



U.S. DEPARTMENT OF
ENERGY

OFFICE OF
**ENVIRONMENTAL
MANAGEMENT**

Idaho Cleanup Project (ICP) Solid Waste Management

Ben Roberts

Federal Project Director for Solid Waste Disposition

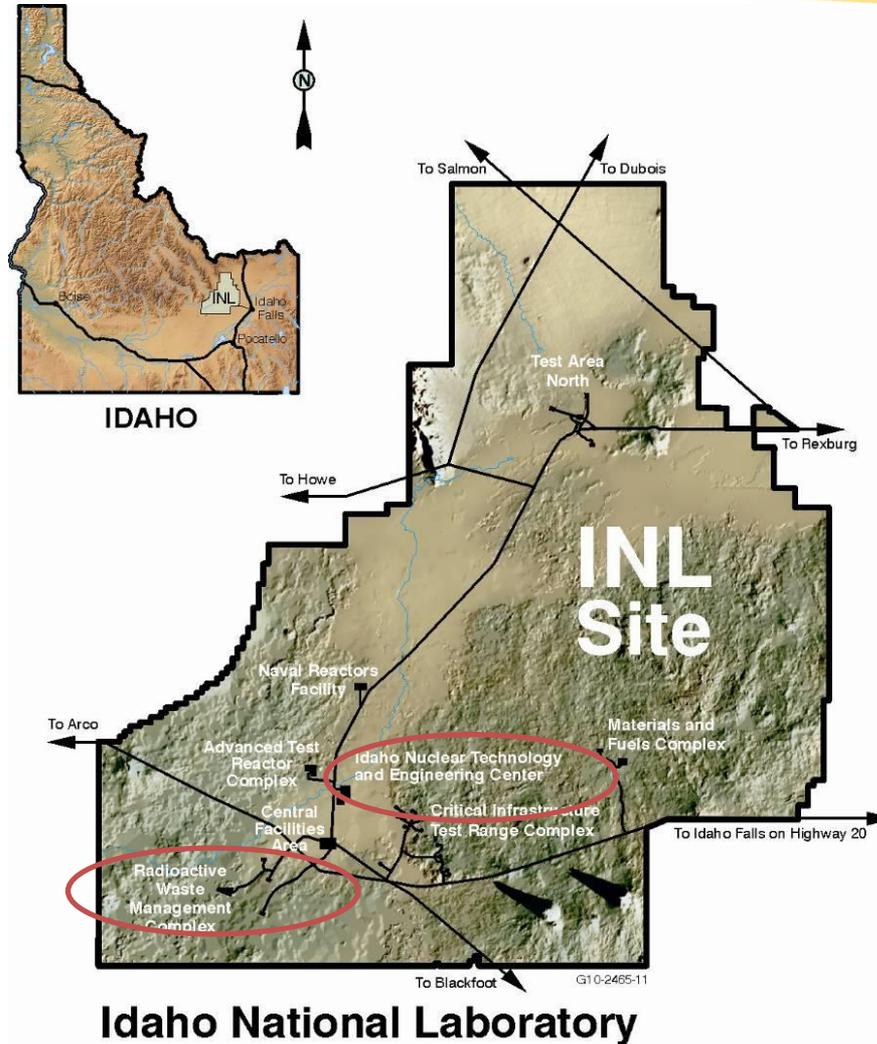
Nolan Jensen

Federal Project Director for Soil and Water Remediation

December 4, 2013

- **Background/Requirements Drivers**
- **Overview of Scope Elements**

Site Map



Idaho Settlement Agreement

- All Legacy TRU waste subject to Idaho Settlement Agreement removed from Idaho by 12/31/2018

