



# Idaho Cleanup Project Overview

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Idaho Cleanup Project

April 17, 2025



**EM** *Environmental Management*

safety ❖ performance ❖ cleanup ❖ closure

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# Accomplishments Since October 2024

- ✓ Processed over 159,000 gallons of sodium bearing waste at Integrated Waste Treatment Unit (~279,000 gallons cumulative as of January 2025)<sup>1</sup>
- ✓ Turnover of S5G prototype plant for demolition<sup>2</sup>

<sup>1,2</sup> See last slide for references



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# Site Priorities

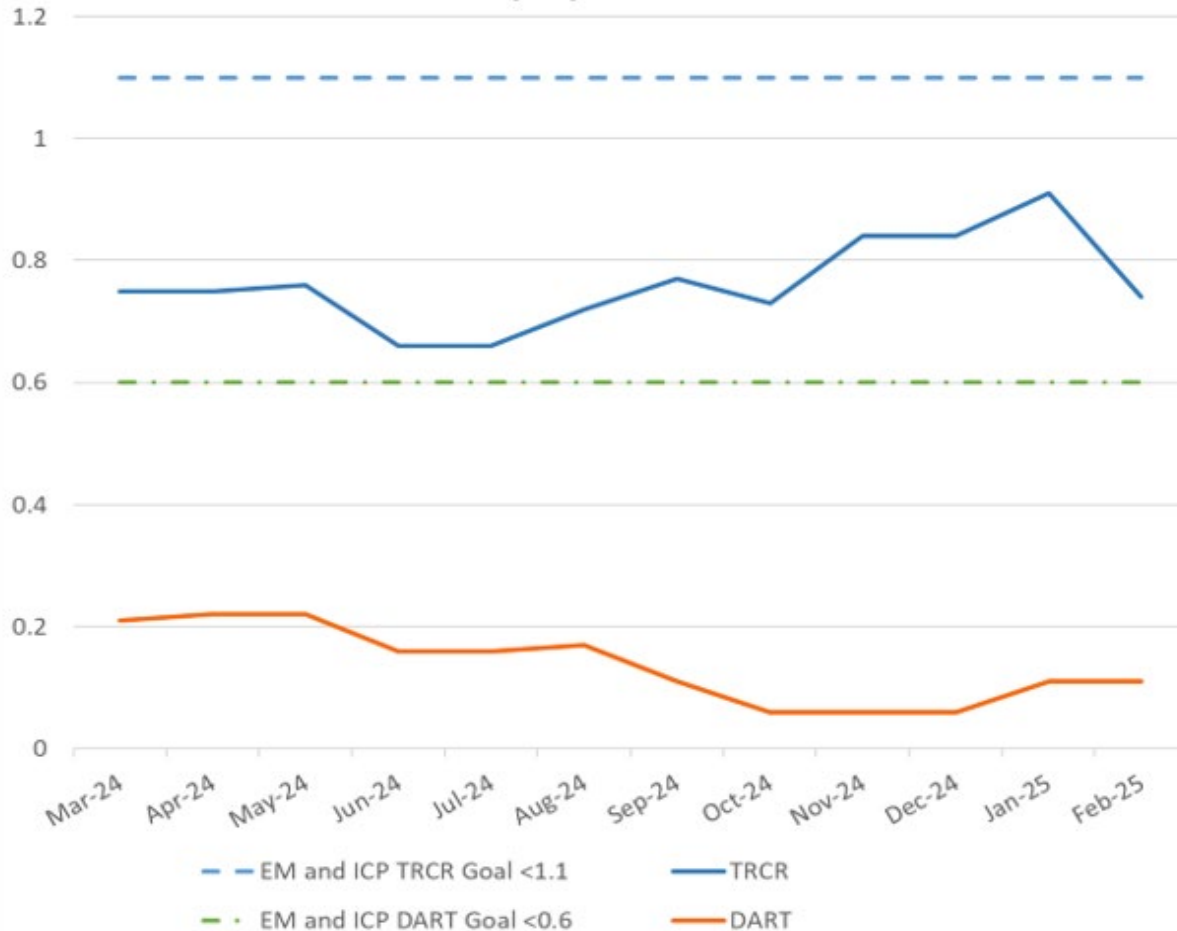
- Continue sodium bearing waste processing operations<sup>1</sup>
- Prepare for Subsurface Disposal Area (SDA) cap construction<sup>4</sup>
- Maintain transuranic (TRU) waste shipping to WIPP and continue waste certification<sup>1,3</sup>
- Continue Naval Reactors demolition efforts at S1W and A1W prototypes<sup>2</sup>
- Continue progress for line items projects
  - Calcine Disposition Project (CDP)<sup>1</sup>
  - Spent Nuclear Fuel Staging Facility<sup>1</sup>
  - ICDF additional cell and evaporation ponds<sup>5,6,7</sup>

