



U.S. Department of Energy
Office of Inspector General
Office of Audits and Inspections

AUDIT REPORT

The Department of Energy's Management of
High-Risk Excess Facilities

DOE/IG-0931

January 2015



Department of Energy
Washington, DC 20585

January 23, 2015

MEMORANDUM FOR THE SECRETARY

FROM: 
Gregory H. Friedman
Inspector General

SUBJECT: INFORMATION: Audit Report on "The Department of Energy's Management of High-Risk Excess Facilities"

BACKGROUND

Fifty years of nuclear weapons production and energy research during the Manhattan Project and the Cold War resulted in thousands of contaminated facilities. Cleaning up and ultimately disposing of these facilities is the responsibility of the Department of Energy. The Department established the Office of Environmental Management (Environmental Management) in 1989 to manage the remediation of its weapons production legacy. As of November 2013, the Department's overall cleanup efforts were projected to cost more than \$280 billion.

In February 2009, Environmental Management identified 292 excess contaminated facilities that met its transfer criteria and indicated that it would accept the facilities when funding became available. Until transferred to Environmental Management, owning programs are responsible for costs associated with maintaining the facilities in a stable condition. Under the *American Recovery and Reinvestment Act of 2009* (Recovery Act), Environmental Management received funding that allowed it to accelerate deactivation and decommissioning (D&D) activities—such as stabilization measures or demolition—at 58 of these facilities, leaving 234 contaminated excess facilities.

In our prior report *Department of Energy's Management of Unneeded Real Estate* (OAS-L-14-07, April 2014), we noted a number of National Nuclear Security Administration facilities in poor condition that were categorized as excess or in shutdown mode without definitive plans for D&D activities. The degradation within these facilities ranged from failures in critical structural components to high levels of contamination. Additionally, several of these facilities posed significant health and safety risks to Department employees and the public. Given the issues identified in that report, and the risks associated with contaminated facilities, we initiated this audit to determine whether the Department has minimized the risk associated with excess contaminated non-Environmental Management facilities.

RESULTS OF AUDIT

Our review found weaknesses in the Department's effort to address the risks associated with its inventory of contaminated facilities. Specifically:

- As of September 2014, a definitive transfer schedule for the 234 contaminated excess facilities awaiting D&D activities had not been established. Although it projected in

2008 that no transfers were expected to occur before 2017, Environmental Management officials have indicated that the transfer date will actually be pushed out to 2025 at the earliest, possibly extending to 2035. Among these facilities are those contaminated with dangerous elements, such as uranium, mercury, and beryllium, constituents that are known to have leached to soil and groundwater during weather-related events.

- Although program offices had taken some actions utilizing Recovery Act and programmatic funding to mitigate the risks posed by the 234 contaminated excess facilities awaiting transfer to Environmental Management, many of these facilities continue to deteriorate and pose increasing risks to mission, workers, the public and the environment.
- Since 2009, program offices had identified at least 140 additional excess contaminated facilities, over and above the 234 already identified, which will need to be addressed by Environmental Management in the future.

According to Department officials, budget realities, including resource constraints and the unstable nature of the budget process, were key to the delays in advancing the D&D program. However, we noted that the Department had not developed a corporate approach for the cleanup and disposition of excess contaminated facilities. Such an approach would assist the Department in addressing high-risk facilities within the vagaries of the annual budget process. In particular, the Department had not implemented a strategic, integrated approach that focused its limited Environmental Management cleanup and mission program budgetary resources on reducing the risk posed by contaminated excess facilities across the complex. Rather, Environmental Management and the various program offices focused their respective budgetary resources based on individual program priorities instead of on the highest risk facilities across the Department. Environmental Management and program offices told us, and we recognize, that they face significant funding constraints as they strive to satisfy the myriad of related mission and regulatory requirements.

Delays in the cleanup and disposition of contaminated excess facilities expose the Department, its employees and the public to ever-increasing levels of risk. While surveillance and maintenance is intended to control these risks, delays in decommissioning and demolition also lead to escalating disposition costs. Further, deferral of tackling these liabilities in a timely manner may affect ongoing mission work, as well as plans to expand and accommodate new missions that are needed to meet energy and national security objectives. Given budget and transfer time line uncertainties identified during this review, as well as the risks posed to health, safety, and the environment, we made recommendations designed to assist the Department in addressing its universe of excess contaminated facilities.

