

LANL High-Activity Mixed Waste Disposition Progress

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Mixed Low-Level Waste

Mixed Low-Level Waste at Los Alamos National Laboratory

Routine Mixed Low-Level Waste

Approximately 12 m³ annually,
plus larger, varying amounts from
D&D and ER Cleanup activities



Reclassified Transuranic (TRU) Waste

Approximately 2,000 m³, includes
above and below-grade waste
(10-100 nCi/g MLLW)



Problematic Mixed Low-Level Waste

Approximately 2 m³ in current storage



FY-10 Successes

- LANL managed the removal of large and varied waste streams from the ARRA funded cleanup site at TA-21.
- Over 600 m³ of reclassified TRU waste drums are shipped for treatment and disposal
- Shipped 85 m³ of MLLW reclassified from TRU for treatment and disposal
- An additional 137 m³ are made “road ready” and await shipping
- With the shipment of glove boxes to Permafix Northwest, the non-TRU STP inventory was reduced by over 90%.
- Shipped activated carbon waste with mercury and high tritium to Permafix M&EC facility. The waste was packaged into a stainless steel flanged container prior to being packaged into the Type B cask.



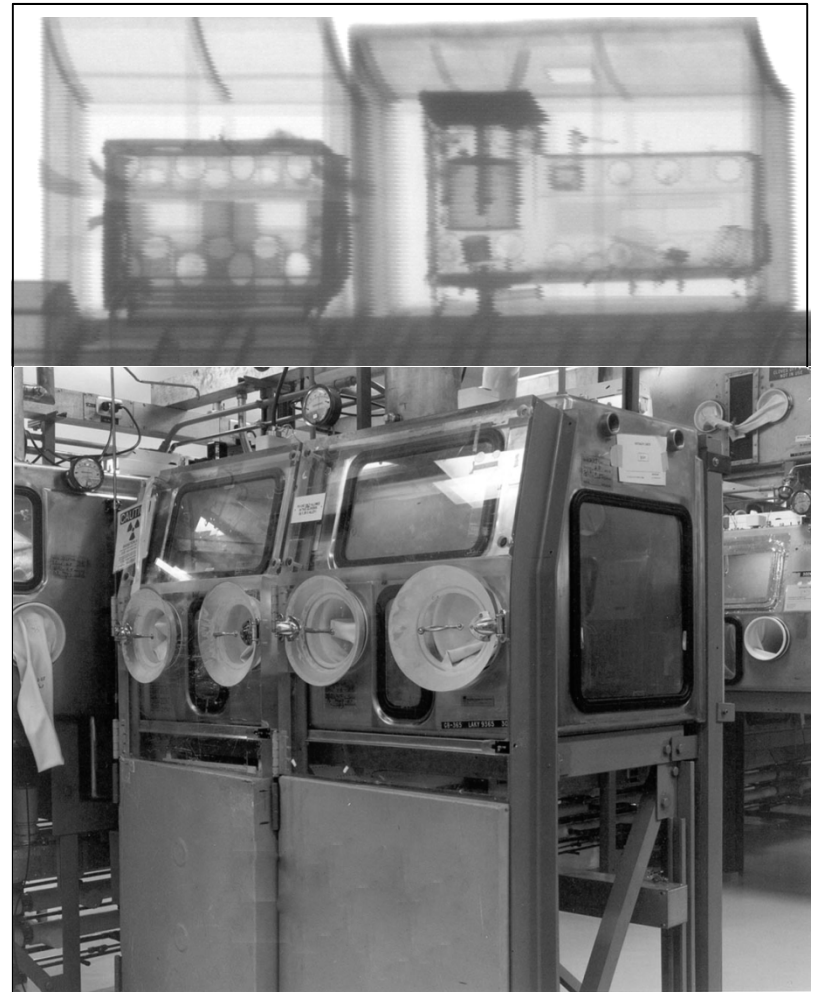
LANL Problematic Items

- Reactive lithium with high tritium
- Tritium waste up to 80,000 Ci
 - Flanged Tritium Waste Containers (FTWC)
 - “Cryotraps” – mercury and tritium contamination
 - “Squibs” – lead and tritium contamination
- Other MLLW with high tritium, Tc^{99} and U^{235}
- Additional problematic items requiring further characterization could be found in Reclassified Mixed-TRU waste gloveboxes and drums.



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.



MLLW from the LANL TRU Waste Inventory

- LANL projected that up to 2,000 m³ 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.



Summary

- Managing routine MLLW
- Disposition the “Road Ready” MLLW as funding is available
- Continue to determine paths of treatment options for the problematic waste under non-TRU STP
- Actively seek funding for expensive treatment and disposal



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

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