CDP – Calcine Disposition Project  
ICDF – Idaho CERCLA Disposal Facility  
SDA – Subsurface Disposal Area  
SNF – Spent Nuclear Fuel  
TRU – Transuranic  
WIPP – Waste Isolation Pilot Plant



# Idaho Cleanup Project Safety Performance

ICP Injury Rates



## November 2024

- One First Aid Case
- Three Recordable Injuries
- Two ORPS Reportable Events

## December 2024

- Five First Aid Cases
- No Recordable Injuries
- One ORPS Reportable Event

## January 2025

- Five First Aid Cases
- No Recordable Injuries
- Three ORPS Reportable Events

## February 2025

- One First Aid Case
- One Recordable Injury
- One ORPS Reportable Event

TRCR = Total Recordable Case Rate

DART = Days Away, Restricted or Transferred

ORPS = Occurrence Reporting and Processing System








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# Principal Idaho Waste Streams

Waste Type	Origin	Volume Remaining	Amount Shipped	Ultimate Destination	Applicable Agreements
High-Level Waste (Calcine) 	Reprocessing of spent nuclear fuel	4,400 cubic meters	None	Out of State	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)	Out of State	Idaho Settlement Agreement
Transuranic and Mixed Low-Level Waste 	Rocky Flats Plant, other DOE facilities, INL operations	5,408 cubic meters 372 cubic meters	47,567 cubic meters 14,782 cubic meters	Waste Isolation Pilot Plant  Licensed off-site disposal facilities	Idaho Settlement Agreement, Site Treatment Plan
Sodium-Bearing waste 	Decon. of SNF reprocessing facilities	~571,000 gallons	None	Out of State	Idaho Settlement Agreement, Site Treatment Plan, Notice of Non-Compliance/Consent Order
Buried Waste 	Rocky Flats Plant, other DOE facilities, INL operations	600 cubic meters awaiting shipment	9,647 cubic meters	Waste Isolation Pilot Plant	FFA/CO (CERCLA), Agreement to Implement



# CERCLA Activities

## Scope for FY 2025

- ✓ Demolition of Accelerated Retrieval Project (ARP) IX (completed)
- Construction of Idaho CERCLA Disposal Facility (ICDF) expansion cell
- Implement INL Site hunting boundary expansion
- CERCLA 5 Year Review
- Develop Tribal long term stewardship program
- Prepare Explanation of Significant Differences (ESD) to document CERCLA decisions on new sites



ICDF Expansion Project – Rough Grade

## Regulatory Milestones<sup>4,6,7</sup>

- SDA cap completion 2028

## Challenges/Opportunities

- Treatment of trichloroethylene (TCE) in the Test Area North (TAN) groundwater plume

ARP – Accelerated Retrieval Project  
CERCLA – Comprehensive Environmental Response, Compensation, and Liability Act  
ICDF – Idaho CERCLA Disposal Facility  
SDA – Subsurface Disposal Area  
TCE – Trichloroethylene



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# Radioactive Waste Management Complex Progress

## Scope for FY 2025

- Transuranic (TRU) waste shipments to Waste Isolation Pilot Plant (WIPP) (72 complete)
- TRU waste certification and shipping

## Regulatory Milestones<sup>1,3</sup>

- Contact handled TRU
  - Certify 900m<sup>3</sup> in FY 2025
- Remote handled TRU
  - Certify 6m<sup>3</sup> in FY 2026

## Challenges

- Treatment/certification of waste
- Maintaining TRU shipping commodities
- Container integrity issues/ultrasonic testing

WIPP Shipments	
Year	Completed/Planned
FY24	365/469
FY25	72/350



7500<sup>th</sup> shipment to WIPP from Idaho



Ultrasonic drum testing



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# Naval Reactors Demolition

## Scope for FY 2025

- S1W demolition
  - A1W demolition
  - S5G deactivation activities
- (629 tons of metal recycled to date)

## Challenges

- Resource integration between prototypes
- Collocation with NRF contractor at S5G



S1W facility interior demolition



S1W Reactor Vessel Disposal at ICDF



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# SNF Transfer & Packaging

## Scope for FY 2025

- Complete final 10 Peach Bottom transfers (4 of 10 complete)
- Idaho Spent Nuclear Fuel (SNF) Staging Facility project documentation
- Install spent nuclear fuel large cask insert to support road ready demonstration (complete)
- ATR spent nuclear fuel receipts (2 planned for FY25)
- New CPP-603 transfer car insert installed
- Fill in CPP-603 west truck ramp
- Receive core car from NRF (late Summer)