MANAGEMENT RESPONSE

Management concurred with our findings and recommendations and proposed corrective actions to address the issues identified in this report. We consider management's comments and planned corrective actions to be responsive to our findings and recommendations.

Management's comments are included in Appendix 4.

cc: Deputy Secretary
Under Secretary for Nuclear Security
Deputy Under Secretary for Management and Performance
Under Secretary for Science and Energy
Chief of Staff

AUDIT REPORT ON THE DEPARTMENT OF ENERGY'S MANAGEMENT OF HIGH-RISK EXCESS FACILITIES

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THE DEPARTMENT OF ENERGY'S MANAGEMENT OF HIGH-RISK EXCESS FACILITIES

BACKGROUND

Fifty years of nuclear weapons production and energy research in the United States during the Manhattan Project and Cold War generated large amounts of radioactive wastes, spent nuclear fuel, excess plutonium and uranium, thousands of contaminated facilities, and contaminated soil and groundwater. Cleaning up and ultimately disposing of these wastes is the responsibility of the Department of Energy (Department). To oversee the cleanup, the Department established the Office of Environmental Management (Environmental Management) in 1989 to manage the remediation of its environmental legacy. As of November 2013, the Department's overall cleanup efforts were projected to cost more than \$280 billion.

As part of its core responsibilities of cleaning up the Department's environmental legacy, Environmental Management was also assigned responsibility for disposing of excess contaminated facilities and materials owned by other program offices. However, in 2001, with support from the Department's Under Secretary, Environmental Management declared that it would no longer accept additional facilities from other mission programs due to increases in workload, emerging issues, and budgetary constraints, a decision which created a backlog of excess contaminated facilities and materials requiring cleanup. In August 2006, the Department's Deputy Secretary directed Environmental Management to address these additional environmental liabilities, to execute the work, and to incorporate these liabilities into its program plans. As a result, in December 2007, Environmental Management invited the Offices of Science and Nuclear Energy, as well as the National Nuclear Security Administration (NNSA), to nominate excess facilities, wastes and materials for possible transfer to Environmental Management.

Between May and August 2008, Environmental Management conducted walkdowns of more than 300 nominated facilities to determine whether they met transfer criteria, to identify significant project risks and project liabilities, and to develop recommended conditions for transfer. For a facility to be accepted by Environmental Management, it had to be surplus to the Department's mission needs and be "mission contaminated"—having chemical or radioactive contamination, or both, resulting from mission operations. Additionally, the walkdowns identified facility conditions and materials with a greater-than-normal degree of project risk and liability for deactivation and decommissioning (D&D) by Environmental Management.¹ Based on its evaluations, Environmental Management prioritized the acceptance of facilities across the complex for the purpose of providing a basis for requesting necessary budget authority. Prioritization of facilities recommended for transfer was based on factors related to the hazard, risk and regulatory drivers.

In February 2009, Environmental Management issued memorandums to NNSA and the Offices of Science and Nuclear Energy that identified 292 excess contaminated facilities that met its transfer criteria and indicated that it would accept the facilities at a future date when funding

¹Deactivation is the process of placing a contaminated, excess facility in a stable condition to minimize existing risks to workers, the public and the environment. Decommissioning takes a facility to its ultimate end-state through decontamination and dismantlement.

became available. Until funded, the current mission programs were to retain ownership and were responsible for costs associated with maintaining the facilities in a stable condition while awaiting transfer. Under the *American Recovery and Reinvestment Act of 2009* (Recovery Act), Environmental Management received funding that allowed it to complete demolition of 58 of the facilities, leaving 234 contaminated excess facilities to be decommissioned and demolished.

In our prior report *Department of Energy's Management of Unneeded Real Estate* (OAS-L-14-07, April 2014), we noted that a number of NNSA facilities in poor condition were categorized as excess or in shutdown mode without definitive plans for D&D activities. The degradation within these facilities ranged from failures in critical structural components to high levels of contamination. Additionally, several of these facilities posed significant health and safety risks to Department employees and the public. Given the issues identified in that report, and the risks associated with contaminated facilities, we initiated this audit to determine whether the Department has minimized the risk associated with excess contaminated facilities.

