work only when major meetings or events occurred.

Those we interviewed did offer instances in which, despite sharing a portfolio with another major DOE element, EM received sufficient leadership from the principal officer. However, they ascribed these positive outcomes to the unique qualifications and backgrounds of the individuals involved and said that these conditions are unlikely to be replicated. For example, some of those we interviewed told us that one principal officer who had a background in EM's cleanup work was able to provide EM with needed support and accountability, despite also being in

³⁶One DOE office that has consistently been located alongside EM is the Office of Legacy Management, which assumes responsibility for sites once EM's cleanup is completed and then provides surveillance and maintenance to ensure continued human health and environmental protection. Of those we interviewed who brought up the Office of Legacy Management, they said that placing EM and this office under the same principal officer makes sense because, for example, the two share similar missions and must collaborate closely in conducting their work.

charge of overseeing another major DOE element. They said that this individual's particular background made the person a good fit for EM, but one EM leader noted that those filling this particular principal officer position at other times would be unlikely to bring the same qualifications. In addition, those we interviewed described one principal officer as having many duties that left little time for EM but said that this level of attention was satisfactory for EM at the time because the individual in EM's top leadership position was very experienced and capable. According to those we interviewed, some EM leaders who came into the position with less experience would have needed more mentoring and oversight than this principal officer was able to provide.

Our prior work shows that the nature and scope of the changes needed in many federal agencies, such as those dealing with long-standing management challenges and high-risk operations, require the sustained and inspired commitment of the top political leadership. We have previously found that there is no substitute for top leadership involvement and that top leadership attention is essential to overcome organizations' natural resistance to change, to marshal the resources needed to implement change, and to build and maintain the organization-wide commitment to new ways of doing business.³⁷ Further, a key element needed to make progress in high-risk areas is top-level attention by the administration and agency leaders. In our 2021 High Risk update, we reported that making progress in addressing the root causes of EM's unsustainable growth in cleanup costs will require enhanced and sustained leadership commitment not only in EM but also in the highest levels of the department.³⁸

Reflecting the potential benefits that sustained leadership commitment could provide for EM, the EM leaders, DOE and EM senior officials, and stakeholders we interviewed offered examples of several critical roles that a principal officer can play:

- **Elevating attention to problems.** Several of those we interviewed said that consistent engagement from the principal officer in charge of EM can provide needed accountability for identifying and solving problems. For example, one DOE senior official explained that the

³⁷GAO, *Highlights of a GAO Roundtable: The Chief Operating Officer Concept: A Potential Strategy to Address Federal Governance Challenges*, [GAO-03-192SP](#) (Washington, D.C.: Oct. 4, 2002).

³⁸GAO, *High-Risk Series: Dedicated Leadership Needed to Address Limited Progress in Most High-Risk Areas*, [GAO-21-119SP](#) (Washington, D.C.: Mar. 2, 2021).

nature of EM's work with nuclear materials means that small issues can become huge problems very quickly. For this reason, according to the official, a principal officer providing close and consistent oversight of EM can become aware of and bring visibility to problems when they are small, which helps ensure that such problems are appropriately addressed.

- **Empowering EM's top leader.** Several EM leaders we interviewed said that the principal officer in charge of EM can provide critical support and coverage for the tough decisions that EM's top leader must make. For example, those we interviewed told us that taking tough positions with contractors—such as giving contractors reduced award fees due to subpar performance—requires support from those at the under secretary level and above. Similarly, according to one EM leader, such support empowers EM's top leader to pursue innovative approaches to the cleanup work, even when certain stakeholders do not agree with that approach. In this way consistent leadership commitment by a principal officer can make EM's top leadership job easier to manage, an EM leader told us.
- **Serving as senior-level negotiator.** Some of those we interviewed said that principal officers are uniquely positioned to help resolve cleanup issues that have reached an impasse. For example, one EM leader said that EM and regulatory agencies sometimes reach an impasse when negotiating sensitive or controversial cleanup issues. An engaged principal officer can help break this impasse by reaching out to senior-level counterparts at the state or federal level, according to this EM leader. A senior DOE official told us that involvement of an under secretary in these scenarios can lead to breakthroughs in negotiations that have been stalled for years.³⁹

Decisions about EM's organizational position are made at the discretion of DOE leadership, as the department's statutory organizational provisions do not specify that environmental management is a mission area that must be assigned to any particular principal officer. Congress has previously created new under secretary positions in DOE in the wake of concerns regarding departmental management of, and leadership attention to, particular mission areas. For example, in 1999, Congress created NNSA and a new under secretary to lead it in response to reports

³⁹A senior DOE official provided an example in which a highly engaged principal officer—the one described previously as successfully overseeing EM and another major DOE element, in part due to this person's background—facilitated a major breakthrough in negotiations between DOE and a state regulator, leading to completion of a cleanup project that had seen no progress for almost 10 years.

of significant management and security problems within the nuclear weapons program at DOE.⁴⁰ Similarly, Congress created the position of Under Secretary for Science in 2005 following concerns regarding declining physical science budgets and policy focus at DOE.⁴¹ A new, dedicated DOE Under Secretary position for nuclear waste management and environmental cleanup could help ensure that EM receives the sustained leadership commitment it needs to make progress in cleaning up nuclear contamination at sites around the country, currently estimated to cost more than \$400 billion.