## Regulatory Milestones<sup>1,3</sup>

- 1/1/2035: SNF removed from Idaho

## Challenges

- Finalizing Idaho integrated SNF management plan



Peach Bottom transfer



# Calcine Disposition

## Scope for FY 2025

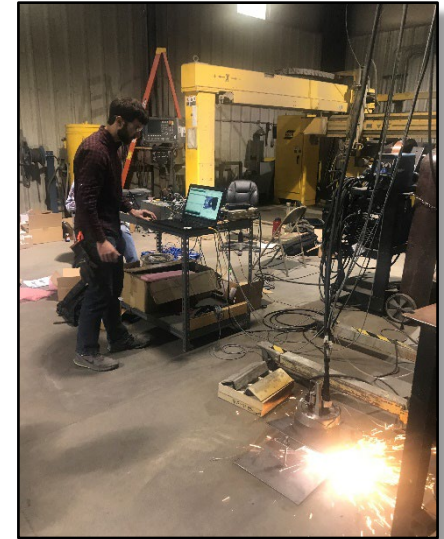
- Update NDAA Section 3116 Draft Basis Document
- Receive Phase 1 technology validation study reports
- Initiate vendor preconceptual design investigations

## Regulatory Milestones<sup>1,3</sup>

- Identify and develop technology: 2Q FY 2027
- Decision document/ROD amendment: 2Q FY 2028
- “Road ready” by 12/31/2035

## Opportunities

- Engagement with labs/industry



Welder-Cutter Test



Glass Lab  
Demonstration



# Integrated Waste Treatment Unit

## Scope for FY 2025

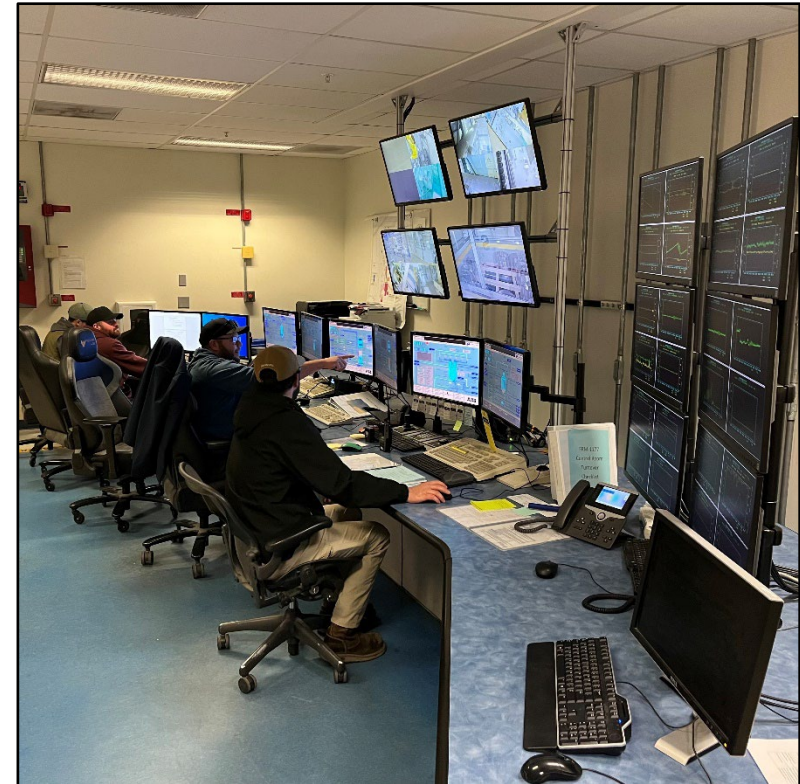
- Continue SBW treatment operations
- Complete scheduled outage
  - GAC change out, waste feed nozzle changeout, other minor activities
- Complete PSB II construction
- Continue new storage vault construction
- Procure additional canisters

## Regulatory Milestones<sup>1,3</sup>

- Treat 15% of sodium bearing waste annually (3 year running average)

## Challenges

- Monitor/evaluate mercury (Hg) removal efficiencies/loading of GAC media
- Continue to refine storage projections
- NOx emissions vs INL sitewide air permit limits



Steady-state operations at IWTU control room

GAC – Granular Activated Carbon  
Nox – Nitrous Oxides  
PSB – Product Storage Building  
PGF – Process Gas Filter  
SBW – Sodium Bearing Waste



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# Integrated Waste Treatment Unit (continued)



Product Storage Building (PSB) II construction progress



# Key Upcoming Activities

- Idaho CERCLA Disposal Facility (ICDF) expansion cell ongoing construction
- Integrated Waste Treatment Unit (IWTU) continued processing of sodium bearing waste after current maintenance outage
- S1W facility demolition



# Key Driver References

1. 1995 Settlement Agreement
2. EM/NR Memorandum of Agreement for NR D&D
3. INL Site Treatment Plan
4. Subsurface Disposal Area CERCLA ROD Action Memo
5. 42 USC 9201
6. CERCLA OU 3-13 ROD
7. CERCLA Explanation of Significant Differences