EXCESS HIGH-RISK FACILITIES

According to Department officials, issues related to the transfers of non-Environmental Management facilities occurred because of constraints and instability within the Department's budget. However, we noted that the Department had not developed a corporate approach for the cleanup and disposition of excess contaminated facilities. Such an approach would assist the Department in addressing high-risk facilities within the vagaries of the annual budget process. Specifically, we noted the following:

- As of September 2014, a definitive transfer schedule for the 234 contaminated excess facilities awaiting D&D had not been established, other than Environmental Management's 2008 projection, which indicated that no facilities transfers were expected before 2017. Among these facilities are those contaminated with dangerous elements, such as uranium, mercury, and beryllium, constituents that are known to have leached to soil and groundwater during weather-related events.
- Although program offices had taken some actions utilizing Recovery Act and programmatic funding to mitigate the risks posed by the 234 contaminated excess facilities awaiting transfer to Environmental Management, many of these facilities continue to deteriorate and pose increasing risks to mission, workers, the public and the environment.
- Since 2009, program offices had identified at least 140 additional excess mission-contaminated facilities, beyond the 234 already identified, which will need to be addressed by Environmental Management.

The Department had not developed a strategic, integrated approach that focused limited budgetary resources on a risk basis. Program officials with Environmental Management and various program offices identified significant funding constraints and requirements to meet myriad mission and regulatory requirements as impediments to fully addressing D&D needs.

Environmental Management's Schedule

Environmental Management had not established a definitive schedule for the transfer and D&D of the 234 excess contaminated facilities that were identified in 2008. Although it projected in 2008 that no transfers were expected to occur before 2017, Environmental Management officials have indicated that the transfer date will actually be pushed out to 2025 at the earliest, possibly extending to 2035.

Many of the 234 excess contaminated facilities continue to degrade and pose significant risks to workers and surrounding communities. Almost 50 percent of these facilities are more than 50 years old and are becoming dangerous. Several of the facilities are in such disrepair that maintenance and nonessential utilities are limited or discontinued, and access by workers has been prohibited. The longer these facilities remain unaddressed, the further they degrade, and the more dangerous and costly they are to maintain or disposition.

Program Office Risk Mitigation

Program offices have taken some actions to mitigate the risk posed to workers and surrounding communities by excess contaminated facilities. For instance, we found that the offices have spent more than \$380 million in operating and maintenance costs for the 234 facilities since they were evaluated in 2008. Additionally, Recovery Act funding was used to accelerate cleanup efforts for 13 of these facilities. Despite efforts to mitigate risks, significant vulnerabilities remain. According to recent site assessments, additional risk mitigation measures are needed to ensure the protection of workers, the public, environment, and mission. The following sites are examples.

9201-05 Alpha 5 Facility

The 9201-05 Alpha 5 Facility (Alpha 5 Facility) at the Y-12 National Security Complex (Y-12) has been described by NNSA as "the worst of the worst." This facility was built in 1944 and supported a number of missions that used materials such as uranium, mercury and beryllium. Since it ceased operations in 2005, this highly contaminated facility has experienced significant degradation. In particular, during a 2008 Environmental Management assessment, it was noted that the facility had substantial flooding, exterior piping and associated supports were corroding, and reinforced concrete roof panels had deteriorated. The assessment concluded that the combination of the large facility size, rapidly deteriorating conditions, and vast quantity of items requiring disposition made this facility one of the greatest liabilities in the Department's complex. Further compounding the issue, the facility houses a hub of utilities that serves operational production facilities at the site, which could affect national security mission work as further degradation occurs. Since this facility was evaluated in 2008, the site has spent more than \$24 million in operating and maintenance costs.

To accelerate the cleanup effort, Environmental Management provided Recovery Act funding to NNSA to remove a portion of the legacy waste from the Alpha 5 Facility. However, since cleanup efforts were performed, officials informed us that the facility has degraded at an increasingly alarming rate. In particular, a 2014 NNSA site assessment indicated that roof

degradation continues to be widespread throughout the facility with varying levels of severity. This has resulted in significant water intrusion and the spread of radiological and toxicological contamination. Additionally, the assessment identified the potential for an explosion or reaction associated with remaining contaminants and personnel safety issues related to the degraded condition as high-risk areas. Overall, the assessment concluded that this facility presents a high risk to the workers and environment and should not be accepted. The assessment noted that demolition remains the only viable risk accepted standard. Further, it noted that funding will need to be diverted from mission work to prevent the realization of imminent risks and mitigate the consequences of realized risk events.