EM Has Implemented Many Organizational Reforms but Has Not Fully Engaged Its Workforce

EM has undergone frequent minor reorganizations and multiple major reorganizations.⁴² While EM communicated information about past organizational reforms when they occurred, some DOE and EM officials raised concerns that EM did not fully engage its workforce when implementing these reforms. Moreover, EM has not used a communication strategy that ensures continuous, two-way communication between EM senior leadership, employees, and contractors to more fully engage EM's workforce in developing and implementing reforms.

⁴⁰According to congressional hearings and legislative reports, in discussing the possible leadership structure of what would later become NNSA, Senators noted that elevating the entity's leader to the position of under secretary (rather than assistant secretary, which had also been suggested for NNSA) could help to emphasize the important responsibilities of the office. Ultimately, Congress determined that a new under secretary would be created to serve as the Administrator of the NNSA.

⁴¹During congressional hearings on the subject, outside groups in favor of a new Under Secretary for Science position noted that the position could enhance the leadership and visibility of DOE science and create an effective spokesperson for the DOE science and energy mission space. Following these hearings, Congress created the new position in 2005.

⁴²We define organizational structure as consisting of units, roles, responsibilities, authorities, and reporting lines. We consider major changes to be those that required EM to submit a Memo of Reorganization to the Secretary of Energy. In addition, we consider both major and minor changes to organizational structures to be reforms, as described in our past work, including [GAO-18-427](#). See the section of this report entitled "EM Leaders Have Implemented Multiple Organizational Reforms across the EM Complex" for additional details about changes to EM's organizational structure.

EM Leaders Have Implemented Multiple Organizational Reforms across the EM Complex

Since 1999, EM has undergone four major and many minor organizational reforms.⁴³ Specifically, EM underwent four major reforms in 1999, 2009, 2011, and 2016, all of which required EM to submit a Memo of Reorganization to the Secretary of Energy. According to some former EM officials that we interviewed, organizational reforms typically occur when a new EM leader begins their tenure and involve actions such as adding or removing management layers, adjusting roles and responsibilities, and making changes to EM staffing practices, among other actions. For example, in the last 10 years, EM has pursued two major reforms:

- **In 2011**, EM underwent an organizational reform to address unclear roles, responsibilities, authorities, accountability, and alignment within EM headquarters and between headquarters and the field. EM established a matrixed organizational structure to achieve this. This structure established two lines of reporting: the Principal Deputy Assistant Secretary and the Associate Principal Deputy Assistant Secretary.
- **In 2016**, EM underwent another organizational reform to better align how it executed and delivered its mission, to promote increased coordination between EM headquarters and the field, and to eliminate stove-piped organizations. To achieve this, EM consolidated work activities along functional lines and shifted the alignment of EM's business operations to support its cleanup activities.⁴⁴

EM has also undergone numerous minor reforms. For example, 15 of the 31 EM organizational charts we reviewed (about half) indicated changes to EM's field structure.⁴⁵ These reforms include creating, eliminating, and

⁴³We requested documentation from EM on organizational reforms back to 1989. However, the earliest reform for which we have documentation occurred in 1999.

⁴⁴EM's other major reforms took place in 1999 and 2009. Those reforms were in part to address, respectively, (1) instability in EM's work environment associated with more than 25 percent of EM employees working on detail assignments rather than their positions of record and (2) work stemming from the American Recovery and Reinvestment Act of 2009.

⁴⁵We reviewed 31 EM organizational charts from 2001 to 2021 for changes in who EM sites reported to and how they were grouped. EM officials identified 31 organizational charts covering that 20-year period, but officials told us that they did not know if this included all EM organizational charts developed or released during that 20-year period.

reassigning the offices that field offices report to and shifting reporting lines between the field and senior leadership. For example, the EM Consolidated Business Center was established in June 2004 as a way to consolidate many of the functions that support EM's sites. Today, this business center supports EM's cleanup mission through financial management, contracting, technical support, and information resource management.

Some former EM leaders and current EM officials described finding the right balance of power and authorities between EM headquarters and EM's sites as a persistent challenge. Some EM leaders have tried to address this challenge through organizational reforms. For example, one former leader told us that they added the Chief Financial Officer position, in part, to better engage the field in tracking EM's finances. Current EM leaders told us that they considered future organizational reforms to address fragmented internal and external communication functions.

