LA-UR-25-31972

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Title:	Fiscal Year 2025 Mitigation Action Plan Annual Report for the Continued Operation of Los Alamos National Laboratory
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Intended for:	
Issued:	2025-12-10 (Draft)

December 2025

Fiscal Year 2025 Mitigation Action Plan Annual Report for the Continued Operation of Los Alamos National Laboratory

Environmental Protection and Compliance Division

Environmental Stewardship Group

Los Alamos NATIONAL LABORATORY

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Los Alamos Field Office and Office of Environmental Management

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EXECUTIVE SUMMARY

In compliance with U.S. Department of Energy (DOE)/National Nuclear Security Administration (NNSA) Policy NAP-451.1, National Environmental Policy Act Compliance Program, the DOE/NNSA Los Alamos Field Office compiled the fiscal year (FY; October 1, 2024, through September 30, 2025) "2025 Mitigation Action Plan Annual Report."

This FY 2025 annual report includes mitigations identified in the "Mitigation Action Plan for Los Alamos National Laboratory Operations" (MAP for LANL Operations). Actions taken to meet these mitigations are presented in this report. During FY 2025, the mitigation commitments identified in the MAP for LANL Operations have been met, are ongoing, or are on hold until preceding actions are taken.

1 INTRODUCTION

The “Mitigation Action Plan for Los Alamos National Laboratory” (MAP for LANL Operations) is a comprehensive plan for all current and ongoing mitigations identified in the “2008 Site-Wide Environmental Impact Statement” (SWEIS) and other National Environmental Policy Act (NEPA) documents. The MAP for LANL Operations discusses the measures that the U.S. Department of Energy (DOE)/National Nuclear Security Administration (NNSA) considered for the mitigation or reduction of potential adverse effects contributed to operations at Los Alamos National Laboratory (LANL). The MAP is a living document that is revised to incorporate additional mitigation requirements associated with additional records of decision (RODs) and NEPA decisions or to meet the objectives established in the 2008 SWEIS and other NEPA documents.

NNSA Policy, NAP-451.1, National Environmental Policy Act Compliance Program, requires the tracking and annual reporting of the progress made in implementing mitigations and the effectiveness of the mitigation actions committed to in a NEPA decision document and documented in the associated MAPs. This “Mitigation Action Plan Annual Report” (MAPAR) fulfills this requirement, documenting the mitigation actions identified in the MAP for LANL Operations and subsequent MAPs associated with the operation of LANL. As required by the MAP for LANL Operations, a draft MAPAR that summarizes the work conducted by LANL during the previous fiscal year (FY) is submitted for review to the DOE/NNSA Los Alamos Field Office, and this office finalizes and publishes the MAPAR.

The MAP for LANL Operations requires tracking of mitigation actions in a log that includes information regarding the scope, schedule, interim milestones, deliverables, and closures of the mitigation actions and any issues identified during the previous FY. The MAPAR provides the tracking log that summarizes actions taken during the previous FY (Table 3-1).

During the preparation of the MAPAR, the MAP for LANL Operations is reviewed to determine if any mitigation actions have been completed and need to be formally closed. Revision of the MAP for LANL Operations may be recommended in the MAPAR to address significant changes, new actions, or deficiencies.

This MAPAR reports on the status of mitigation commitments and all executed actions for mitigation commitments that have taken place during FY 2025.

2 BACKGROUND

In May 2008, the 2008 SWEIS was published. Since then, two associated RODs have been published. The first ROD was published in September 2008, and the second ROD was published in June 2009 (DOE 2008a; 2008b, 2009). In January 2009, the original 2008 SWEIS MAP (DOE 2008c) was finalized. In November 2010, the 2008 SWEIS MAP was revised (DOE 2010a) to incorporate the MAP associated with the “Final Environmental Assessment for the Expansion of the Sanitary Effluent Reclamation Facility and Environmental Restoration of Reach S-2 of Sandia Canyon at Los Alamos National Laboratory, Los Alamos, New Mexico” (DOE 2010b). Following this revision, the 2008 SWEIS MAP was revised several more times to close out completed mitigations and to add new mitigations identified in other NEPA documents, such as environmental assessments (EAs).