The following photos compare the Alpha 5 Facility post-Recovery Act cleanup efforts in 2011 to conditions in 2013:



Alpha 5 Facility, post-Recovery Act cleanup effort. (2011)



Facility condition and degradation, including standing water and contaminated equipment. (2013)



Alpha 5 Facility post-Recovery Act cleanup effort. (2011)



Advanced degradation due to roof failures and water intrusion. (2013)

B251 Heavy Element Facility

The B251 Heavy Element Facility at the Lawrence Livermore National Laboratory (LLNL) is described as the most problematic nonmission essential facility at the site. This facility was built in 1956 and was involved in activities associated with underground nuclear testing, as well as research on the nuclear and chemical behavior of heavy elements. Primary isotopes utilized included radioactive materials such as americium, curium, plutonium and radium. All operations of the facility ceased in 1995, and the hazard classification was reduced to radiological in 2005 due to removal of materials. Although the hazard classification was reduced, significant contamination remains in the facility. This building was ranked by Environmental Management, based on its walkdowns conducted in 2008, as one of the top five facilities for priority transfer. Since this facility was evaluated in 2008, the site has spent about \$2.5 million operating and maintenance funds in an effort to stabilize the facility.

Assessments conducted in 2014 by the site indicated that, as a result of the age of the facility and degradation, high-risk areas included catastrophic roof failure above highly contaminated areas; water leakage resulting in electrical fires; water intrusion leading to ground contamination; and contaminated, roof-mounted filtration systems. According to the site's assessment, this facility was identified as presenting an imminent risk to mission, workers, the public and the environment.

The following photos illustrate current roof conditions at the B251 Heavy Element Facility:



Example of standing water on roof.



Improvised roof cap.

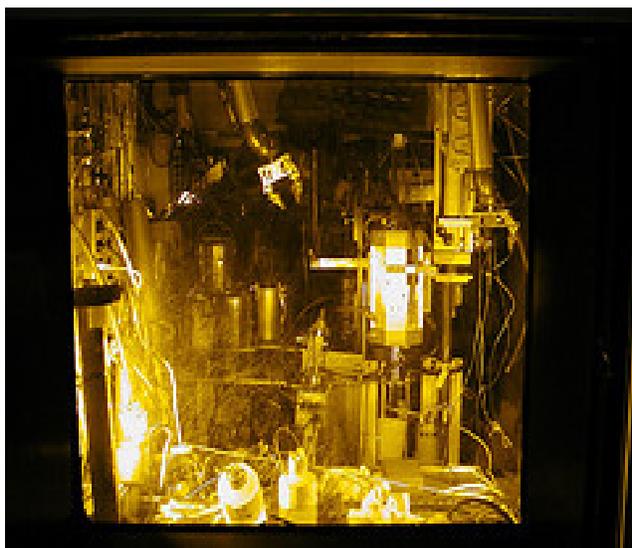
Alpha Gamma Hot Cell Facility

The Alpha Gamma Hot Cell Facility (AGHCF), building 212, is located at the Argonne National Laboratory and has been in operation since 1963. Until programmatic operations ceased in 2007, its operations focused on the examination of irradiated materials, such as plutonium-bearing fuel elements. During the course of operations, a significant volume of transuranic waste accumulated inside the facility. Environmental Management conducted a walkdown of the facility in 2008 and, based on its observations, concluded that from a risk and challenge

viewpoint, clean out of the AGHCF at Argonne National Laboratory should be the top priority among all the reviewed facilities, materials and wastes. Since this facility was evaluated in 2008, the site has spent more than \$19 million in operating and maintenance costs.

According to program officials, some cleanup activities were conducted with Recovery Act funding provided by Environmental Management; however, contamination still remains. In addition, age-related deterioration is prevalent throughout the building and provides for maintenance and operations challenges. Program officials indicated that a recent building condition assessment identified risks associated with the poor condition of the roof; structural deficiencies, to include interior/exterior walls and beams; water intrusion; and electrical equipment. As noted by officials, age-related deterioration and risk areas experienced by the facility can lead to the spread of contamination and issues with maintaining adequate confinement of radiation. Officials indicated that, given the history and the type of work of the AGHCF, aged facility deterioration can lead to loss of control of contamination. In the AGHCF case, a breach could lead to the spread of remote handled hot particle contamination. Officials concluded that this risk will remain until the AGHCF is cleaned out and decontaminated or demolished.