Some Officials Expressed Concerns about Workforce Engagement in Past Organizational Reforms

Some senior DOE and EM officials we interviewed raised concerns about how EM leaders have engaged EM's workforce in implementing past organizational reforms. For example, according to some site managers and union representatives, aside from the most senior levels of leadership, there has been limited employee input during the development of organizational reforms within EM. While some of EM's Memos of Reorganization mention that employee feedback was used to identify areas of potential reform, both EM site managers and union representatives stated that their input on previous reforms consisted of reviewing a draft of the proposed changes toward the end of the development process. Additionally, EM site managers reported that it was unclear whether their input resulted in any adjustments to the planned changes, while union representatives expressed disappointment in not being able to sit down with EM leadership to discuss proposals early in development and give feedback.⁴⁶

⁴⁶EM site managers oversee employees and contractors that perform the bulk of EM's cleanup work in the field and serve as a liaison to EM's senior leadership in EM headquarters. Regarding comments by union representatives, this report does not discuss or offer opinions on the extent to which DOE or EM is required to involve its unions in organizational reforms.

EM's lack of full employee engagement during reform processes resulted in uncertainty and anxiety among employees, according to some EM leaders and EM officials we interviewed. For example, some former EM leaders we interviewed noted that when EM underwent prior reforms, work throughout EM slowed in part because of employee uncertainty about the impact of reforms on their work. EM employee union representatives told us that EM has not engaged with the union on prior organizational reforms and that EM's frequent reforms have contributed to low morale among employees. For example, previous organizational reforms required employees to relocate, which generated concern, according to one EM leader and EM union representatives. EM union representatives told us about the negative effect of these relocations on employees, such as, for example, multiple discussions with one employee who experienced anxiety over the possibility of having to relocate with a special needs child.

EM Has Not Fully Adopted Leading Communication and Employee Engagement Practices to Effectively Implement Organizational Reforms

EM communicates with its workforce about organizational reforms using various tools but has not fully adopted leading practices for continuous, two-way communication. In 2018, we found that successful reforms require an integrated approach that involves employees and key stakeholders and is built on the use of data and evidence.⁴⁷ Furthermore, we have found that implementing additional ways of involving employees and their representatives, such as through workforce analysis, surveys, and web-based tools, and adopting a strategy for promoting continuous, two-way communication can help respond to employees' concerns regarding the effects of potential reforms.⁴⁸ EM leaders and EM officials told us that they generally use the following communication channels, as well as personal interactions with colleagues, to convey information about reforms as they are being implemented:

- A complex-wide email system—EM Fedcast—and a monthly newsletter.

⁴⁷GAO-18-427.

⁴⁸GAO, *Results-Oriented Cultures: Implementation Steps to Assist Mergers and Organizational Transformations*, GAO-03-669 (Washington, D.C.: July 2, 2003).

- An online portal called OneEM that contains policy and delegation documentation, among other mission-critical resources.⁴⁹
- Meetings such as quarterly all-hands meetings, EM managers' weekly meeting with EM's top leader and second-highest leader, managers' weekly staff meetings, and "fireside chats" with EM's second-highest leader. EM officials noted that in each of these venues, staff could ask questions, discuss their thoughts, and express issues with leadership.

However, EM's current communication tools concerning reforms may be enhanced by additional opportunities for continuous, two-way communication with EM's workforce. Using our interviews, we identified three areas that could be employed to promote continuous, two-way communication on organizational reforms: workforce analysis, employee surveys, and web-based tools.⁵⁰ As detailed below, EM has used these tools to a limited extent to help promote better communication when implementing reforms.

- **Workforce analysis.** In spring 2021, EM officials completed a workforce analysis process that resulted in the approval of a staffing plan—the first approved plan in at least the prior 5 years, according to EM officials. This process included some opportunities for employees and other parts of the organization to provide input, such as through informal meetings within EM's units, which were held at the discretion of each EM unit head. EM officials stated that information about the approved plan has not been widely shared because officials did not believe it was appropriate to disseminate such information, which, in turn, limited the opportunities for employee input. Our prior work found that one way to involve those outside of senior leadership in developing reforms is to facilitate employees' involvement in gathering

⁴⁹Delegations are used to transfer authorities, functions, or responsibilities granted to particular officials.

⁵⁰Options for web-based communication tools are identified in our prior work, including [GAO-03-669](#).

data and evidence, such as by doing a workforce analysis that may lead to or support reforms.⁵¹

- **Surveying employees.** EM officials told us that they review and respond to FEVS results, but they do not regularly survey employees on other topics.⁵² Furthermore, in both the 2019 and 2020 FEVS, employees ranked EM's use of the survey's results to improve EM as a high-ranking negative for EM.⁵³ Our prior work found that engaging employees in developing reforms and monitoring employee attitudes through surveys could help gain employee ownership for the proposed changes and be responsive to employee concerns.⁵⁴
- **Web-based tools.** EM uses the OneEM online portal to communicate, track, and update its policies and other mission-critical information, but that system is not available across the EM complex.⁵⁵ Some EM officials that we interviewed noted that inconsistent communication during reforms has led to confusion. For example, one EM official noted that they may not have obtained certain approvals in accordance with EM policy because they were unaware that EM's policy had changed. This official explained that communication about policy changes is typically limited to a single email from EM leadership. Another official noted that EM policies are communicated through memos and that one must track these changes on their own

⁵¹As we reported in 2018, workforce analysis is also an important source of information to draw on in developing agency reforms, particularly when they involve a reduction or realignment of staff; see [GAO-18-427](#). In 2004, we also found that employees should be involved in workforce planning and that communication with employees about the goals, approach, and results of workforce planning can help promote transparency; see *GAO, Human Capital: Key Principles for Effective Strategic Workforce Planning*, [GAO-04-39](#) (Washington, D.C.: Dec. 11, 2003).