2.1 2025 LANL SWEIS

In early 2025, NNSA published the draft SWEIS for LANL assessing current and future impacts of the Lab's operations. The SWEIS analyzes the potential environmental impacts of LANL operations for approximately the next 15 years. In addition, in June 2025 DOE prepared new procedures for NEPA implementation, published on the DOE website outside of the Code of Federal Regulations. These new procedures were based on amendments to NEPA made by the Fiscal Responsibility Act in 2023, Executive Orders 14154 and 14301, the rescission by the Council on Environmental Quality (CEQ) of its NEPA implementing regulations, and the recent Supreme Court ruling in Seven County Infrastructure Coalition et al. v. Eagle County, Colorado. DOE began implementing the new NEPA procedures on June 30, 2025.

The new SWEIS and new DOE NEPA procedures create opportunities to re-evaluate how LANL identifies, reports, and monitors mitigations going forward. This may include how mitigations are defined for effectiveness, driven by significance of impacts, the overall value of the mitigations and how they are tracked and reported. Opportunities for adaptive management of mitigation improvements may also be addressed, as well as measurable outcomes driven by specific compliance drivers. These opportunities will be identified in coordination with NNSA stakeholders.

3 MITIGATION ACTION COMMITMENTS

The mitigation actions are outlined in the MAPAR Tracking Log for FY 2025, Table 3-1. These actions are based on the mitigation measures and commitments that were previously incorporated in the 2008 SWEIS alternatives and includes other mitigation measures and commitments from previous NEPA decisions. In FY 2025, the mitigation commitments identified in the MAP for LANL Operations have been met, are ongoing, or are on hold until preceding actions are taken.

Table 3-1. Mitigation Tracking Log for FY 2025

Topic	Mitigation Action Commitment	NEPA Driver	Action Taken	Mitigation Status[1]	Recommendation	Responsible Party
Special Environmental Analysis Mitigations	Monitor biota and sediment contamination behind the Los Alamos Canyon weir and the Pajarito Canyon Flood Retention Structure (FRS) and report results in the Annual Site Environmental Report (ASER).	DOE/SEA-03 (DOE 2000)	• Statistically analyzed 2024 data and reported the data in the 2025 ASER (LANL 2025). • Some radionuclides, such as cesium-137 and plutonium-239/-240, continue to exceed the regional statistical reference levels in biota collected in Los Alamos Canyon; however, these concentrations are below levels associated with adverse effects.	Annual requirement complete	• Recommend Los Alamos Canyon weir remain operational and biota monitoring continue on a triennial basis, which coincides with monitoring efforts conducted downstream of the weir (LANL 2024).	LANL Environmental Protection and Compliance (EPC) DOE Environmental Management Newport News Nuclear BWXT (N3B)
	Periodically remove sediment from the Los Alamos Canyon weir.		No sediments have been removed in FY 2025 from the sediment detention basins behind the Los Alamos Low-Head Weir.	Ongoing	Continue maintenance on clean-outs as necessary.	DOE Environmental Management N3B
Flood and Sediment Retention Structure	Perform a field visit and inspection triennially of the FRS for structural integrity and safe operations until removed.	DOE/EA-1408 (DOE 2002)	• The scheduled FY2025 inspection was completed. • The structure was found to be in overall satisfactory condition with minor widespread and isolated moderate defects. • There were no critical findings during the inspection. • The upstream reservoir has approximately 12 ft of debris and sediment accumulation and the flanking upstream slopes have prior erosion damage. • The access road to the upstream side is currently closed due to its deteriorating condition.	Annual requirement complete	• Install correct signage on the closed section of the access road. An engineering evaluation of the roadway and the stability of the embankment slope are recommended. • Remove and clear the large debris from the upstream reservoir. • Recommended that LANL and NNSA evaluate the long-term disposition of the FRS. • Survey monument points to check for any horizontal and vertical movements. • Continued search for missing documentation including inspection reports, design reports, construction and maintenance manuals.	NA-LA LANL Utilities and Institutional Facilities Division

[1] Green is an annual completed action; yellow is an ongoing action; red is a closed or on-hold mitigation.