RCRA Site Treatment Plan

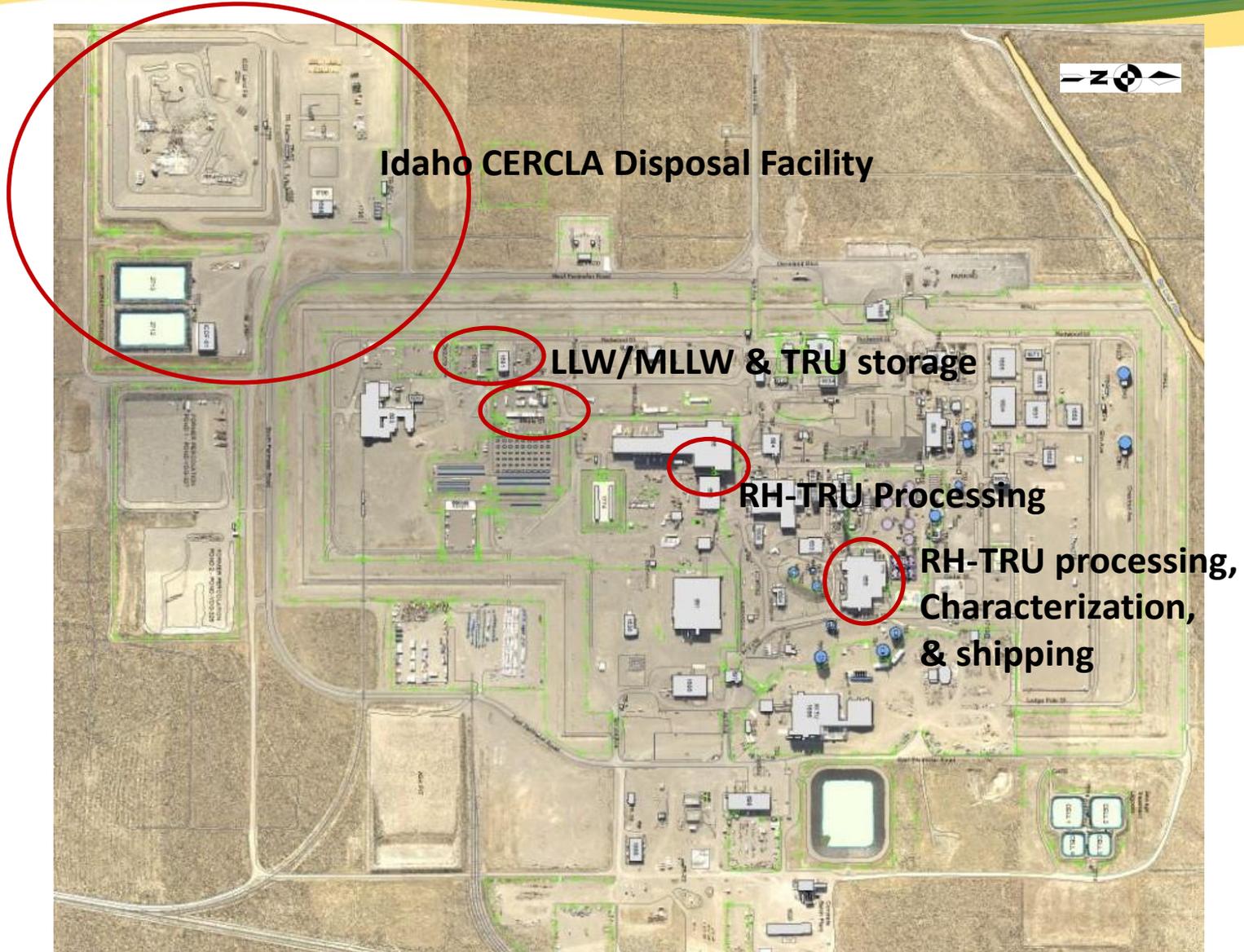
- Provides framework for mixed waste management at INL Site including Calcine