⁵²The Office of Personnel Management's FEVS measures employees' perceptions of whether, and to what extent, conditions characteristic of successful organizations are present in their agencies. EM officials said that employees are surveyed through the FEVS and through a 2021 telework survey.

⁵³EM officials noted that in both 2019 and 2020, they used a number of interactive tools to solicit feedback from employees by leveraging FEVS results to conduct outreach with employees through the following methods: fireside chats with leadership, all-hands meetings, focus groups, listening sessions, COVID-19 check-ins, and traditional staff meetings. EM officials reported that they utilized the information collected to develop a road map to address reported areas of opportunity throughout the organization.

⁵⁴GAO 03-669 and [GAO-18-427](#).

⁵⁵The OneEM portal contains policy and delegation documentation, among other mission-critical resources, but, according to EM officials, OneEM is only available to employees in EM headquarters.

by remembering that a memo was sent at some point. Additionally, an EM official observed that policy memos are often outdated and recounted finding a policy memo regarding an approval they needed that mentioned the approving official by name, but that official had left EM 2 years prior. One EM official told us that some efforts might be delayed while officials figure out who is authorized to approve certain decisions. Finally, one EM site official noted that when they and their deputy leave their positions, it is unclear how their replacements will be able to navigate their work without an EM complex-wide system to communicate policies and policy changes. Our prior work found that using web-based tools can help employees monitor the implementation of reforms.⁵⁶

EM is not taking full advantage of opportunities to involve employees in organizational reforms through continuous, two-way communication mechanisms, such as those described above. Our prior work has found that adopting a strategy for promoting continuous, two-way communication can help agencies respond to concerns of employees regarding the effects of potential reforms.⁵⁷ According to current EM officials, communication about reforms is handled on a case-by-case basis that is tailored to the specific change, and there is no overarching strategy for communicating about reforms. One EM senior leader also stated that they are considering additional targeted changes to the organizational structure of EM, such as reorganizing the office's communications functions. One DOE official also told us that they are working on succession planning to address future workforce retirement and general attrition.⁵⁸ Considering these potential changes, and because the history of EM has shown that future leaders may make changes to EM's organizational structure, developing a communication strategy for developing and implementing reforms that includes continuous, two-way communication mechanisms could help EM maintain the effectiveness of its workforce when implementing future reforms.

⁵⁶[GAO-03-669](#).

⁵⁷[GAO-03-669](#).

⁵⁸One DOE official told us that, using workforce planning, they estimate that about a third of EM employees are eligible for retirement as of 2021 and that more than half of EM employees may be eligible in future years.

Conclusions

EM has a challenging and long-term mission that is currently expected to last until at least 2070. While the estimated future cost of cleaning up nuclear contamination at EM's remaining sites has grown to more than \$400 billion, EM has experienced instability in its organization, including increasingly frequent turnover in EM leadership, inconsistent attention from DOE leadership, and multiple organizational reforms. This instability in leadership and structure has contributed to challenges for EM, including difficulties building trust with stakeholders and slowed progress on cleanup, according to current and former leaders of EM, senior DOE and EM officials, and stakeholders.

As we have reported, strong leadership commitment is essential for making progress on complex management challenges, such as those facing EM. EM has experienced successful leadership tenures, but such successes have stemmed from the unique characteristics of those particular leaders rather than from an organizational commitment that can endure across administrations. As DOE senior leadership has stated, there are various approaches to enhance leadership commitment that may help overcome the challenges of building long-term relationships with stakeholders, incomplete initiatives, and a focus on short-term actions, including filling EM's top leadership position with a senior career official. However, absent changes to the type of appointment for EM's top leader and to DOE's organizational structure, there is limited assurance that such approaches can be sustained over time. Without the sustained leadership of both the Assistant Secretary and an attentive and focused principal officer, EM may be missing opportunities to overcome obstacles, build momentum, and advance its work. Legislation establishing (1) a term appointment for EM's Assistant Secretary and (2) a new under secretary position focused on DOE's nuclear waste management and environmental cleanup could increase the likelihood that EM will experience longer periods of the kind of sustained leadership commitment that is needed to enable progress on some of the toughest elements of EM's complex and long-term mission.

Even with more sustained leadership commitment, changes to EM's organizational structure will likely continue to occur over time. Some former leaders noted that past changes have contributed to employee anxiety and uncertainty and slowed progress on cleanup work. Although EM has typically communicated information about its reforms upon their implementation, its current communication tools may be enhanced by

additional opportunities for continuous, two-way communication between EM leadership and employees. By developing a communication strategy with additional mechanisms for continuous, two-way communication, EM will be better prepared to implement future reforms while maintaining the effectiveness of its workforce.

