



U.S. DEPARTMENT *of* ENERGY

Office of Environmental Management

Los Alamos County Council Meeting

Los Alamos National Laboratory (LANL) Legacy Cleanup

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Chromium Interim Measures (IM)

In accordance with the 2016 Compliance Order on Consent (Consent Order), the purpose of the chromium IM is to reduce or prevent migration of the hexavalent chromium plume that may result in an unacceptable human or environmental receptor risk while long-term corrective action activities are evaluated and implemented.

Chromium IM Treatment Center in Mortandad Canyon

Chromium IM Operational Periods

- **Spring 2018** – Initial startup of CrEX-1 and 2, CrIN-3, 4, and 5
- **Late 2019** – CrEX-5, CrIN-1 and CrIN-2 become operational
- **March – June 2020** – Total IM shutdown due to COVID
- **Early 2021** – Full operations
- **October 2022** – Shutdown CrEX-1, 2 and 3, CrIN-1, 2 and 3 **at direction of NMED** (only CrEX-4, 5 and CrIN-4, 5 operating)
- **April 2023** – Total IM shutdown **at direction of NMED to cease injection**
- **September 2024** – Restart CrEX-2, 3, 4, 5 and CrIN 3, 4, 5
- **November 2025** – Total IM shutdown **at direction of NMED to cease injection**

Since April 2023, the IM system has only been in operation for 14 months



Operation of a Partial IM is Essential

Operating the IM in a partial configuration supports the purpose of the IM and enables adaptation based on new data. This is consistent with the Chromium Expert Technical Review team's conclusion in its December 2024 final report, "The single most important recommendation ... is to restart the IM—using a portion of the original system—while other studies and field investigations move forward."



Ion Exchange Treatment System

Chromium Expert Technical Review Recommendations

- EM-LA is committed to following December 2024 report recommendations. To date, EM-LA has:
 - Restarted chromium IM (September 2024); NMED directed EM-LA to cease injection in November 2025
 - Completed monitoring well San Ildefonso Mortandad Regional 3
 - Started installing data gap monitoring well R-80
 - Continued planning for monitoring well R-79
- EM-LA has also begun:
 - Evaluating the site conceptual model
 - Evaluating an alternative injection well location and design
 - Planning for implementation of adaptive management
 - Evaluating transition of groundwater modeling software from the Finite Element Heat and Mass transfer model (FEHM) to the USGS Modular Flow (MODFLOW) Model



Chromium IM Key Takeaways

- The plume does not pose an immediate threat to public or private drinking water wells
- Well sampling and monitoring continues
- Installation of additional wells will further characterization efforts and inform decision making
- Operation of the chromium IM has a positive effect on the plume
- During the first and second IM shutdowns per NMED's direction, EM-LA observed increases in hexavalent chromium concentration in most monitoring wells within the first few months
- Expert Technical Review report single most important recommendation was to restart the IM
- Land application is not viable due to permit restrictions and has limited effectiveness. It is not a responsible use of groundwater—a precious resource in New Mexico



Responsible Restart of Chromium IM

- EM-LA advocates for IM operations—with injection—to resume as soon as possible
- EM-LA/N3B have reengaged experts to evaluate new data since the 2024 review in context of the current configuration of the IM and operations, and assess opportunities to optimize the IM based on new data
- Experts include Ines Triay, executive director of the Applied Research Center at Florida International University, and Matthew Tonkin, president and principal hydrogeologist, S.S. Papadopoulos & Associates, Inc.

“From our perspective, the Independent Technical Review recommendation to partially operate the interim measures remains; IM operations with injection should resume as soon as possible. With stopping the IM, we are missing an opportunity to get data to make more progress toward the final remedy,” stated Triay and Tonkin. “This is an interim remedy for a very complex problem and it is difficult to know everything now. The review looked at many options, including alternate water disposition. Our conclusion was the IM should be exercised.”