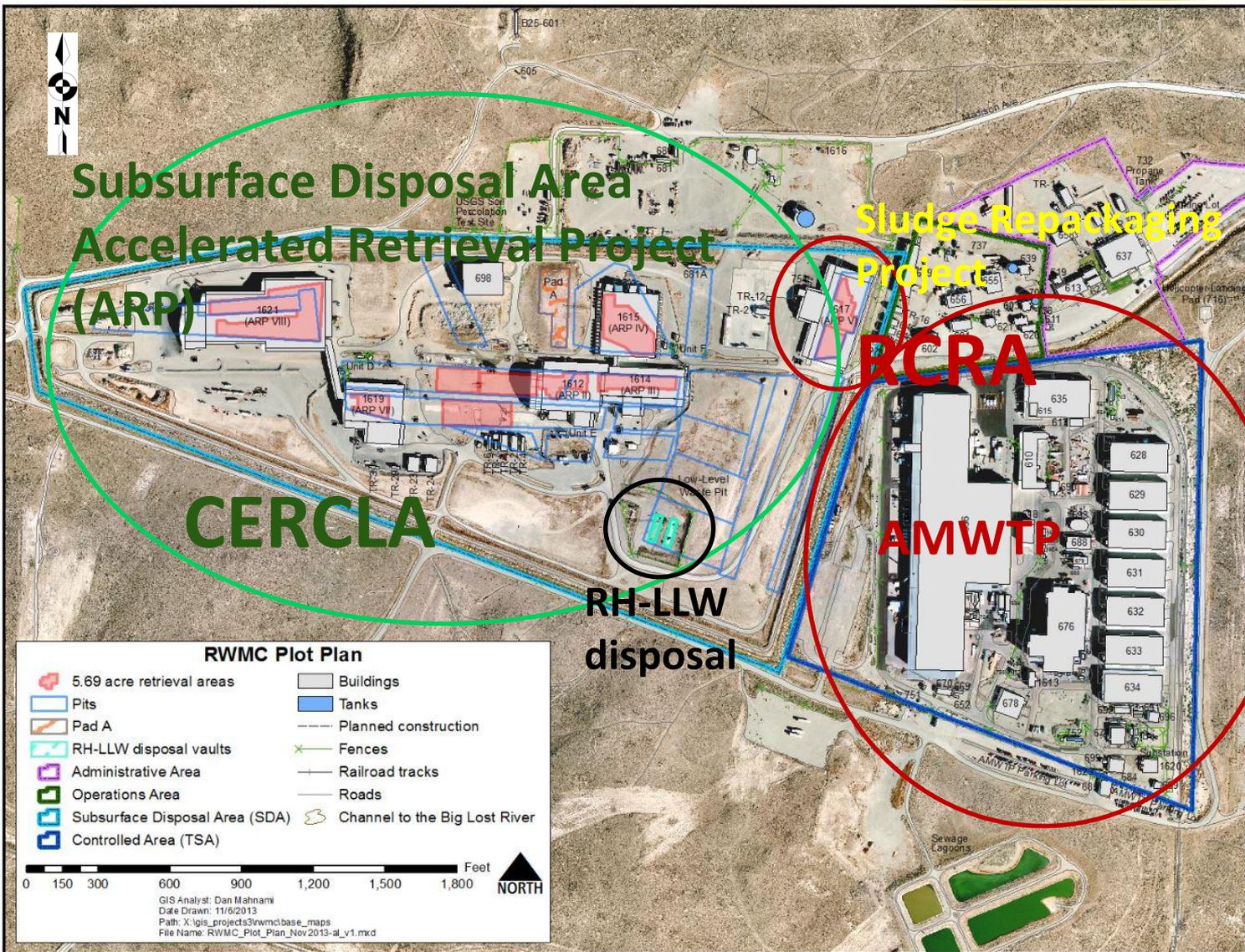
CERCLA Federal Facility Agreement/Consent Order

- Governs environmental restoration activities
- Sub-surface Disposal Area (SDA)
- Idaho CERCLA Disposal Facility

General Compliance Drivers

- Laws, Regulations, DOE Orders
- Permits
- Records of Decision





2. Solid Waste Management

• CH-TRU

- Complete shipment of AMWTP (above ground TRU & primary MLLW) by 12/31/18 (1st qtr. 2019)
- Market AMWTP capabilities for use on off-site waste
- RCRA Closure of AMWTP facilities by 2024
- Accelerated Retrieval Project (ARP)
 - Construct ARP IX Exhumation Enclosure
 - Design and Construction (2016 – 2018)
 - Complete exhumation (ARP VIII and IX by 2023) – Ship by 2024