Matters for Congressional Consideration

We are making two matters for congressional consideration:

Congress should consider enacting legislation to establish a term appointment, with a term length sufficient to provide focused and sustained leadership, for the Assistant Secretary in DOE with responsibility for nuclear waste management under section 203(a)(8) of the Department of Energy Organization Act (42 U.S.C. § 7133(a)(8)), currently, the Assistant Secretary for the DOE Office of Environmental Management. (Matter for Congressional Consideration 1)

Congress should consider enacting legislation to establish a new, dedicated DOE Under Secretary position for nuclear waste management and environmental cleanup. (Matter for Congressional Consideration 2)

Recommendation for Executive Action

We are making the following recommendation to DOE:

The Secretary of Energy should ensure that the Assistant Secretary for the Office of Environmental Management develops a communication strategy for developing, implementing, and monitoring reforms that includes continuous, two-way communication mechanisms. (Recommendation 1)


Agency Comments

We provided a draft of this report to DOE for review and comment. In its comments, reproduced in appendix III, DOE agreed with our recommendation and stated that it is taking additional steps to improve continuous, two-way communication in the Office of Environmental Management as part of a strategy. In its comments, DOE also stated that ensuring competent and stable leadership and sustained commitment for

EM's work over the coming decades is an important goal. In addition, DOE provided technical comments, which we incorporated as appropriate.

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

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

A handwritten signature in black ink that reads "Nathan Anderson". The signature is written in a cursive, flowing style.

Nathan Anderson
Director, Natural Resources and Environment

House Report 116-442, accompanying H.R. 6395, the William M. (Mac) Thornberry National Defense Authorization Act for Fiscal Year 2021, Pub. L. No. 116-283, includes a provision for us to review the Department of

Appendix I: Objectives, Scope, and Methodology

Energy's (DOE) Office of Environmental Management's (EM) leadership stability and capacity. This report examines (1) the extent to which EM has had sustained and consistent leadership commitment and (2) the extent to which EM communicates with its workforce in developing and implementing reforms.¹

To examine the extent to which EM has had sustained and consistent leadership commitment, we gathered data from DOE on the tenures of those in EM's top leadership position (typically the Assistant Secretary for EM) from 1989 to 2021. To assess the reliability of these data, we obtained information to corroborate the start and end dates of leaders' tenures. For example, we asked leaders we interviewed, as described below, to confirm the start and end dates of their tenures. For any discrepancies between the dates obtained from DOE and the dates provided by leaders, we conducted a sensitivity analysis to assess whether the differences would substantially affect our estimates of average leader tenures. We found that any differences did not substantially affect our estimates.

For this objective, we also conducted a literature review on the tenure of political appointees in the federal government. To identify reports and studies for our literature review, a GAO research librarian conducted searches of Scopus, ProQuest, and EBSCO databases, using terms such as "tenure," "term," "political," and "federal." We limited the searches to U.S.-focused reports and studies published since 2000. The searches resulted in seven articles and studies, which we then reviewed to identify information about leadership tenure. We used each of these seven articles and studies to qualitatively identify factors associated with

¹For the purposes of this report, we use the terms "reform" and "transformation" interchangeably to broadly include any organizational changes—such as transformations, mergers, consolidations, and other reorganizations—and efforts to streamline and improve the efficiency and effectiveness of government operations.

leadership tenure. Of these seven articles and studies, we identified one that quantitatively assessed the relationship between leadership tenure and position characteristics.² We reviewed the methods that this study used and interviewed the authors to ensure that the study's results were sufficiently reliable for our purpose of describing a relationship between terms fixed by statute and tenure. We also analyzed DOE organizational charts from 1998 to 2021 to identify changes in EM's placement within DOE's organizational structure, including changes in associated reporting lines between EM's top leader and DOE's principal officers.³ We reviewed congressional hearing transcripts and written testimony, legislative reports, and DOE documents related to the reasons for changes to EM's placement.⁴ We compared this information and information obtained through our interviews, which are described below, with criteria for leadership commitment.⁵

To examine the extent to which EM communicates with its workforce in developing and implementing reforms, we requested and reviewed EM memorandums and other reports related to its reorganizations. We analyzed 31 EM organizational charts from 2001 to 2021 for changes in

²M. Dull et al., "Appointee Confirmation and Tenure: The Succession of U.S. Federal Agency Appointees, 1989-2009," *Public Administration Review*, vol. 72, no. 6 (2012): 902–13.

³We did not review DOE organizational charts prior to 1998 because two out of the three DOE under secretary positions did not exist before that time.

⁴As previously stated, for the purposes of this report, we use "placement" to refer to EM's position in DOE's organizational chart and associated reporting lines based on that position. For example, when EM was placed under the Under Secretary for Science in DOE's organizational chart, the top official in EM reported to the person holding the title of Under Secretary for Science.