Topic	Mitigation Action Commitment	NEPA Driver	Action Taken	Mitigation Status[1]	Recommendation	Responsible Party
	• Remove portions of the FRS in accordance with DOE/EA-1408. • Recycle demolition spoils from FRS decontamination, decommissioning, and demolition, as appropriate.		Not applicable	Mitigation on hold	• Recommend development of a decontamination, decommissioning, and demolition plan for the FRS structure. • Remain on hold pending removal of the FRS.	NA-LA LANL
	• Consider leaving an aboveground portion of the FRS equivalent to the dimensions of a low-head weir to retain potentially contaminated sediments on LANL land. • Remove aboveground portions of the steel diversion wall below the FRS. • Re-contour and re-seed disturbed areas to protect surface water quality in Pajarito Canyon after the FRS is removed.		Not applicable	Mitigation on hold	Remain on hold pending removal of the FRS.	NA-LA LANL Associate Directorate for Nuclear and High-Hazard Operations LANL EPC
Off-Site Source Recovery Project (OSRP)	Institute adequate controls on quantities and methods of storing sealed sources that contain cobalt-60, iridium-192, or cesium-137 to mitigate effects of potential accidents.	2008 LANL SWEIS ROD DOE/EIS-0380 (DOE 2008b)	Not applicable	Mitigation on hold; OSRP currently does not accept sealed sources that contain cobalt-60, iridium-192, or cesium-137.	Not applicable	NA-LA LANL Nuclear Engineering and Nonproliferation Division
Wildland Fire Management	Continue to further reduce risks from wildfire by shipping legacy transuranic waste currently stored in the Technical Area 54 domes to the Waste Isolation Pilot Plant (WIPP).	DOE Wildfire Management Policy (February 2004)	N3B participated in 43 legacy transuranic (TRU) waste shipments to WIPP for disposal in FY 2025.	Annual requirement complete	Continue shipments to WIPP.	NA-LA DOE Environmental Management N3B LANL EPC

Topic	Mitigation Action Commitment	NEPA Driver	Action Taken	Mitigation Status[1]	Recommendation	Responsible Party
		2001 Federal Wildland Fire Management Policy and Implementing Actions (January 2001) SWEIS MAPs DOE/EIS-0380 (DOE 2008c)				
Chromium Plume Control Interim Measure and Plume-Center Characterization	Mitigate potential noise and light impacts to the Mexican spotted owl during construction, drilling, and pumping activities by • planning activities outside the breeding season, • selecting equipment with lower noise levels, • using noise barriers where appropriate, and • directing all lighting away from the canyon and habitat areas.	DOE/EA-2005 MAP (DOE 2015a; 2015b)	Met noise and tree-cutting restrictions associated with the Endangered Species Act and the LANL Threatened and Endangered Species Habitat Management Plan (LANL 2022) for FY 2025.	Ongoing	Continue implementation.	DOE Environmental Management N3B
Chromium Plume Control Interim Measure and Plume-Center Characterization (cont.)	Paint infrastructure so it blends in with the landscape to minimize potential visual impacts. Comply with the LANL Cultural Resources Management Plan (LANL 2017b).	DOE/EA-2005 MAP (DOE 2015a; 2015b)	No actions were taken in FY 2025.	Ongoing	Continue implementation.	DOE Environmental Management N3B
	Comply with the Endangered Species Act and adhere to LANL Threatened and Endangered Species Habitat Management Plan (LANL 2022).		Met restrictions for the Endangered Species Act and the LANL Threatened and Endangered Species Habitat Management Plan (LANL 2022) for FY 2025.			

Topic	Mitigation Action Commitment	NEPA Driver	Action Taken	Mitigation Status[1]	Recommendation	Responsible Party
	Generated "Floodplain Assessment of the Chromium Plume Control Interim Measure and Plume-Center Characterization in Mortandad Canyon" in accordance with best management practices to minimize short- and long-term negative impacts.		No excavations or soil stockpiles occurred in FY 2025.			
	Limit well pad footprints to the smallest size possible to minimize land-use impacts.		No actions taken as there were no new pads built in FY2025.		Continue as necessary.	
	Revegetate with native perennial vegetation to restore the area as infrastructure is downsized or is no longer needed.		Carried out revegetation plan that included native perennial vegetation and completed the previous R-80 well pad rehabilitation. Seeded with a native seed mix that conforms to LANL's Pollinator Protection Plan (LANL 2021).			
Chromium Plume Control Interim Measure and Plume-Center Characterization (cont.)	Implement Environmental Protection Agency–regulated National Pollutant Discharge Elimination System General Permit requirements for discharges from construction activities to minimize the discharge of potential pollutants to watercourses.	DOE/EA-2005 MAP (DOE 2015a; 2015b)	Met all National Pollutant Discharge Elimination System General Permit requirements for FY 2025.	Ongoing	Continue implementation.	DOE Environmental Management N3B
	Require best management practices that will minimize short-term negative impacts associated with Discharge Permit 1793.					

