Idaho Cleanup Project Update

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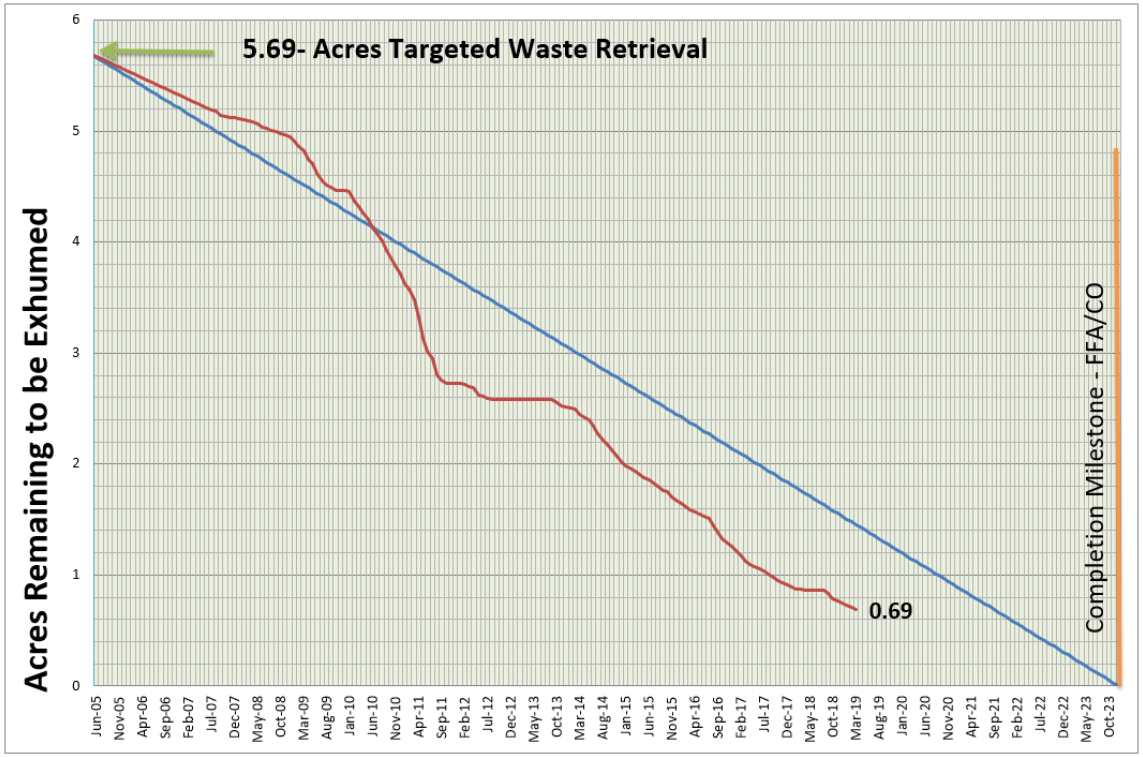
Leadership in Nuclear Energy Commission

Progress in Cleanup: Buried Waste



Buried waste exhumation remains about two years ahead of the regulatory schedule and is 88% complete overall. Exhumation in ARP VIII was completed on March 13, 2019. Operations began in ARP IX (final ARP) on April 17, 2019, with actual exhumation of buried waste beginning on April 25, 2019. Waste exhumation is expected to be completed in about a year.

Completed exhumation of targeted buried waste in Accelerated Retrieval Project (ARP) VIII.

The interior of ARP IX prior to waste exhumation activities.

ARP VII Large Box Repackaging

Fluor processed the last box of Mound facility waste on April 18, 2019. This box contained significant amounts of contamination. Due to the hazards present an additional evaluation was performed to determine how to safely treat the material. The crews were able to process the contents of the waste box without breaching the inner glovebox, keeping contamination levels present in the worker space well within the safe requirements.

Progress in Cleanup: Transuranic Waste

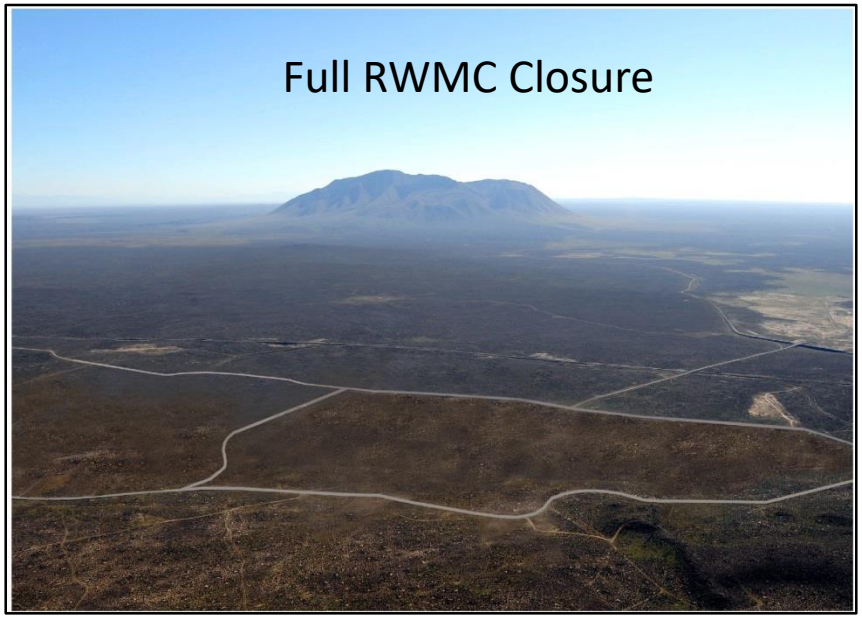
Treated waste awaiting shipment to WIPP; every step of the process (retrieval, characterization, treatment and repackaging) makes the waste safer until it leaves the state. (Right)

(Left) workers have successfully completed treatment of "Mound boxes" – containers that were contaminated primarily with Pu-238.