⁵Specifically, the criteria we used for this objective are found in GAO, *Organizational Transformation: Implementing Chief Operating Officer/Chief Management Officer Positions in Federal Agencies*, [GAO-08-34](#) (Washington, D.C.: Nov. 1, 2007); *Defense Business Transformation: Achieving Success Requires a Chief Management Officer to Provide Focus and Sustained Leadership*, [GAO-07-1072](#) (Washington, D.C.: Sept. 5, 2007); *Highlights of a GAO Roundtable: The Chief Operating Officer Concept: A Potential Strategy to Address Federal Governance Challenges*, [GAO-03-192SP](#) (Washington, D.C.: Oct. 4, 2002); and *High-Risk Series: Dedicated Leadership Needed to Address Limited Progress in Most High-Risk Areas*, [GAO-21-119SP](#) (Washington, D.C.: Mar. 2, 2021).

reporting lines and leadership positions.⁶ We observed communication tools that EM uses internally during a demonstration of the OneEM portal, which is an intranet site available to certain EM employees. We also reviewed DOE's *Organizational Management Report Summary* of EM's results from the Federal Employee Viewpoint Survey (FEVS) for 2019 and 2020, specifically those that captured the views of EM employees on leadership and other organizational issues.⁷ In addition, we interviewed EM Human Capital officials about workforce planning, internal communications, and the FEVS results. We compared this information and information obtained through our interviews, which are described below, with criteria for organizational transformation and agency reform.⁸

For both objectives, we conducted 34 interviews to obtain perspectives on EM's leadership and organizational structure. We conducted 17 interviews with current and former EM leaders. Specifically, we interviewed 12 of the 16 individuals who served as EM's top leader from 1989 to 2021 and 10 individuals who served in EM's second-highest leadership position, known as the EM Principal Deputy Assistant Secretary.⁹ We developed and pretested a set of semistructured

⁶We requested and obtained the 31 organizational charts from EM, which included at least one organizational chart per calendar year, except for the years 2005, 2013, 2014, and 2016. We reviewed the charts for changes in the number of senior leader positions and the reporting lines of the field offices to senior leadership. Given that we did not have a comprehensive set of organizational charts and that more changes could have occurred between those we reviewed, the number of changes we identified by comparing sequential organizational charts should be considered a minimum.

⁷Department of Energy, *Organizational Management Report (OMR) Summary: 2019 Federal Employee Viewpoint Survey (FEVS) Results, Assistant Secretary for Environmental Management (EM)* (Washington, D.C.: n.d.); and *Organizational Management Report (OMR) Summary: 2020 Federal Employee Viewpoint Survey (FEVS) Results, Assistant Secretary for Environmental Management (EM)* (Washington, D.C.: n.d.).

⁸Specifically, the criteria we used for this objective are found in GAO, *Government Reorganization: Key Questions to Assess Agency Reform Efforts*, [GAO-18-427](#) (Washington, D.C.: June 13, 2018); *Results-Oriented Cultures: Implementation Steps to Assist Mergers and Organizational Transformations*, [GAO-03-669](#) (Washington, D.C.: July 3, 2003); and *Human Capital: Key Principles for Effective Strategic Workforce Planning*, [GAO-04-39](#) (Washington, D.C.: Dec. 11, 2003).

⁹We collectively refer to these current and former leaders as "EM leaders." Of the 10 individuals we interviewed who served as Principal Deputy Assistant Secretary, five also served as EM's top leader for a period. We were only able to identify one of the second-most-senior leaders who served prior to 1999, and that leader was unavailable for an interview. We refer to all other EM, DOE, and union officials collectively as "senior DOE and EM officials."

questions for these leader interviews on three topics: leader tenures, EM's internal organizational structure, and EM's position in DOE.¹⁰ We conducted semistructured interviews to enhance the consistency of information collected, while allowing for flexibility in the interview process.

We also conducted 13 interviews with other senior DOE and EM officials and four interviews with stakeholders on these topics and others, as appropriate. The other senior EM and DOE officials included (1) leaders of two unions representing EM employees in headquarters, (2) one former DOE under secretary and one former deputy under secretary who oversaw EM, (3) senior officials from DOE and EM's project management offices and EM's human resources office, and (4) current EM site managers for six of EM's 16 sites.¹¹ We selected site managers for interviews based on sites' fiscal year 2021 budget requests and estimated cleanup completion dates. Specifically, we sought to interview managers of a range of sites with different-sized budgets and cleanup time lines to account for different perspectives across the sites. In addition, we interviewed stakeholders of EM, consisting of officials from state regulatory agencies in Washington State, South Carolina, and Ohio, the states with the largest EM sites by fiscal year 2021 budget request, and a national organization representing communities that are located near EM's cleanup sites.

We conducted a content analysis of information obtained through 31 of the 34 interviews to understand the roles that DOE and EM leaders play in leading and overseeing EM and perceived benefits and challenges associated with short leadership tenures and various placements of EM within DOE. Out of the 34 total interviews we conducted, we did not include three of them in our content analysis because these three interviews covered specific questions about EM's processes and approach to workforce planning and surveys. For example, we did not include interviews with EM's human resources office in our content analysis. For our content analysis, we analyzed the interviews to

¹⁰We pretested the questions with a former EM Associate Deputy Assistant Secretary and Assistant Secretary. Using their feedback, we made changes to improve the format of our questions and included additional questions related to organizational structure. We also developed slightly different versions of the questions to account for the fact that some leaders held the Principal Deputy Assistant Secretary position, some held the Assistant Secretary position, and some held both. We asked each leader to focus primarily on their time in these positions when answering questions. However, we also included open-ended questions at the end that leaders answered based on all their relevant experience.

