



# TRU Waste Disposition at LANL and Plans for Resumption

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# Current Status

- Framework Agreement (January 2012)
  - Remove 3,706 m<sup>3</sup> of high-risk above-ground (AG) TRU by June 30, 2014
- Shipped 3,327.5 m<sup>3</sup> (90%) and 93% of MAR of containers in 3706 Campaign inventory
- Shipped 475 of 478 FY12 containers and 538 of 573 FY13 containers



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# Inventory AG TRU Waste

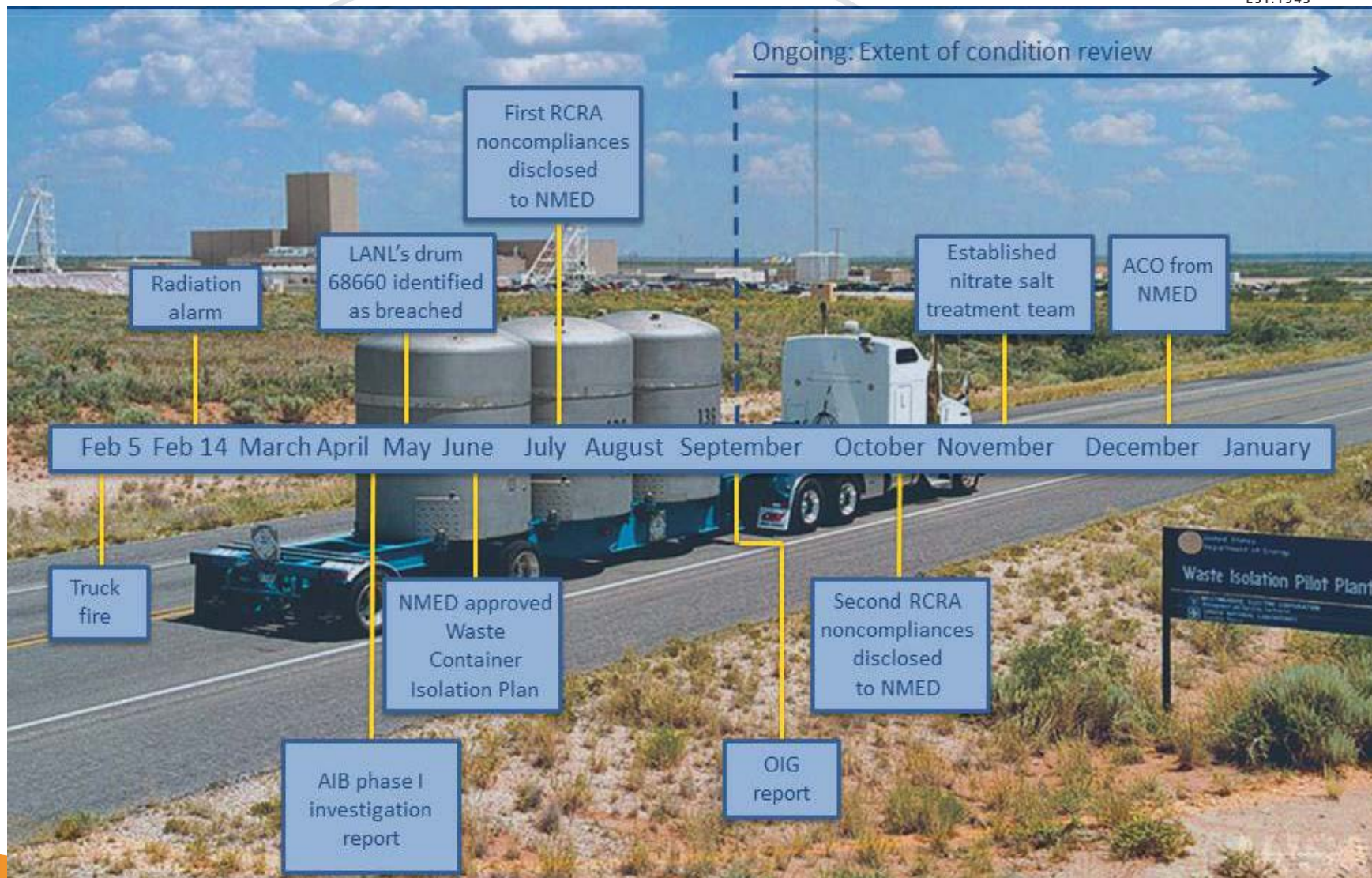
Category	General Description	Approximate Volume (m <sup>3</sup> )	Approximate MAR (PE-Ci)
Remaining 3706 Campaign Containers (except remediated nitrate salt drums)	~250 Drums and ~165 other containers from various waste streams	362.3	2650.9
Remediated Nitrate Salt Drums	57 55-gal drums that hold nitrate-salt waste that was remediated with organic absorbent	11.9	199.5
Non-3706 containers stored above ground	~1,600 Drums and ~300 other containers from various waste streams	649.7	24,653.9
<b>Total</b>		<b>1,024</b>	<b>27,504</b>