Highlights:

- Continue to fill the pipeline with shipments to WIPP.
- Averaging between 6 and 9 shipments per week.
- Continue to ship waste that assays as mixed low-level waste to disposal sites in Utah, and Nevada.
- Treatment of debris waste expected to be complete this summer.
- Treatment of sludge waste will move into Accelerated Retrieval Project (ARP) VII facility later this year.
- Closure of treatment facility will begin later this year.
- Completed treatment of the "Mound boxes."

SDA/RWMC End State



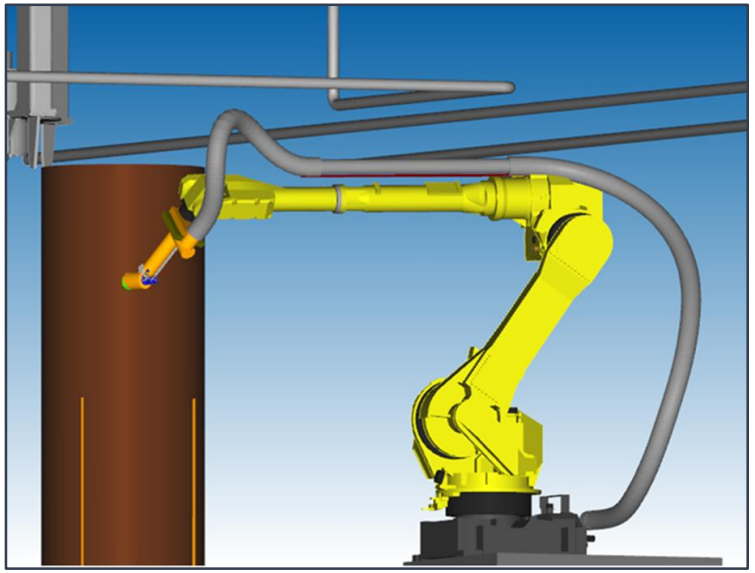
- Once waste treatment and shipping activities are complete, the RWMC area will closed and an evapotranspiration (ET) cap will be installed.
- ET caps employ natural desert vegetation – cap will blend in and be nearly indistinguishable from today's desert landscape.
- Cap will be about one-half height of the white ARP structures visible today.

Progress in Cleanup: Integrated Waste Treatment Unit

Current Simulant Run:

- IWTU has processed 45,000 gallons of simulated waste and surpassed day 30 of the 50-day run on May 10th.
- Completed 8 of 14 Test Conditions, including System Performance Test (SPT) dry-run.

Full scale mockup of dry de-con system



Canister decontamination robot arm

Preparing for Rad Operations:

- Preparing key planning activities for upcoming maintenance outage.
- Constructing mockups of wet and dry vessel and cell decontamination systems.
- Design and testing of Canister Decontamination System continues.

Progress in Cleanup: Spent Nuclear Fuel

Highlights:

- All Navy fuel has been moved from the basins at CPP-666 to dry storage at Naval Reactors Facility (NRF).
- DOE remains on schedule to meet Settlement Agreement milestone to move all spent fuel to dry storage by 2023.
- Innovative bucket design will allow spent fuel from the Advanced Test Reactor to be dry stored in CPP-603 without cooling in underwater basins first.

New four bucket storage design for placement of 16 ATR SNF elements into the CPP-603 storage canister.

Principal Idaho Waste Streams

Waste Type	Origin	Volume Remaining	Amount Shipped	Ultimate Destination	Applicable Agreements
High-Level Waste 	Reprocessing of spent nuclear fuel	4,300 cubic meters	None	Geologic repository	Idaho Settlement Agreement, Site Treatment Plan
Spent Nuclear Fuel 	Site, research and commercial reactors	243.57 Metric Tons Heavy Metal (EM-only)	153 TRIGA elements 0.03 MTHM (for reuse)	Geologic repository	Idaho Settlement Agreement
Transuranic and Mixed Low-Level Waste 	Rocky Flats Plant, other DOE facilities, INL operations	5,849* 694*	45,022 14,257	Waste Isolation Pilot Plant Licensed off-site disposal facilities	Idaho Settlement Agreement, Site Treatment Plan
Sodium-Bearing waste 	De-Con of reprocessing facilities	900,000 gallons	None	Geologic repository	Idaho Settlement Agreement, Site Treatment Plan, Notice of Non-Compliance/Consent Order
Buried Waste 	Rocky Flats Plant, other DOE facilities, INL operations	3,079 cubic meters awaiting shipment; 768 cubic meters to be exhumed	6,028 cubic meters	Waste Isolation Pilot Plant	FFA/CO (CERCLA), Agreement to Implement

*Settlement Agreement volume; does not include newly-generated waste

Video: 30 Years of Cleanup Progress in Idaho