The following photos compare the AGHCF pre-Recovery Act cleanup efforts to conditions in 2013, demonstrating that contaminants are still present in the facility:



Pre-Recovery Act cleanup (August 2009)



Post-Recovery Act cleanup (August 2013)

TA-3-0016 Ion Beam Facility

The TA-3-0016 Ion Beam Facility at Los Alamos National Laboratory (LANL) was built in 1953 to support essential post-World War II scientific research. The facility, which is contaminated with tritium and mixed waste, is over 60 years old and has been vacant for nearly 20 years. In 2001, the facility was assessed by Environmental Management and was recommended for transfer, pending certain cleanup activities. While the 2008 walkdown report showed that these activities had been completed, a recent assessment conducted by the site noted that the structure continues to be the site's highest ranked facility proposed for disposition as a result of ongoing

risk factors. In particular, the radiological facility resides within the most populated technical area at LANL and large components of the facility have tritium contamination that cannot be addressed until the building is taken down. Additionally, the spread of contamination in the event of a wildfire has been identified as a risk at the LANL site as the facility is located in close proximity to a rugged wooded canyon. Since this facility was evaluated in 2008, the site has spent more than \$2.6 million in operating and maintenance costs.

The following photos demonstrate the size of the Ion Beam Facility as well as its close proximity to the wooded canyon and the site's most populated technical area:



Roof maintenance is difficult due to the height of the tower at the Ion Beam Facility.



Illustrates the Ion Beam Facility's proximity to the wooded canyon and the site's most populated technical area.

Additional Facilities for Transfer

Since 2009, program offices had identified at least 140 additional excess mission contaminated facilities, beyond the 234 already identified, that met the criteria for transfer and will need to be addressed by Environmental Management. Of particular concern, we noted that three facilities were identified by LLNL, in a 2014 assessment, as presenting an imminent risk to mission, workers, the public and the environment.

One of the facilities, the B280 Pool Type Reactor, was constructed between 1956 and 1957 to support radiation research. This radioactive and beryllium-contaminated facility ceased operations in 1980 and was approved for demolition in 2007. Since that time, cracks in the reactor shield were observed by site officials in 2010. Following the discovery, the site commissioned an Independent Structural Condition Assessment in 2011, which concluded that the risks associated with the reactor structure included a potential breach of the structure or associated piping that could result in a release of contamination. The report also noted that the reactor shield's design did not meet code due to less than minimum reinforcement, which could further exacerbate the problem. Risks associated with cracking in the shield were reaffirmed in the 2014 site assessment, which indicated that, based on the structural assessment, there was no leading cause or cost-effective stabilization plan for the cracks in the cement reactor shield.

The following photos show examples of cracks in the reactor shielding in the B280 Pool Type Reactor:



For the other two facilities, risks related to roof failures above highly contaminated areas, the potential for release of contaminants from roof-mounted filtration systems, and inaccessible contaminated areas. This is concerning because these facilities are contaminated with materials such as uranium, tritium, beryllium, or a combination of these.

Current Approach Not Fully Successful

The issues we identified occurred because the Department had not developed a corporate approach for cleanup and disposition of excess contaminated facilities. While Environmental Management and the various mission program offices face significant funding constraints in meeting myriad mission and regulatory requirements, the Department had not implemented an approach that focused limited Environmental Management cleanup and mission program budgetary resources on reducing the risk posed by contaminated excess facilities across the complex. Rather, Environmental Management and the various program offices have focused their respective budgetary resources on individual program risks and priorities instead of on the highest risk that exists on a Department-wide basis. Specifically, the Department had not developed a strategic, integrated plan that schedules D&D of excess contaminated facilities and allocates Environmental Management and mission program funding to risk reduction until the D&D is completed.