• RH-TRU

- Continue to operate RH-TRU program through 2024 (CPP-659 & CPP-666)
- Ship remaining Settlement Agreement waste by 12/31/2018
- Coordinate RH-TRU processing among EM, NE, NR
- May require identification of new waste streams to support ongoing mission

2. Solid Waste Management *(continued)*

- **LLW/MLLW**
 - Process waste as generated from EM operations
 - Operate Idaho CERCLA Disposal Facility (ICDF)
 - Close RH-LLW Disposal Facility at RWMC
 - Cease disposal of NRF RH-LLW Waste by 2020 (*Operations at full cost recovery from NR*)
 - Complete DOE Order 435 closure process by 2023
 - Disposition IWTU and PEW secondary system rinse and decontamination liquids after SBW processing complete
 - Disposition U-233 waste to Waste Control Specialists
- **Waste Characterization (Exhumed Buried Waste)**
 - CH-TRU
 - MLLW

- **Interdependencies and Interfaces**
 - ARP (exhumed buried waste), and RH-TRU utilize the CCP Contractor for TRU waste characterization and certification.
 - AMWTP, ARP, and RH-TRU utilize WIPP shipping assets.

Advanced Mixed Waste Treatment Project (AMWTP)

- Treatment - 1
- Retrieval - 2
- Storage - 3
- Characterization - 4
- Payload - 5
- Shipping - 6





Degraded Box.



Degraded Drums.



Top Left: AMWTP Treatment Facility.



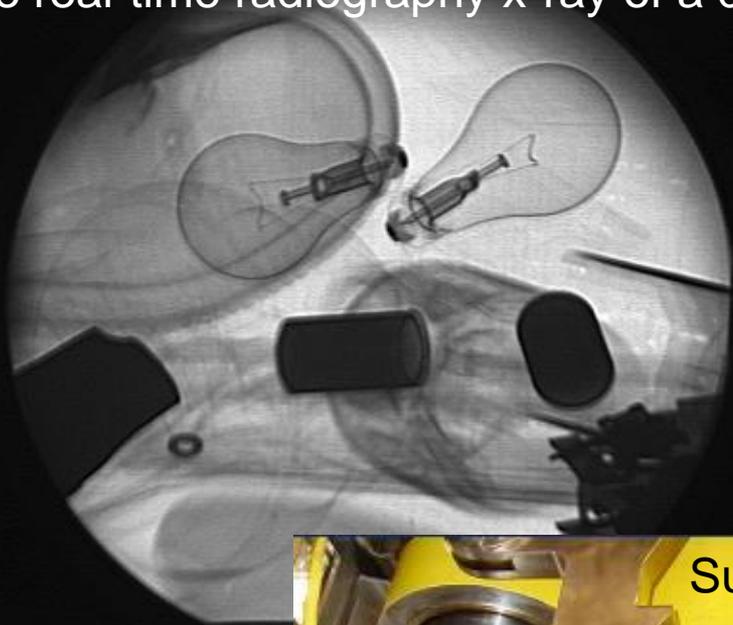
Bottom Left: Boxline waste processing trough and Brokk



