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# High-Activity Mixed Low-Level Waste (MLLW) at Los Alamos National Laboratory

Presented to  
WM2009 Conference  
March 2, 2009  
Phoenix, Arizona

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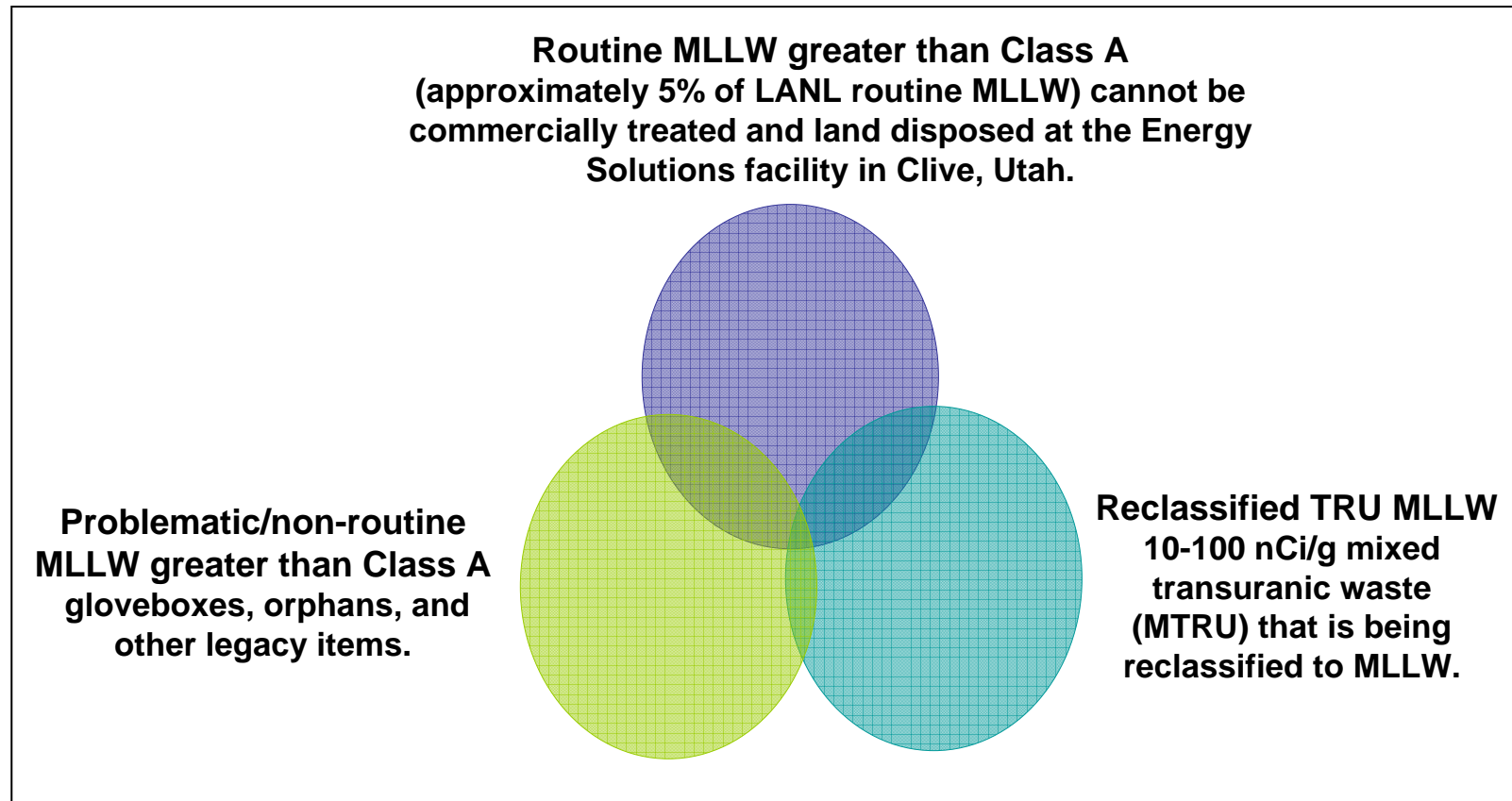
LA-UR-09-00940

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Slide 1



## The Los Alamos National Laboratory (LANL) Manages Three Categories of MLLW Currently Destined for the Nevada Test Site



## Routine MLLW with No Current Disposal Option

- LANL annual production of MLLW from routine operations is less than 10 m<sup>3</sup>.
- Approximately 0.5 m<sup>3</sup> per year is “No Path” waste and must be added to the Site Treatment Plan (STP) inventory pending disposal options.
- Environmental cleanups can produce large volumes of MLLW, but commercial disposal options are available.



# LANL Non-routine Problematic Orphans

- LANL has about 70 m<sup>3</sup> in current STP inventory.
- Tritium waste up to 80,000 Ci
  - “Cryotraps” – mercury and tritium contamination
  - “Squib Assemblies” – lead and tritium contamination
  - Other MLLW with high tritium, Tc<sup>99</sup> and U<sup>235</sup>



# LANL Non-routine Problematic Orphans

(continued)

- The bulk of orphan waste is from LANL gloveboxes that were used in weapons production and research and come in various sizes and shapes.
- Gloveboxes are lead-lined (RCRA mixed waste), with plutonium contamination.
- LANL has many gloveboxes slated for removal.
- Gloveboxes are currently approved for Perma-Fix North West and Energy Solutions, TN.



## Reclassified TRU MLLW (10-100nCi/g) at LANL

- Includes both debris and homogeneous wastes such as cemented wastewater treatment sludges.
- The waste contains a variety of hazardous constituents.
- Both waste streams have been successfully shipped to commercial facilities for treatment and disposal at NTS.





## MLLW from the LANL TRU Waste Inventory

- LANL projects that up to 10,000 drums (2,000 m<sup>3</sup>) of TRU waste may be <100 nCi/g after assay.
- Program is on target to transfer, re-characterize and ship 2,125 debris containers for treatment at PFNW and final disposal at NTS.
- LANL plans to continue characterizing TRU reclassified MLLW post NTS closure while evaluating commercial options for treatment and disposal.
- Need alternative disposal option for the volume remaining after NTS closure.



## Current Status of LANL High-Activity MLLW

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- LANL is evaluating options for management of the reclassified TRU MLLW category.
  - Estimates of volumes and costs for treatment by commercial treatment facilities are still being compiled for planning purposes as more drums are characterized.
  - Prefer to have site that treats waste also ship directly to NTS or alternative for disposal.
  - Schedule for MLLW from TRU is driven by TRU Waste Disposition Project budget; emphasis primarily on high activity TRU. Recognize window for disposal of MLLW at NTS ends in December 2010.
  - LANL projects that a significant volume (some hundreds of cubic meters) will require a disposal option after closure of NTS.