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# Timeline



# Nitrate Salts are Part of Waste Stream LA-MIN02-V.001

- Largely comprised of TRU waste such as liquids and solids absorbed or mixed with absorbent (e.g., Ascarite, diatomaceous earth, kitty litter, vermiculite, and/or zeolite)
  - Absorbed liquids include acids (e.g., hydrochloric acid, hydrofluoric acid, and nitric acid); carbon tetrachloride; ethylene glycol; kerosene; methanol; methylene chloride; silicone based liquids (e.g., silicone oil); tetrachloroethylene; tributyl phosphate; trichloroethylene; and various types of oils including hydraulic, vacuum pump, grinding, and lapping (mixture of mineral oil and lard)
  - Solids mixed with absorbents are typically evaporator salts (i.e., nitrate salts)
- The waste is also expected to contain heavy metals such as cadmium, chromium and lead

Drum 68660



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# Current Storage

- Isolated and protected
- May 19, 2014 NMED Administrative Order to develop a plan to isolate and protect
- Drums overpacked in standard waste boxes
- SWBs moved into radiologically controlled HEPA filter containment
- Fire suppression
- Inspected daily
- Headspace gas sampling
- Temperature monitoring



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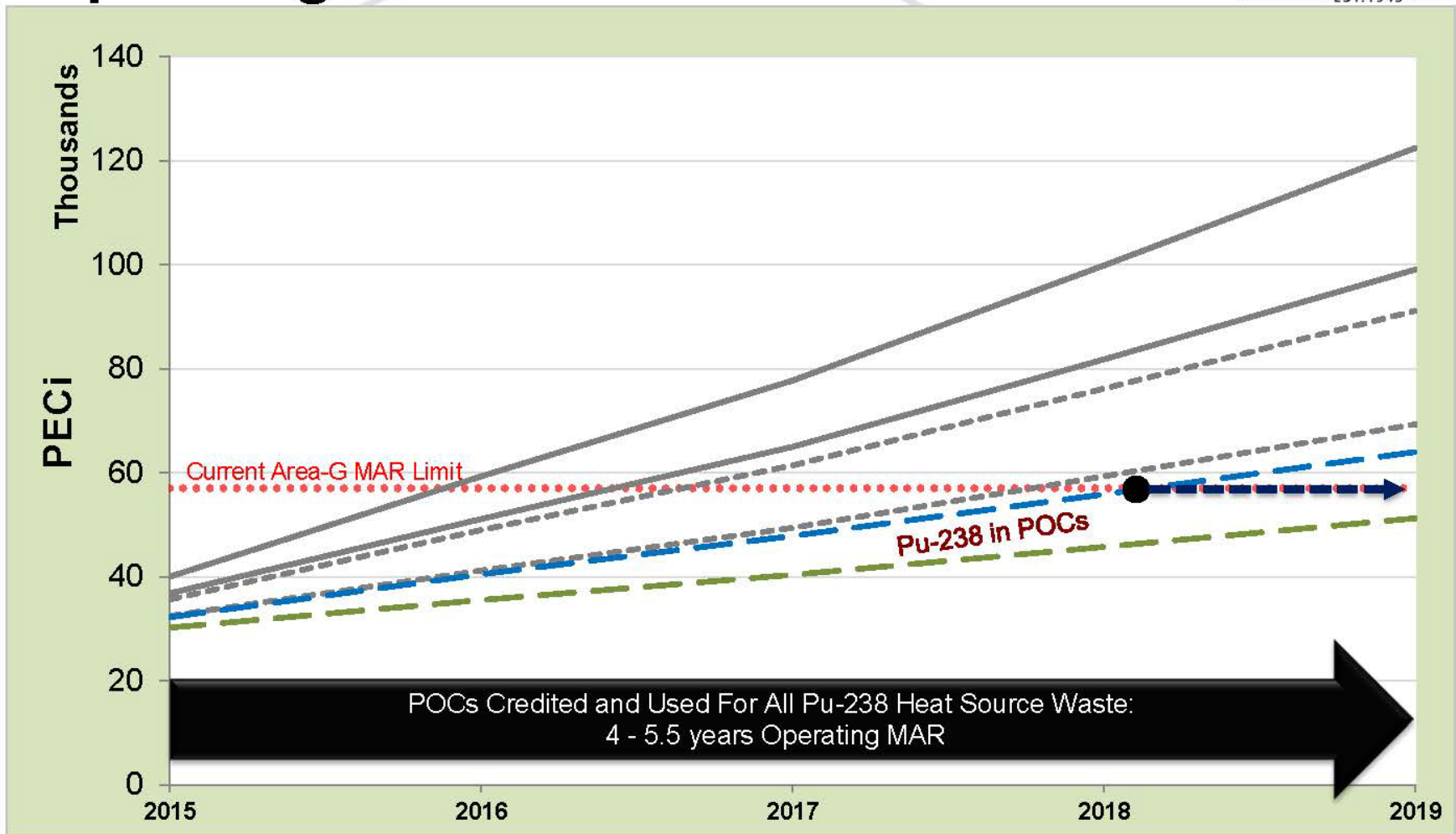
# Newly Generated TRU Waste Continues

