



Idaho Cleanup Project Overview

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Manager

Idaho Cleanup Project

February 27, 2020

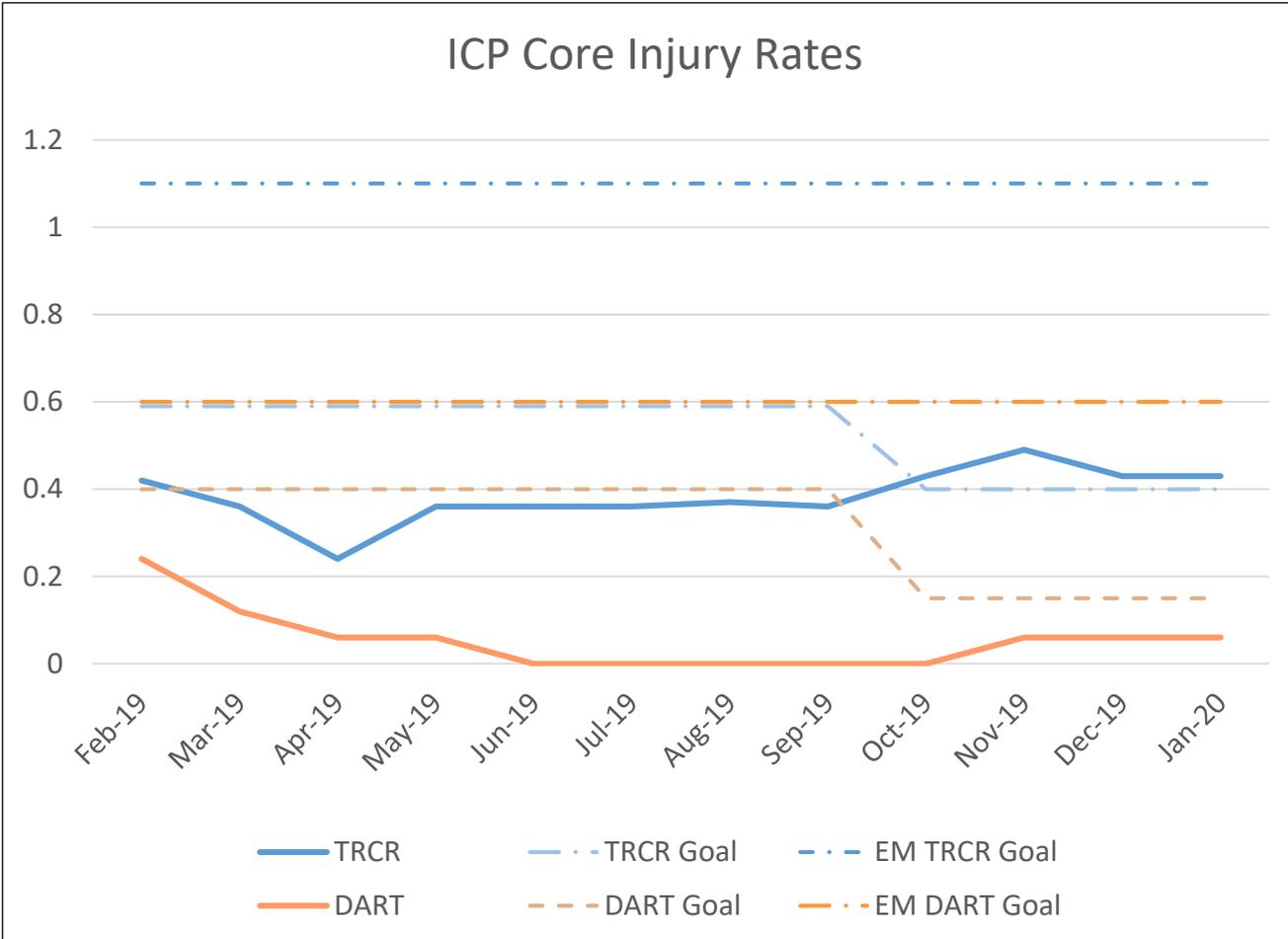


EM Environmental Management

safety ❖ performance ❖ cleanup ❖ closure

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Fluor Safety Performance



Company Injury Goals (Both well below DOE EM Goals)

- DART Goal 0.15
- TRCR Goal 0.40

November 2019

- One First Aid Cases, One Recordable Injury, and One Restricted Case
- 2 ORPS Reportable Events

December 2019

- Two First Aid Cases, No Recordable Injuries, and No Restricted Cases
- No ORPS Reportable Events

January 2020

- Three First Aid Cases, One Recordable Injury, and No Restricted Cases
- No ORPS Reportable Events



Waste Type	Origin	Volume Remaining	Amount Shipped	Ultimate Destination	Applicable Agreements
High-Level Waste 	Reprocessing of spent nuclear fuel	4,400 cubic meters	None	Geologic repository	Idaho Settlement Agreement, Site Treatment Plan