¹¹At the time we conducted our review, EM had 16 remaining sites. Clean up activities at Brookhaven were completed in March 2022 reducing the number of remaining sites to 15.

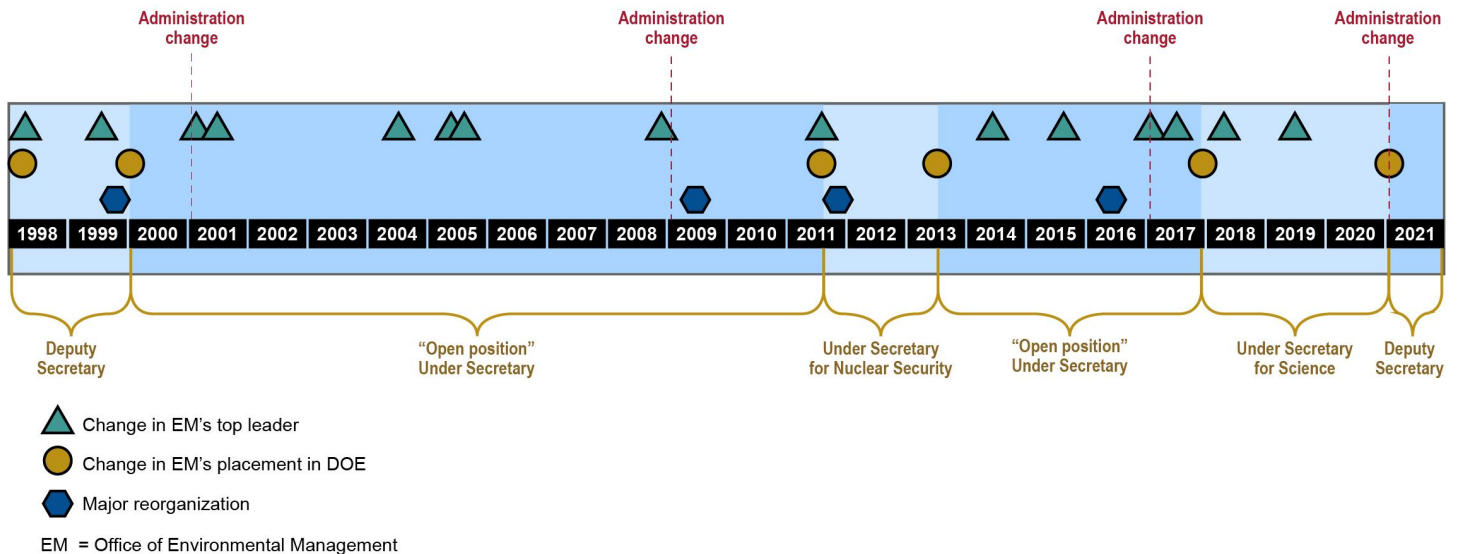
characterize the interviewees' responses and to identify major themes. To do this, we developed categories for coding that corresponded to our semistructured interview questions. For example, these categories included the effects of leader tenure on EM's work, options for lengthening leader tenure, and rationales for various placements of EM within DOE. Two analysts separately reviewed interview documentation and coded the contents under these categories. One analyst reviewed each interview fully to find and code data for each category. A second analyst then reviewed the coding results for accuracy and relevance. The first coder then made adjustments, as needed.

We identified the main themes that emerged from the interviews and selected specific comments to include in our report to serve as illustrative examples of the key themes. We used a series of quantifiers to summarize interviewee comments. To identify the number of interviewees who expressed particular views, we use the following modifiers throughout the report: "some" represents two to four interviewees, "several" represents five to eight interviewees, "many" represents nine to 15 interviewees, "most" represents 16 to 29 interviewees, and "nearly all" represents 29 or more. We considered officials from a particular office, state or local agency, or association to be one interviewee, even though multiple officials or representatives may have participated in the interview. For reporting purposes, we do not include a complete list of themes because, for example, of the extensive nature of the comments, but we identified the main themes that emerged from the interviews, note areas of disagreement where appropriate, and select specific comments to include in our report to serve as illustrative examples of the key themes. In order to preserve the anonymity of interviewees, we use general language when describing the examples and remove references to specific places and time, where appropriate.

We conducted this performance audit from February 2021 to May 2022 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.

