



U.S. DEPARTMENT OF
ENERGY

OFFICE OF
**ENVIRONMENTAL
MANAGEMENT**

TRU Waste Disposition

Citizens Advisory Board

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Context: Stored Waste Disposition

- **What is the Waste:** TRU and MLLW, principally from Rocky Flats, Argonne National Laboratory, Mound, and other smaller generators stored in retrievable configurations at the Transuranic Storage Area and at the Radioactive Scrap and Waste Facility.
- **Potential Risks:** Waste contains long-lived transuranic isotopes which pose a risk to the workers and the environment. Retrieval of the waste and shipment for disposal in a deep geologic repository (i.e. WIPP) ensures that humans and the environment are protected from the waste for the thousands of years that it remains harmful.
- **Settlement Agreement:** Requires removal of estimated 65,000 cubic meters of stored transuranic waste from the State of Idaho by December 31, 2018.
- **How Treated/Disposed:** Repackaged, treated to remove prohibited conditions, characterized and certified to meet waste acceptance criteria for WIPP or MLLW disposal facilities as appropriate.

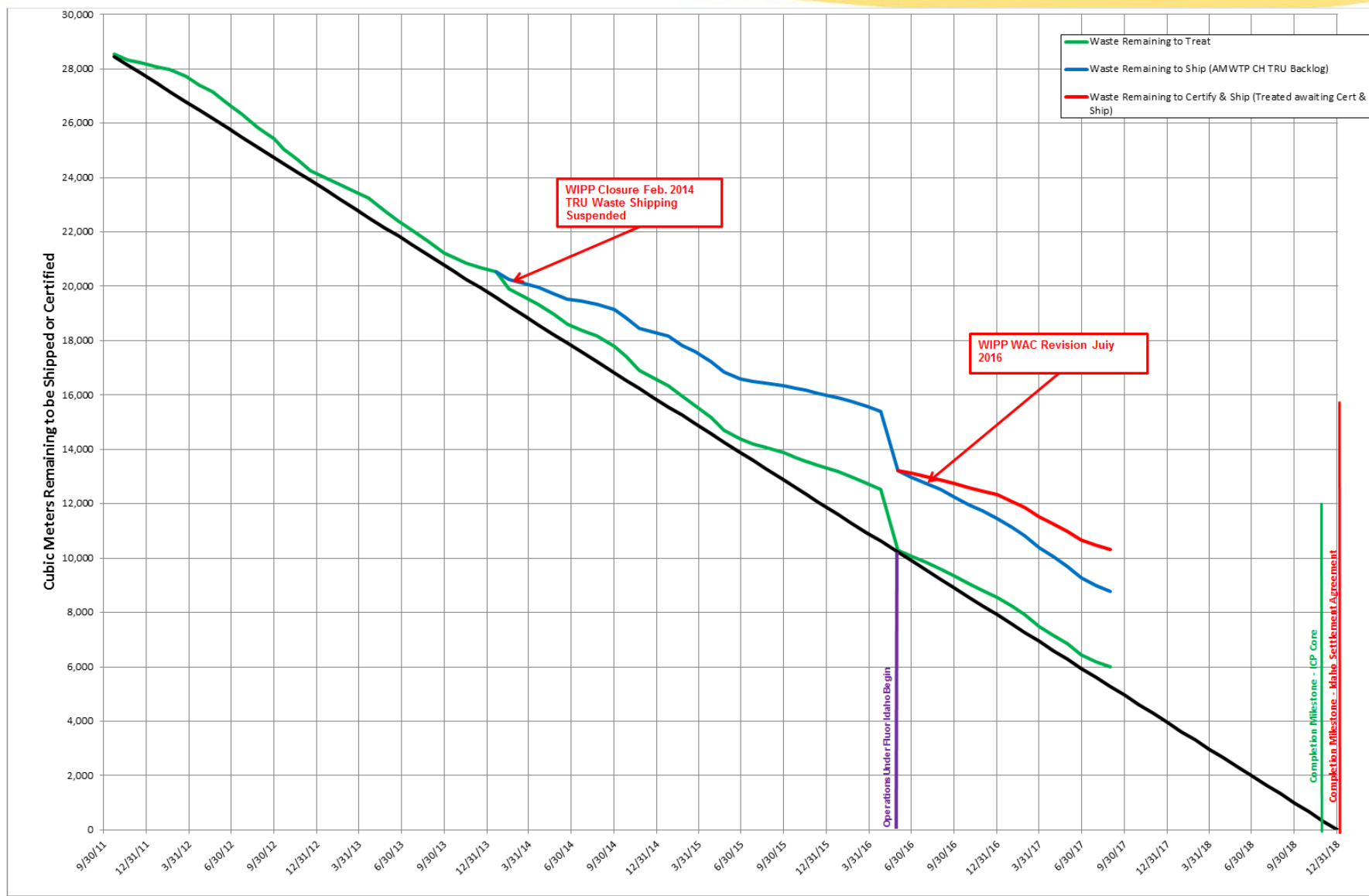
TRU Waste Budget

- **5 Major Program Areas in the Idaho Budget**
- **Advanced Mixed Waste Treatment Plant (AMWTP):** Contact-handled TRU waste retrieval, characterization, treatment, certification, and shipping to WIPP
- **Advanced Retrieval Project (ARP) Support to AMWTP:** Processing sludge waste, large boxes, large items, and roaster oxides.
- **Idaho Cleanup Project Mixed Low-Level Waste (MLLW):** Processing mixed low-level waste for offsite disposal.
- **RH-TRU:** Processing remote-handled transuranic waste and RH-MLLW.
- **Radioactive Waste Management Complex (RWMC) Infrastructure:** maintaining buildings, utilities, equipment, roads etc.
- **Total FY 18 Budget Request ~ \$170.1M**

Contact-Handled Transuranic Waste

- Improving TRU Waste Processing
 - All boxlines in the Treatment Facility are operational
 - Increased Treatment Facility shifts from 7/12 to 24/7
 - Added processing capabilities (Advanced Retrieval Project –V and VII, Retrieval Contamination Enclosure and Idaho Nuclear Technology and Engineering Center)
- Detracting or Slowing Down TRU Waste Processing
 - Direct feed for compaction is limited
 - Waste from Drum Re-Packaging (DRP) has slowed down production
 - Treating small quantity difficult waste
- The last AMWTP Re-certification Audit was in December 2016; next audit will be conducted before the end of the calendar year.

