LANL Mixed Waste Disposition Process

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Recent LANL Successes

- LANL shipped a 13-year legacy Site Treatment Plan (STP) item which contained 80% of the treatment facility's NRC fissile material limit
- In addition to routine MLLW, LANL managed the disposal of 60 m^3 of reclassified STP TRU
- LANL Waste Services maintains a perfect turnkey record by removing all waste received within the same FY

LANL Cost-Cutting and New Problems

- Historically, LANL employed waste minimization and consolidation procedures, DOE joint shipments and milkruns, deconning and recycling to reduce waste costs
- With the successful reduction of most LANL MLLW streams, these opportunities are dwindling
- As volumes diminish, fixed unit costs are rising

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LANL Cost-Cutting Options

- RCRA permit modification to allow macroencapsulation of large debris items
- Development of generator treatment possibilities
- Sampling and re-characterization to minimum essential RCRA codes
- Competitive bidding and creative contracting to lower transportation, treatment and disposal costs
- Provide sufficient evidence that lead in shielded stainless steel gloveboxes is effectively isolated
- Other appeals for regulatory relief to allow time for more efficient waste management

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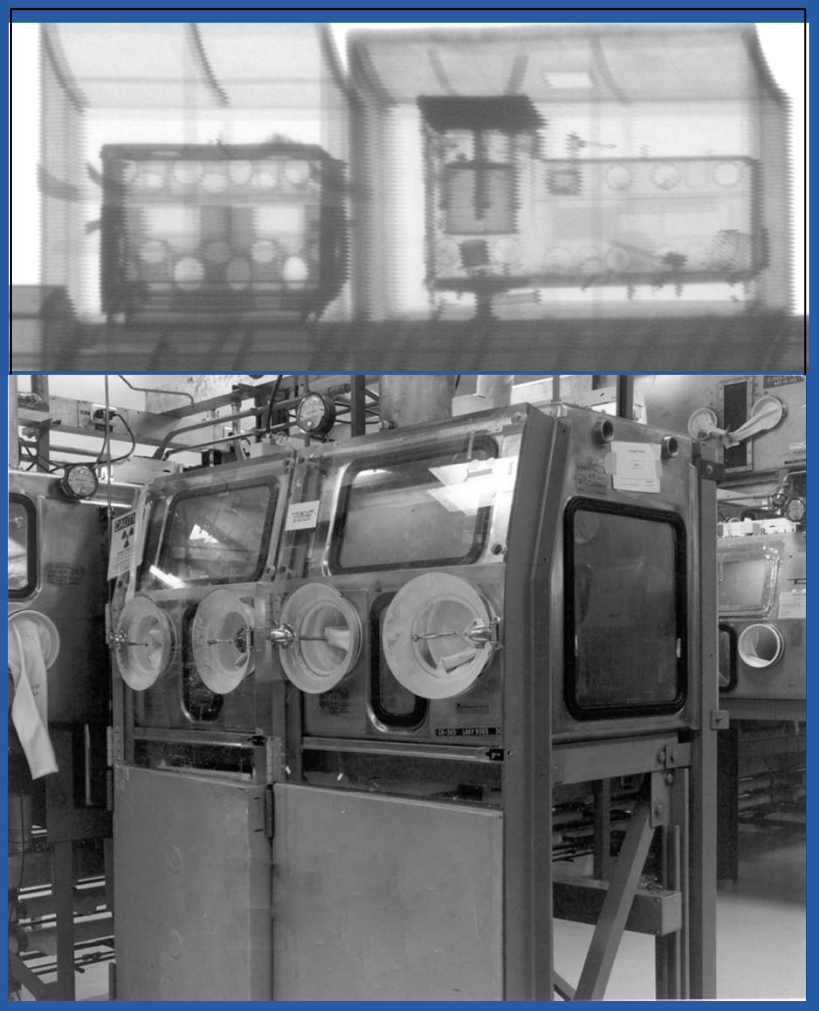
LANL Gloveboxes and FRPs

- MLLW gloveboxes come from decommissioning and from removal and reclassification of mixed TRU fiberglass reinforced plywood (FRP) crates stored mostly below ground
- Unearthed FRPs contain gloveboxes as well as large waste containers with a variety of waste items inside
- Treatment and disposal options for this large-volume waste stream currently exist—cheaper options are being explored

LANL Gloveboxes

- A future large waste stream will be LANL gloveboxes used in weapons production and research.
- Gloveboxes are lead-lined (RCRA mixed waste), with plutonium contamination and can be as large 20 cubic meters.
- LANL forecasts several hundred gloveboxes slated for removal in the next 10 years.
- Treatment and disposal options exist for this waste stream.



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MLLW from the LANL TRU Waste Inventory

- LANL projected that up to 2,000 m^3 of TRU waste may be <100 nCi/g after assay
- Includes RCRA debris waste, cemented sludges and “FRPs” (box TRU waste)
- Conservatively, containers carry the RCRA codes identified by the TRU Acceptable Knowledge Report
- Treatment options exist for these waste streams

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LANL Problematic Items

- **Tritium waste up to 80,000 Ci**
  - December 2013 STP completion date
  - Flanged tritium waste containers (FTWC) in uncertified pressure vessels
  - “Cryotraps” – mercury and tritium contamination
- Additional problematic items requiring further characterization could be found in reclassified mixed-TRU waste gloveboxes and drums

Summary

- Managing routine MLLW
- Disposition the “road ready” MLLW as funding is available
- Continue to determine paths of treatment options for the problematic waste
- Actively seek funding for expensive treatment and disposal

Waste Services delivers safe, compliant and environmentally responsible management of Los Alamos National Laboratory wastes