Topic	Mitigation Action Commitment	NEPA Driver	Action Taken	Mitigation Status[1]	Recommendation	Responsible Party
Wildland Fire/Forest Management	*Fire Road Stabilization* Update the LANL Engineering Standards to include standards for new unpaved roads to be more resilient to damage from storm water. Inspect fire roads and propose and prioritize improvements to reduce storm water erosion. Prioritized projects would be incorporated into existing storm water work planning. If necessary, recommend the closure or replacement of fire and other unimproved roads. Develop a procedure for monitoring cultural resource sites near fire roads and firebreaks. Include additional monitoring requirements and treatments as needed.	Wildfire Supplemental Environmental Assessment (SEA; DOE/EA-1329-S1) (DOE 2019a)	Fire roads were driven and inspected for wildland fire response standards in FY25 to determine if improvements were necessary. All fire roads were bladed on their regular maintenance schedule, and two roads, Cactus and Jib, had stormwater improvements performed. A 2023 revision of EPC-ES-TP-407 Archaeological Monitoring and Site Inspections modified the procedure for monitoring cultural resources near fire roads and firebreaks. The updated focus is on annual evaluation of the condition of fences and basecourse that caps the road, repairing fences and improving basecourse where they protect archaeological sites, determining where additional basecourse and fencing should be added to improve the efficiency of protecting sites during fire road and firebreak maintenance, and educating heavy equipment operators about how to avoid impacts to cultural resources. Additional fencing and gravel capping was requested by cultural resources staff to ensure protection of cultural resources adjacent to Fire Roads and Fire Breaks. Additional FSRs will be submitted. Additional archeological monitor observation of mowing operations was added in FY2025 to limit potential impacts of mowers entering archeological sites.	Ongoing	Continue implementation.	Standards for new unpaved roads - Utilities and Institutional Facilities Fire road stormwater inspection – Stormwater Program (EPC-Stormwater) EMD Cultural Resource site monitoring – Cultural Resources Program (EPC)

Topic	Mitigation Action Commitment	NEPA Driver	Action Taken	Mitigation Status[1]	Recommendation	Responsible Party
			Updated sites and verified boundaries for sites along evacuation routes. Started implementing additional engineering controls (stanchions) to mark updated archaeological sites in support of routine evacuation route mowing.			
Wildland Fire/Forest Health (cont.)	Develop and implement an annual operating plan for fuels mitigation and forest health actions.	Wildfire Supplemental Environmental Assessment (SEA; DOE/EA-1329-S1) (DOE 2019a)	EMD-PLAN-201, R4, Los Alamos National Laboratory Wildland Fire and Forest Management Annual Operating Plan for Fiscal Year 2024 was published 5/9/2024. Plan is still being executed. Annual Summary Report for Fiscal Year 2025 will be published 10/30/2025.	Ongoing	Continue implementing, review process adequacy.	LANL Emergency Management Lead Division with EPC input
	Fuels Mastication Adaptive Management		Fuel loading is monitored through pre- and post-treatment data collection for all open space wildland fire mitigation thinning treatments and includes understory shrubs and masticated fuel depth. Purpose is measurement for future prescribed burn and wildland fire modeling on treatment objectives to reduce fire intensity levels through thinning and mastication.	Ongoing	Continue implementation.	LANL EMD
Wildland Fire/Forest Health (cont.)	Development or adoption of a LANL invasive species best management practices document	Wildfire Supplemental Environmental Assessment (SEA; DOE/EA-1329-S1) (DOE 2019a)	• Revised Invasive Plant Species Management Plan (LA-UR-22-32639, R3), published May 2024 is being implemented.	Ongoing	Continue implementation of Plan.	LANL EPC

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ACRONYMS AND ABBREVIATIONS

ASER	Annual Site Environmental Report
DOE	(U.S.) Department of Energy
EA	Environmental Assessment
EPC	Environmental Protection and Compliance (Division)
FRS	flood retention structure
FY	fiscal year
LANL	Los Alamos National Laboratory
MAP	mitigation action plan
MAPAR	mitigation action plan annual report
N3B	Newport News Nuclear BWXT Los Alamos
NA-LA	NNSA Los Alamos Field Office
NEPA	National Environmental Policy Act
NNSA	National Nuclear Security Administration
PV	photovoltaic array
ROD	record of decision
SWEIS	site-wide environmental impact statement
WIPP	Waste Isolation Pilot Plant