Settlement Agreement TRU Production Status



- Starting the week of Sept. 18, Idaho shipments to WIPP increased to four (4) of CH-TRU per week.
- Completed 46 shipments of CH-TRU to the WIPP from April 6 through Sept. 30, 2017.
- Continue shipments of Mixed Low-Level Waste (legacy salt, soil, and debris waste) offsite for disposal.



CH TRU Operations



Above: Unloading drums from M-III/IV bins in the RCE

Below: Debris waste processing in AMWTF



Status:

- Continued unloading M-III/IV bins.
- Continue removal of soil from the soil berms in the Retrieval Containment Enclosure (RCE).
- Continue treatment/compaction in the treatment facility.

Upcoming Activities:

- Complete soil removal from RCE in 1st quarter FY 2018.
- Initiate processing of problematic waste in the RCE and WMF-635 tent during 2018.



Above: Drum repackaging /waste treatment preparations in WMF-635 tent

CH TRU Operations (cont.)



Status:

- Continue characterization of waste to support treatment and after treatment to support return to certification.

Upcoming Activities:

- Re-Certification Audit in December 2017.
- Carlsbad Field Office, New Mexico Environment Department and Environmental Protection Agency approval of Certification Authority Request. Return of Certification Authority currently scheduled for late 2nd quarter fiscal year 2018.

Above: Waste drums waiting for characterization/certification



Left and Above: Characterization equipment in WMF-628

Waste Processing in ARP facilities

Sludge Repackaging Status in ARP V:

- Completed 69 drums in August, 828 this fiscal year.

Large Item Repackaging Status in ARP VII:

- Completed 4 Mound boxes in August.
- Installing new crane & larger containment tent.

Roaster Oxide Status in ARP IX:

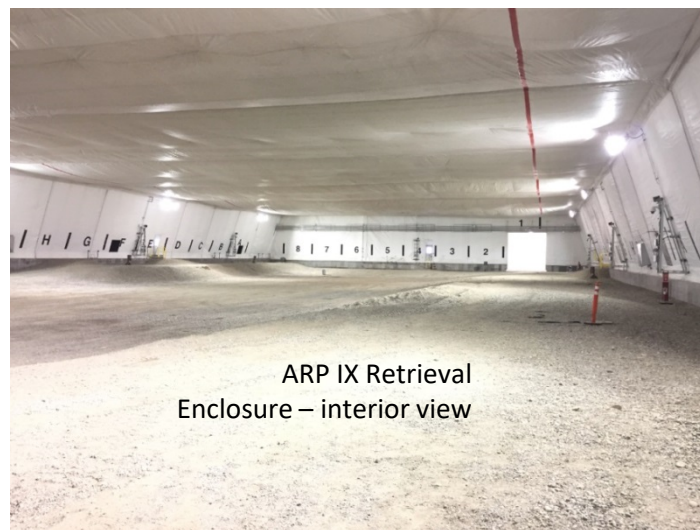
- Waste will be conditioned and packaged for disposal beginning in October.



Above: Crews unpack large items and prepare for decontamination



Above: Excavator empties sludge into trays in ARP V.



ARP IX Retrieval
Enclosure – interior view

- RH-TRU shipments are still on hold – waste is treated and repackaged, needs to be certified but contact-handled TRU waste is a higher priority at WIPP.
- National TRU Program is considering dual pathways for RH-TRU waste emplacement:
 - Shipping in RH-72B cask and emplacement in boreholes in the walls of the mine. This is how RH-TRU has been emplaced since WIPP started receiving RH.
 - Shipping in TRU PAC II's using shielded containers.

Remote-Handled Transuranic Waste Disposition

Status:

- Repackaging non-Settlement Agreement waste.
- Repackaging Settlement Agreement waste as discovered.
- Continue preparations for Navy “pieces, parts and fines” waste stream and facility improvements.
- Continue Cell 308 & 309 upgrades in CPP-659.
- Treatment of Settlement Agreement waste is complete. Approximately 1.5 m3 require rework.
- Fifteen Settlement Agreement waste stream documents are submitted and pending CBFO approval.

Remote-handled transuranic waste shipments are on hold until WIPP determines path forward.

Right: Facility
Improvements
and
Maintenance









Above: View of new hatch upgrade and inside 308 hot-cell at CPP-659



Left and Above:
Repackaging RH-
TRU waste in hot
cells.

Dashboard Summary – Stored Waste Disposal

Key Questions	Dashboard Indicator	Comments
Schedule Performance		WIPP closure and changes to acceptance criteria put ID behind schedule in shipping and certification.
Cost performance		Delays in shipping and certification will increase life-cycle costs.
Impact on employment/economic development		Employment is relatively stable at AMWTP and INTEC.
Affect on agreements		Recovery from the accident at WIPP has precluded shipment of 2,000 cubic meter rolling average, placing 2018 milestone at risk as well as interim milestones
Impact on safety and environment		Concerns over on-going safety incidents in all of Fluor Idaho's operations.
Impact on cleanup DOE-wide		No impact on complex wide cleanup.