According to Environmental Management officials, they had been unable to effectively plan for the transfer and D&D of facilities because of its increased workload and budget uncertainties. Additionally, Environmental Management's cleanup work is governed by regulatory agreements and compliance with these agreements is a major cost driver. If the program fails to meet an enforceable regulatory milestone, the Department can be fined. Furthermore, Environmental Management's workload has been affected by unanticipated events. These factors all affect Environmental Management's budget and ultimately affects its ability to provide program offices with a definitive time frame for accepting transfers. In the absence of an Environmental

Management plan for the D&D of these non-Environmental Management facilities, program officials told us that they have been unable to effectively plan for the maintenance and deactivation of excess facilities due to the uncertainty about the length of time they will be required to maintain the facilities. Because Environmental Management has indicated that the date for accepting transfers from other programs will be pushed out from 2017 to 2025 at the earliest, programs must decide whether to accept the risks associated with the facilities until Environmental Management receives additional funding, request additional funding from Congress or take funds away from mission work. As indicated earlier, because programs retain ownership and are responsible for costs associated with maintaining facilities in a stable condition while awaiting transfer, funding decisions regarding the level of maintenance vary depending on transfer time lines.

We concluded that a corporate approach to identifying and scheduling facilities for transfer to Environmental Management for D&D that is integrated with the allocation of Environmental Management and mission program funding for risk reduction is necessary to ensure the effective expenditure of limited budgetary resources and mitigation of risk to the extent practical. In fact, the need for the Department to implement a corporate approach to its environmental remediation approach was previously identified. Specifically, our report *Disposition of the Department's Excess Facilities* (DOE/IG-0550, April 2002) found that the performance of the Department's program to dispose of excess facilities was not fully satisfactory. In particular, we noted that the Department had not fully considered mission requirements, risk reduction, and costs when prioritizing facility disposition activities. Overall, the Department was unable to effectively prioritize facility disposition because it lacked a corporate approach and program offices had not designated sufficient funding for disposition activities.

Management Challenges

In our report *Management Challenges at the Department of Energy* (DOE/IG-0858, November 2011), we suggested that the Department revise its remediation strategy to fund only high-risk activities that threaten health and safety or further environmental degradation. To ensure that risk drives the funding choices, we suggested that the Department should retain a respected outside group, such as the National Academy of Sciences, to rank and rate, on a complex-wide risk/priority basis, the Department's remediation requirements. In response to our report, Congress, through the *National Defense Authorization Act for Fiscal Year 2013*, directed the Assistant Secretary for Environmental Management to provide a briefing to the House Committee on Armed Services on prioritization of environmental cleanup efforts at the Department. The briefing was to include a description of how the Department prioritized cleanup efforts as well as the costs, benefits and challenges of transitioning to the complex-wide risk basis. Environmental Management officials have been unable to provide us with information as to whether this briefing occurred.

Subsequently, in our report *Management Challenges at the Department of Energy Fiscal Year 2013* (DOE/IG-0874, October 2012), we reiterated the series of operational efficiency and cost reduction initiatives offered for management's consideration in our previous year's report, including the need for the Department to reprioritize its environmental remediation efforts. To ensure that our recommendation was fully implemented, Congress, through the *2014 Energy and*

Water Development Appropriations Bill, directed the Department to implement our recommendation regarding reprioritization of cleanup efforts and to provide a report outlining risks at each legacy cleanup site to the Committees on Appropriations of the House of Representatives and the Senate within 1 year following enactment of this Act. According to Environmental Management officials, it has initiated efforts to address this request for excess facilities that have already been transferred to it for D&D.

In our opinion, a current analysis and report providing critical information on contaminated non-Environmental Management excess facilities would be useful to policy makers for decisions regarding the path forward for addressing these facilities. In conjunction with the 2014 Congressionally requested report on the Department's legacy cleanup sites previously mentioned, a comprehensive report on excess contaminated non-Environmental Management facilities could include a Department-wide inventory of excess facilities, the nature of contamination and other safety hazards at each facility, the severity of risk posed to employees and the public, the prioritization for D&D activities, and the estimated costs for D&D activities as well as required maintenance necessary until D&D activities could be scheduled.

Path Forward

Due to delays in the cleanup and disposition of contaminated excess facilities, the Department is taking on ever-increasing levels of risk. In particular, the contaminated facilities highlighted above pose significant health and safety risks to employees and the public and continue to deteriorate, increasing the likelihood of a contaminant release. While surveillance and maintenance is intended to control these risks, delays in decommissioning and demolition lead to escalation of these costs, as well as disposition costs. Further, a number of the facilities are located in areas where there is a realized risk of natural disasters. Finally, deferral of tackling these liabilities in a timely manner may affect ongoing mission work, as well as plans to expand and accommodate new missions that are needed to meet energy and national security objectives.