Figure 5: Changes in EM's Top Leader, Placement in DOE, and Organizational Structure from 1998 to 2021

Appendix II: Office of Environmental Management (EM) Leadership, Placement, and Organizational Structure Changes



Source: GAO analysis of Department of Energy (DOE) and U.S. Government Manual information. | GAO-22-104805

Appendix III: Comments from the Department of Energy

**Appendix III: Comments from the Department
of Energy**



The Deputy Secretary of Energy

Washington, DC 20585

Mr. Nathan Anderson
Director, Natural Resources
and Environment
U.S. Government Accountability Office
Washington, DC 20548

Dear Mr. Anderson:

This letter provides the Department of Energy's (DOE) response to the United States Government Accountability Office (GAO) Draft Report, GAO-22-104805, *Nuclear Waste: DOE Needs Greater Leadership Stability and Commitment to Accomplish Cleanup Mission*. Thank you for the opportunity to provide DOE's perspective on GAO's draft report and its recommendations.

Despite the COVID-19 pandemic, the Office of Environmental Management (EM) completed numerous challenging cleanup activities across the complex over the last two years. These achievements are important because they position EM for the next era of steady and sustained progress that will further reduce risk and as a result, protect communities near DOE cleanup sites.

DOE concurs with the recommendation in the draft report for executive action to enhance communications. Many actions related to the GAO's recommendation are already in progress as EM implements an effective strategy for programmatic reforms that provides continuous, two-way communications throughout the EM complex. This strategy includes elevating the leader of the EM communications team to the senior executive level to provide greater emphasis on oversight and coordination of external and internal communications. This strategy also establishes a team to assess and recommend actions to increase employee engagement. EM recognizes that its employees are its greatest asset and has already taken a number of actions to improve leadership-employee communications. These actions include: opportunities for employees to engage directly with both the Senior Advisor and the Deputy Assistant Secretary for EM; use of employee surveys; quarterly all-employee meetings; expanded newsletters; and the enhanced use of the EM web portal.

DOE is appreciative of GAO's attention to EM's top leadership position. DOE and EM are fortunate to have a proven and dedicated career federal leader managing the EM program for the past 3 years. The Secretary and I frequently engage directly with EM leadership. Key challenges and other key programmatic information are quickly elevated to my attention. EM's leadership is fully empowered, in consultation with me as needed, to be the Administration's representative with other Federal agencies, Congress, States, Tribes, and all other individuals or groups interested in or affected by EM's activities.

**Appendix III: Comments from the Department
of Energy**

2

Any time EM needs more senior-level engagement with external parties, the Secretary and I provide that support, including serving as senior-level negotiators to resolve issues.

Regarding the Matters for Congressional Consideration identified in the draft report, DOE shares the goals GAO outlined and welcomes the opportunity to discuss with Congress the best approach to continue to ensure competent and stable leadership and sustained commitment for EM's work over the coming decades.

EM has separately provided technical comments containing suggested corrections in the draft report. If you have any questions regarding the response to the recommendation for executive action or technical comments, please contact Mr. William I. White, Senior Advisor for the Office of Environmental Management, at (202) 586-8214.

Sincerely,



David M. Turk

Enclosures

Enclosure 1

Management Response to Recommendation
GAO-22-104805
**GAO Draft Report, Nuclear Waste: DOE Needs Greater Leadership Stability and
Commitment to Accomplish Cleanup Mission**

Recommendation: The Secretary of Energy should ensure the Assistant Secretary for the Office of Environmental Management develops a communication strategy for developing, implementing, and monitoring reforms that includes continuous, two-way communication mechanisms.

Management Response: Concur

The Department of Energy's (DOE) Office of Environmental Management (EM) has incorporated, and will continue to enhance, a communication strategy aimed at developing, implementing, and monitoring reforms to include continuous, two-way communication mechanisms. EM has taken several actions to address this recommendation. For example, EM regularly maintains an electronic portal to actively communicate EM organizational information; priorities; upcoming trainings and workshops; human resources topics, such as DOE's Return to Work plan; and other EM and DOE announcements and areas of interest. EM is working to expand this communication channel throughout the EM complex to include all field sites. In addition, other existing communication mechanisms include, but are not limited to, "EM Fedcast" announcements, quarterly "EM Town Hall" meetings, quarterly senior management briefings, weekly operation status meetings, weekly office reports, and regular newsletters and a bi-weekly Fireside Chat open to all EM employees across the complex. EM has recently introduced Senior Advisor for EM (EM-1) office hours open to all EM employees, as well as expanded meetings with EM senior leadership monthly, to foster direct communication with EM-1, increase transparency of EM initiatives, and include employee feedback directly to senior leadership. Lastly, EM is elevating its communication function to the level of a senior executive to provide greater emphasis on oversight and coordination of external and internal communications.

Estimated Completion Date: December 31, 2022

GAO Contact

Appendix IV: GAO Contact and Staff Acknowledgments

Nathan Anderson at (202) 512-3841 or andersonn@gao.gov

Staff Acknowledgments

In addition to the contact named above, Amanda K. Kolling (Assistant Director), Reed Van Beveren (Analyst in Charge), Christina Sylvester Cantor, Claudia Hadjigeorgiou, and Katherine Killebrew made key contributions to this report. Also contributing to this report were Mark Braza, Gwen Kirby, William Reinsberg, Dan C. Royer, Jeff Tessin, and Sarah Veale.

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