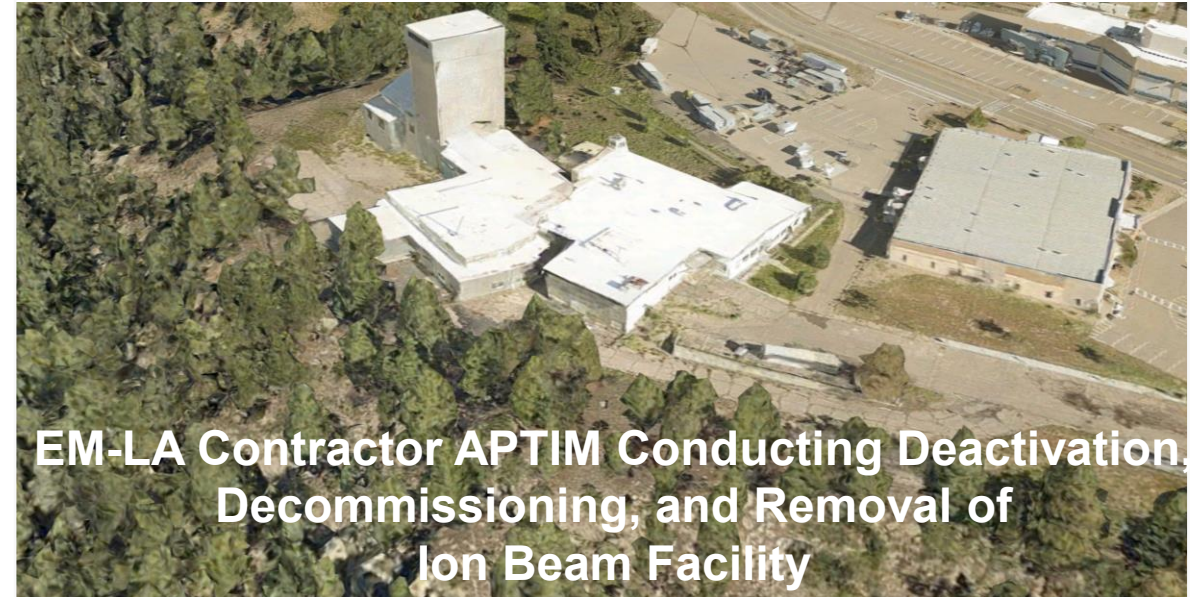
Ion Beam Facility Disposition

NNSA Facility

- Built in 1951, housed two of the largest Van de Graaff accelerators
- 60,000 sq ft, decommissioned in 1999

Project

- Supports LANL modernization activities
- Remediated mixed/low-level waste from Administrative area is being shipped safely off-site to licensed disposal facilities
- Administrative and Horizontal Accelerator buildings will be demolished together starting in August



Recent Activity at Ion Beam Facility



Large Equipment Removal



Horizontal Accelerator Tank
Characterization



Roof Abatement

Waste Shipments Fiscal Year (FY) 2026

Transuranic Radioactive (TRU) Waste

- 64 TRU waste shipments to the Waste Isolation Pilot Plant (WIPP) – 49% increase so far over FY25
 - 289 cubic meters of TRU waste – 50% increase over FY25
 - Equivalent of ~20 standard-sized dump trucks

Low-Level Waste

- 977 cubic meters shipped to off-site disposal facilities in Texas and Utah
 - Equivalent of ~67 standard-sized dump trucks
 - Soil & groundwater investigation & remediation across LANL



Work Look-Ahead Through Mid-2028

Waste:

- Continue to reduce the above-ground inventory of legacy waste
- Optimize the Documented Safety Analysis and Technical Safety Requirements for Area G



Work Look-Ahead Through Mid-2028

Environmental Remediation:

- Complete drilling of two groundwater monitoring wells and permit one additional well
- Advance cleanup goals in 12 Aggregate Areas—watersheds or canyons that contain soil or debris contaminated from legacy operations at LANL
- Continue implementing the Expert Technical Review recommendations for the Hexavalent Chromium Campaign



Conclusion

- Safety remains foundational to everything we do
- Trust and engagement are essential with those who have a stake in the LANL legacy cleanup mission
- We are committed to transparency, accountability, and respect for the communities and environment in which we live and serve



Safety Fair



Community Meeting

Questions?





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