RECOMMENDATIONS

Given budget and transfer time line uncertainties, as well as the risks posed to health, safety, and the environment, we recommend that the Offices of the Under Secretary for Nuclear Security, Under Secretary for Science and Energy, and Under Secretary for Management and Performance, in conjunction with their stakeholders, take the following actions:

1. Develop an analysis and report providing critical information on contaminated Department excess facilities that would be useful to policy makers for decisions regarding the path forward for addressing these facilities.
2. Based on this analysis, reconsider the current approach for disposition of these facilities to ensure the effective expenditure of limited budgetary resources and mitigation of risk to the extent practical.

MANAGEMENT RESPONSE

Management concurred with the report's recommendations. The Office of the Under Secretary of Management and Performance indicated that it plans to coordinate with the Principal Deputy Administrator for the National Nuclear Security Administration and the Deputy Under Secretary for Science and Energy to sponsor an analysis and report on the Department's contaminated excess facilities, and it intends to evaluate alternatives for the disposition of excess facilities based on this analysis. A working group is planned to be established in January 2015 that will develop milestones for the analysis.

AUDITOR COMMENTS

The Department's planned corrective actions are responsive to our recommendations.

Management's comments are included in Appendix 4.

OFFICE OF ENVIRONMENTAL MANAGEMENT TIME LINE

Date	Milestone
1989	Office of Environmental Management (Environmental Management) was created to manage the remediation of the Department's environmental legacy, as well as deactivation and disposition of excess contaminated facilities across the complex.
2001	Assistant Secretary of Environmental Management declared that each Department Program Office including the National Nuclear Security Administration (NNSA) would be responsible for disposition of their excess facilities, wastes, and materials.
August 2006	Deputy Secretary of Energy issued a memorandum mandating that Environmental Management would again hold ultimate responsibility for the Department's excess environmental liabilities.
December 2007	Assistant Secretary of Environmental Management issued an invitation to Department Program Offices and NNSA to propose facilities, wastes, and materials for transfer to Environmental Management for final disposition.
January to February 2008	The Offices of Nuclear Energy (Nuclear Energy) and Science (Science) as well as NNSA submitted transfer candidates.
May to August 2008	Environmental Management conducted walkdown reviews to evaluate acceptability of proposed transfers and generate list of facilities recommended for acceptance.
December 2008 to February 2009	Environmental Management conducted negotiations with NNSA, Nuclear Energy, and Science on the evaluated excess liabilities. In February 2009, the Assistant Secretary of Environmental Management issued memorandums formally documenting facilities, materials and wastes that Environmental Management would agree to accept from NNSA, Nuclear Energy, and Science when funding became available.
February 2009	Congress approved the American Recovery and Reinvestment Act of 2009 (Recovery Act). Environmental Management received \$6 billion in funding. Some Recovery Act funding allowed Environmental Management to cleanup a number of excess liabilities identified in the February 2009 memorandums.
FY 2017	Anticipated start for transferring remaining excess facilities from Nuclear Energy, NNSA, and Science to Environmental Management for final disposition. However, Environmental Management officials have indicated that, due to its increased workload and budget uncertainties, the transfer date has been pushed out to 2025 at the earliest and possibly extending to 2035.

OBJECTIVE, SCOPE AND METHODOLOGY

Objective

To determine whether the Department of Energy (Department) has minimized the risk associated with excess contaminated facilities.

Scope

We conducted this audit between April 2014 and January 2015. The audit was performed as a continuation of our previously issued report titled, *Department of Energy's Management of Unneeded Real Estate* (OAS-L-14-07, April 2014). The audit was conducted under the Office of Inspector General Project Number A14PT029.

Methodology

To accomplish the audit objective, we:

- Reviewed applicable Federal and Departmental regulations related to the disposition of excess facilities;
- Reviewed Office of Environmental Management (Environmental Management) planning documents and assessment reports related to the audit area;
- Analyzed information related to non-Environmental Management excess contaminated facilities; and
- Interviewed Department officials to determine actions taken to identify and/or mitigate risks associated with excess facilities.