Bottom Right: A Brokk manipulator processing boxed waste

AMWTP Characterization and Supercompactor

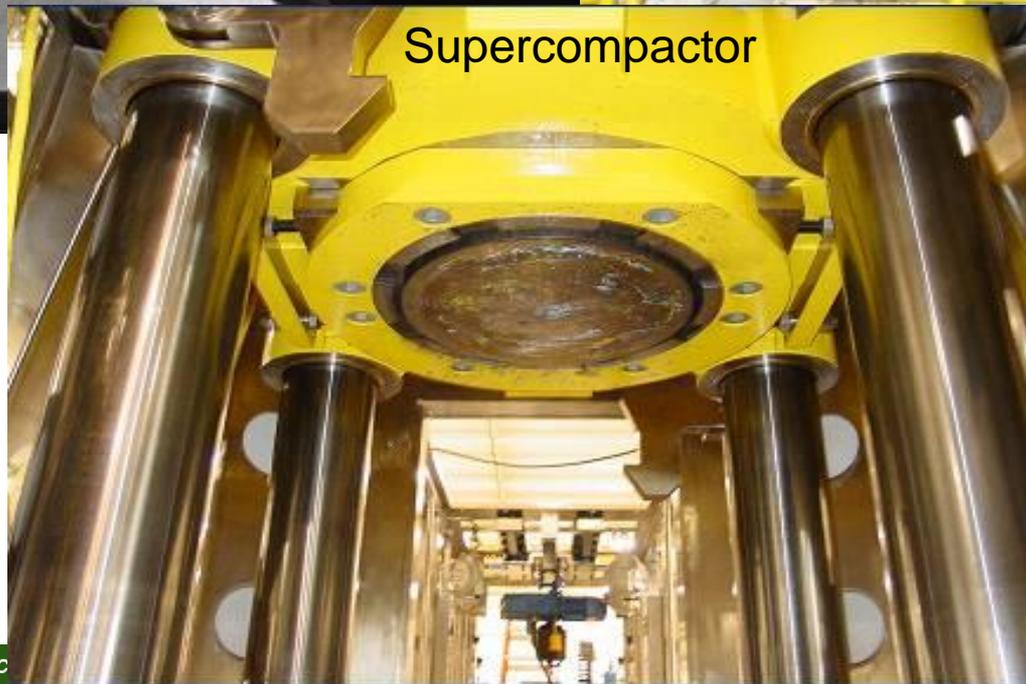
The real-time radiography x-ray of a drum.



Supercompactor Glovebox.