- LANL science and technology activities continue to generate TRU waste
- New generation projections from ongoing NNSA mission work (300-600 drums)
- Storage capacity is sufficient at TA-54 to accommodate newly generated TRU
- Working with waste generators to prioritize TRU waste that will be stored at TA-54 and storage requirements
- Evaluating
  - Increased use of pipe overpack containers (increased safety margin in storage)
  - Decontamination of oversize TRU to LLW so it is shipped off LANL site soon after generation



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# Cumulative MAR Area-G Operating Window – POCs for Pu-238

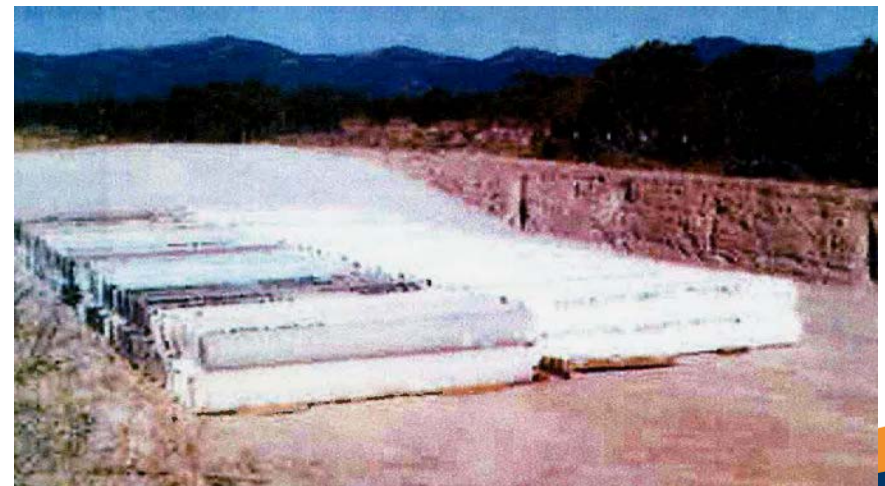


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# Below-Grade Retrievals

- Retrievals on hold pending WIPP resumption
- ~11,000 PE-Ci and 2,400 m<sup>3</sup> – mostly contact handled TRU, small amount of remote handed TRU
- Scope to be included in EM contract (TBD)



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# Moving Forward

Complete science investigations

- ↳ Technical basis for safe handling
- ↳ Sampling, treatability studies
- ↳ Technical basis for treatment
- ↳ RCRA Permit, Safety Basis, Procedures
- ↳ Readiness
- ↳ Start Operations

Preliminary Plan

Extent of  
Condition  
Reviews

Corrective  
Actions

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