We conducted this performance audit 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 the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objective. Accordingly, we assessed internal controls and compliance with laws and regulations to the extent necessary to satisfy the audit objective. We assessed performance measures in accordance with the *GPR Modernization Act of 2010* and concluded that the Department had established performance measures related to the audit area. Because our review was limited, it would not necessarily have disclosed all internal control deficiencies that may have existed at the time of our audit. Finally, we did not rely on computer-processed data to achieve our audit objective and, therefore, did not conduct a full reliability assessment of computer-processed data.

Management waived an exit conference.

PRIOR REPORTS

- Audit Report on [*Department of Energy's Management of Unneeded Real Estate*](#) (OAS-L-14-07, April 2014). The audit determined that the Department of Energy (Department) had a number of controls in place to manage the disposition of Department-owned real estate properties. However, the report identified a number of National Nuclear Security Administration facilities in poor condition that were categorized as excess or in shutdown mode without definitive plans for deactivation and decommissioning activities. The degradation within these facilities ranged from failures in critical structural components to high levels of contamination. Additionally, several of these facilities posed significant health and safety risks to Department employees and/or the public.
- Audit Report on [*The Department of Energy's Office of Environmental Management's Budget Allocation Process*](#) (OAS-L-12-03, March 2012). The audit found that the Office of Environmental Management had implemented a risk-based process to manage and plan for declining budget allocations that incorporated the myriad factors that must be considered in making difficult budgetary decisions. The report noted that although the Office of Environmental Management's current annual budget planning process appeared to be adequate to address the nearly 5 percent decline in budget allocations tested, more extensive reductions could put future regulatory and agreement milestones at risk.
- Special Report on [*Management Challenges at the Department of Energy*](#) (DOE/IG-0858, November 2011). This report suggested that the Department revise its remediation strategy to fund only high-risk activities that threaten health and safety or further environmental degradation. To ensure that risk drives the funding choices, we suggested that the Department should retain a respected outside group, such as the National Academy of Sciences, to rank and rate, on a complex-wide risk/priority basis, the Department's remediation requirements.
- Audit Report on [*Disposition of the Department's Excess Facilities*](#) (DOE/IG-0550, April 2002). The audit found that the performance of the Department's program to dispose of excess facilities was not fully satisfactory. In particular, we noted that the Department had not fully considered mission requirements, risk reduction and costs when prioritizing facility disposition activities.

MANAGEMENT COMMENTS



Department of Energy

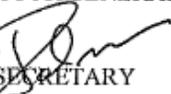
Washington, DC 20585

December 19, 2014

MEMORANDUM FOR RICKEY R. HASS

DEPUTY INSPECTOR GENERAL
FOR AUDITS AND INSPECTIONS
OFFICE OF INSPECTOR GENERAL

FROM:

DAVID M. KLAUS 
DEPUTY UNDER SECRETARY
FOR MANAGEMENT AND PERFORMANCE

SUBJECT:

Department of Energy Management Response to Inspector
General Draft Audit Report on *"The Department of Energy's
Management of High-Risk Excess Facilities"*

The Department of Energy (DOE) respects the findings and recommendations of the Inspector General (IG) in its subject report and agrees with the two primary recommendations as stated below:

1. Develop an analysis and report providing critical information on contaminated Department excess facilities that would be useful to policy makers for decisions regarding the path forward for addressing these facilities.
2. Based on this analysis, reconsider the current approach for disposition of these facilities to ensure the effective expenditure of limited budgetary resources and mitigation of risk to the extent practical.

The Deputy Under Secretary for Management and Performance, in cooperation with the Principal Deputy Administrator for the National Nuclear Security Administration (NNSA) and the Deputy Under Secretary for Science and Energy, will sponsor the preparation of the recommended analysis and report. The analysis will leverage teams and processes from two recent reviews: the National Laboratory Operations Board assessment of the active general purpose infrastructure at the National Laboratories and plants and NNSA's most recent annual review of its high-risk excess facilities.

The Department, through the National Laboratory Operations Board, will charter a working group by January 2015; the working group will establish deadlines for the analysis and the completion of the report.

As part of the report resulting from Recommendation #1, alternatives for the disposition of these excess facilities will be evaluated.



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FEEDBACK

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