Supercompactor





Standard Waste Boxes 2005 11 28



100 Gallon Product Drums



Waste Boxes and MacroPacks



55-Gallon Drums 2005 11 28



Ten Drum Overpacks 2005 11 28

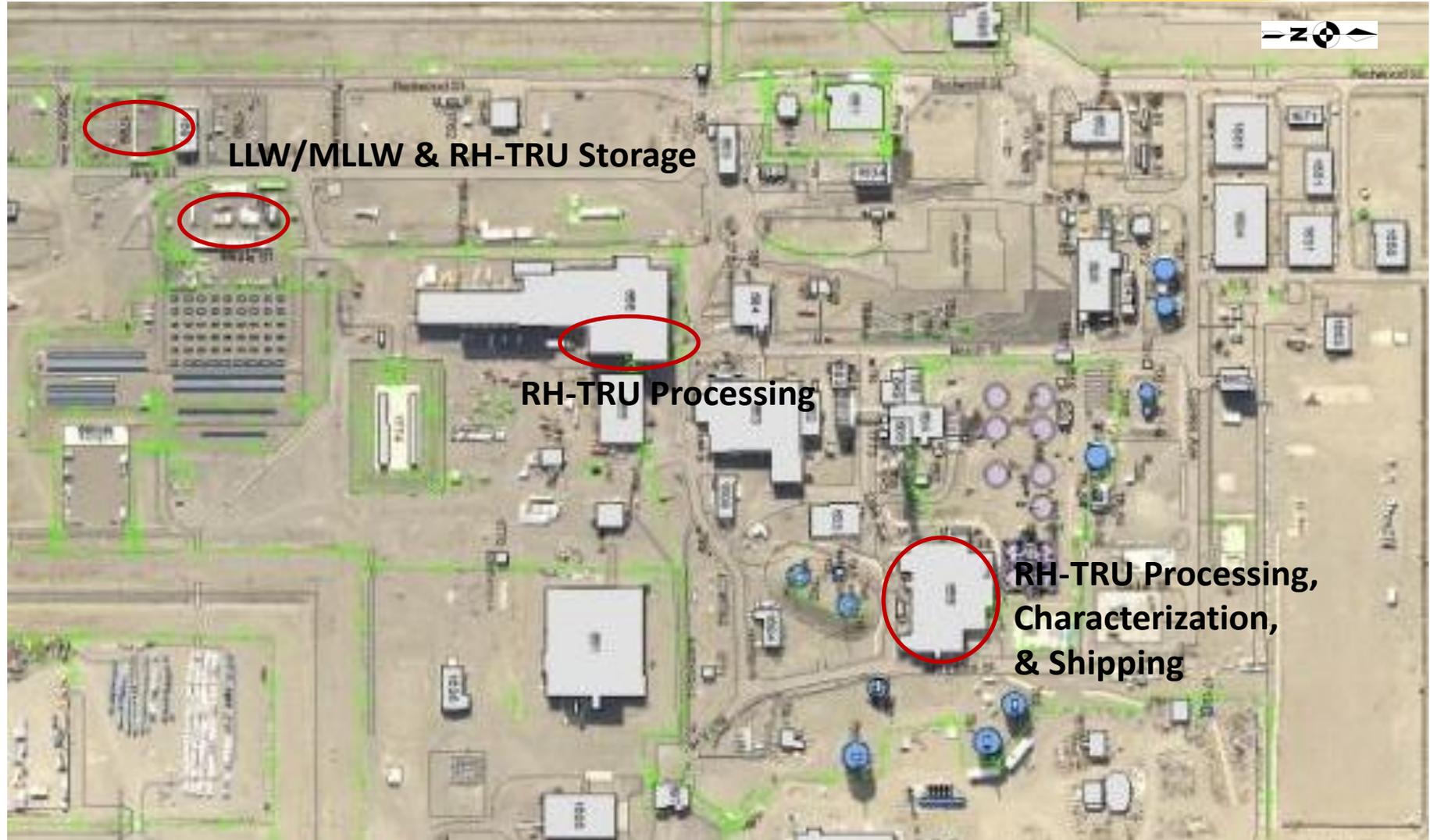


Top Left: Workers load a TRUPACT II container.

Bottom Left: Loaded TRUPACTs ready for shipment to WIPP

Top Right: Loaded Macropacks ready for shipment to NNSS

Remote Handled Transuranic Waste Project (RH-TRU)



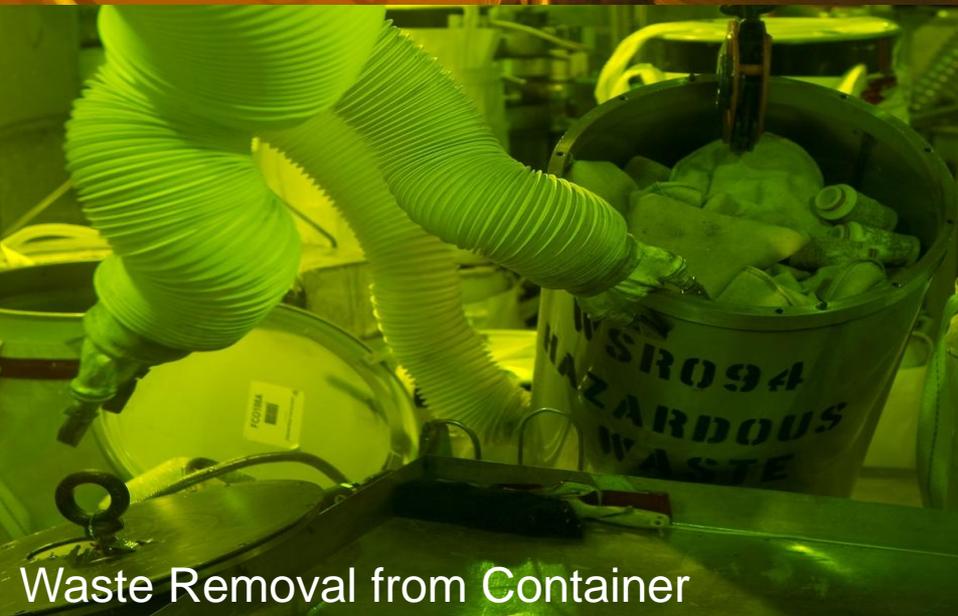


Truck Loaded with Facility Transfer Container

Container Cutting



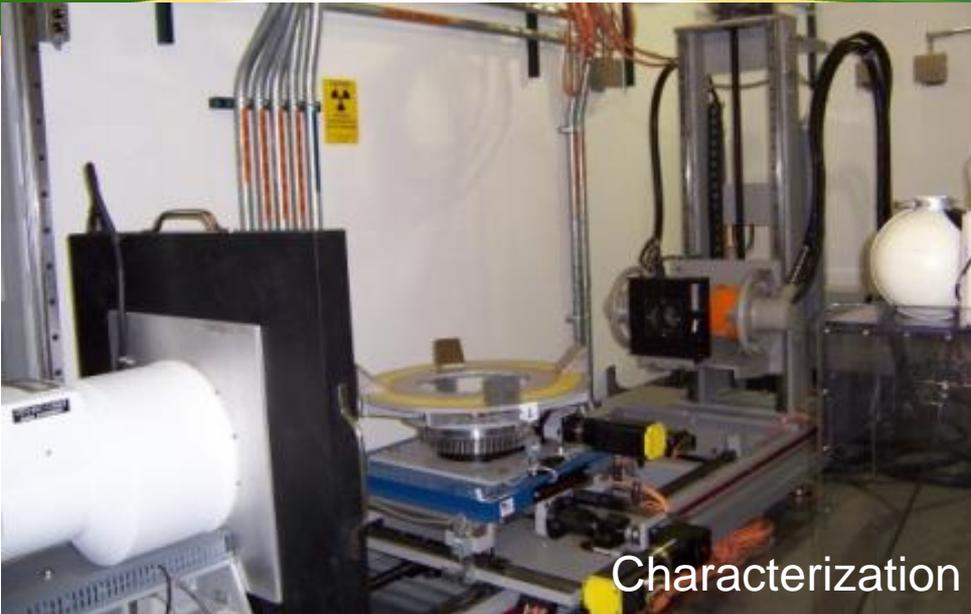
Product Drum Removal



Waste Removal from Container



Prohibited Item Removal from Waste



Characterization



RH-72B Loading



Loaded RH-72B



Impact Limiter Installation



ARP Steel Frame being Erected

ARP VIII



Maintenance in Air Lock





Exhumation in ARP VII

Drum Packaging Station



Close Circuit TV Room



Waste Sorting in Drum Packaging Station Glove Box



Drum Packaging

Status of Accelerated Retrieval Project (ARP)

ARP	Area (acres)	Acres Complete 9/23/2013	Acres Remaining 9/23/2013	Anticipated by 10/1/2015	Status
ARP I	0.5	0.5	0	0	Waste exhumation complete and retrieval enclosure demolished
ARP II	0.34	0.34	0	0	Waste exhumation complete and retrieval enclosure in standby awaiting retrieval from ARP III waste transfer vestibule
ARP III	0.43	0.38	.05	0	Retrieval enclosure in standby awaiting retrieval of 0.05 acres from area obstructed by a waste transfer vestibule
ARP IV	0.79	0.79	0	0	Waste exhumation complete and retrieval enclosure in standby awaiting demolition
ARP V	0.55	0.55	0	0	Waste exhumation complete and retrieval enclosure in use for repackaging sludge waste from the Advanced Mixed Waste Treatment Project
ARP VI	0.4	0.4	0	0	Waste exhumation complete and retrieval enclosure demolished
ARP VII	0.27	0.15	.12	0	Retrieval enclosure in standby awaiting retrieval of remaining 0.12 acres by September 2015
ARP VIII	1.72	0	1.72	<1.38	Retrieval enclosure construction complete March 2013
ARP IX	0.69	0	.69	.69	Retrieval enclosure design and construction in the future
Total	5.69	3.11	2.58	<2.07	

Excavator emptying a drum



Sludge drum handling



Organic Contamination in the Vadose Zone (OCVZ)



One of three functioning vapor extraction units



Vapor Sampling



Inside Vapor Extraction Unit



ICDF continued



Grouting Waste



Hot Cell Disposal

RH-LLW Disposal