Accomplishments:

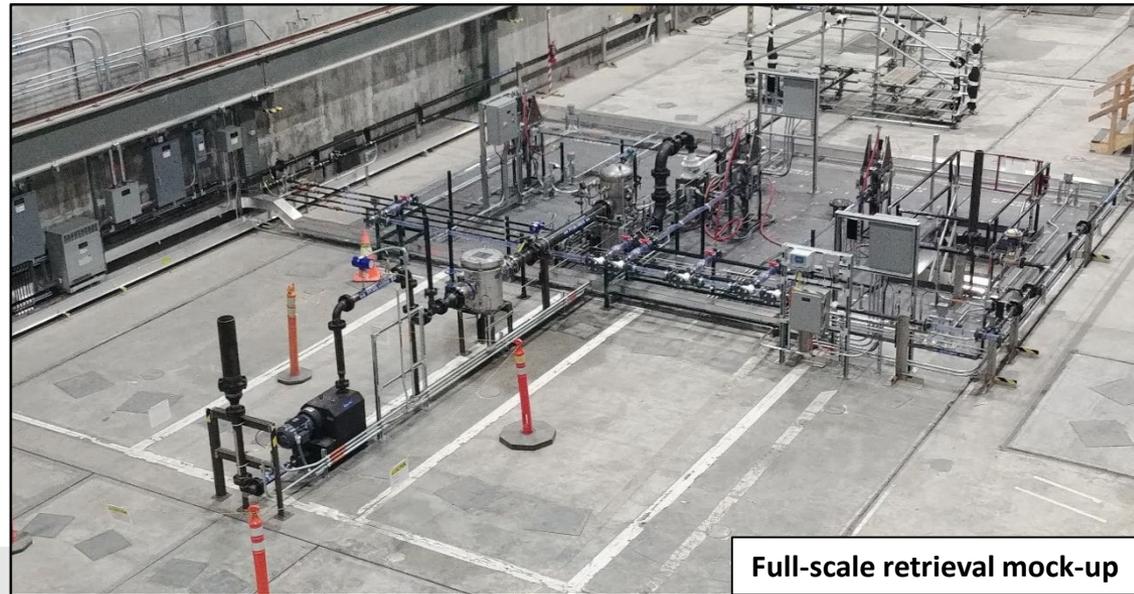
- Continued work on the Performance Assessment of calcine bin sets and other regulatory closure documentation.

Status:

- Continuing testing of calcine retrieval system.

Issues:

- Calcine disposition currently requires a geologic repository.
- HLW interpretation may allow for other disposition options.



Full-scale retrieval mock-up

Path Forward:

- Continue testing and developing calcine retrieval and transfer system.



Waste Type	Origin	Mass Remaining	Amount Shipped	Ultimate Destination	Applicable Agreements
Spent Nuclear Fuel 	DOE, 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

Accomplishments:

Transferred/Planned	SNF Type	From	To
1/9	EBR-II/T1	CPP-666	FCF/MFC
0/33	EBR-II/T2	CPP-666	RSWF/MFC
8/32	ATR	CPP-666	CPP-603

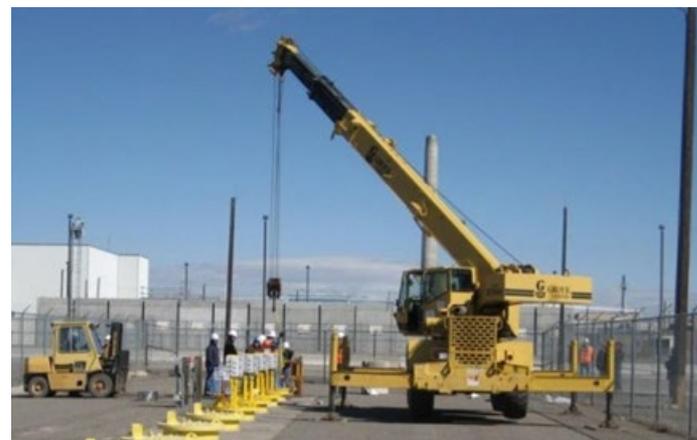
Receipts Planned	SNF Type	From	To
5/15	ATR	ATRC	CPP-603

Status:

- On track to move all spent fuel to dry storage per 2023 commitment
- Move Experimental Breeder Reactor-II spent fuel from underwater storage basins to dry storage at the Materials and Fuels Complex
- Will begin efforts to address risk associated with water intrusion issues at CPP-7949

Issues:

- Spent fuel disposal requires a high-level waste repository



SNF dry storage at CPP-749



TMI-2 ISFSI, CPP-1774



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Waste Type	Origin	Volume Remaining	Amount Shipped	Ultimate Destination	Applicable Agreements
Transuranic and Mixed Low-Level Waste 	Site operations, Rocky Flats Plant, other DOE facilities	5,381 (CH-TRU) 377 (MLW)	45,490 (CH-TRU) 14,574 (MLW)	WIPP Licensed off-site disposal site	Idaho Settlement Agreement, Site Treatment Plan

Accomplishments:

- Completed treatment of ISA debris waste in Treatment Facility

Status:

- Sludge treatment/repackaging in ARP VII continues
- Disposal of waste including CH TRU waste shipments to WIPP ongoing



Sludge waste in the ARP VII sorting table awaiting treatment

Issues:

- Difficult waste streams
- Waste certification challenges

Path Forward:

- Developing a RCRA Closure Plan for the treatment facility
- Establishing an alternative transport and disposal package for RH-TRU



CH TRU waste being loaded into a TRUPACT II for shipment to WIPP



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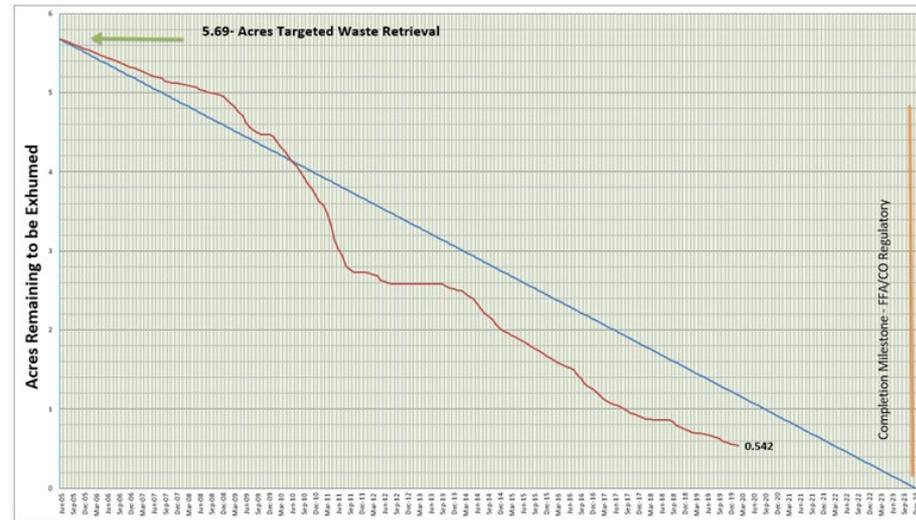
Waste Type	Origin	Volume Remaining	Amount Shipped	Ultimate Destination	Applicable Agreements
Buried Waste 	Site operations, Rocky Flats Plant, other DOE facilities	<ul style="list-style-type: none"> • 3,362 m³ awaiting shipment • Estimated over 600 m³ left to exhume 	6,168.4 cubic meters	Waste Isolation Pilot Plant	FFA/CO (CERCLA), Agreement to Implement

Accomplishments:

- Since exhumation started in ARP IX on April 25, 2019, .148 of .69 acres (21.4%) have been exhumed, as of February 10, 2020.
- Since 1996, 256,942 lbs. organic vapors removed, as of January 19, 2020

Status:

- ARP IX exhumation ongoing
- Cap design is final and posted at <https://ar.icp.doe.gov>
- Organic vapor vacuum extraction continues



Exhuming targeted buried waste at ARP IX

Path Forward:

- ARP IX exhumation will continue

Issues:

- Waste is more degraded than anticipated



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Balance of CERCLA Cleanup Activities

Accomplishments:

- WAG 1 – TAN Groundwater
 - Continued In Situ Bioremediation (ISB) treatment injections to treat residual TCE source. Next ISB treatment will occur in March.
 - Continued to treat TCE contaminated water through the Pump and Treat Facility (NPTF).
- WAG 3 – INTEC /ICDF
 - Working through evaluation of waste volume projections for the ICDF landfill to determine future capacity needs. ICDF landfill is approximately 73% full.
- WAG 10 – Site-wide Activities
 - A kick-off meeting was held in October to begin planning for the preparation of the CERCLA 5-Year Review. A public notice will be published in the Post Register on Feb. 28 announcing the preparation of this document. The 5-Year Review evaluates the status of all CERCLA remedial actions at the INL.

Status:

- WAG 1 – TAN Groundwater
 - ISB, NPTF treatment continues on track to meet Remedial Action Objectives by 2095.
- WAG 3 – INTEC/ICDF
 - Continue to receive CERCLA waste from D&D projects including NRF, INTEC and AMWTP.
- WAG 10 - Site-wide Activities
 - Continue routine groundwater monitoring, Institutional Controls (IC) and Operations and Maintenance.



ICDF Landfill January 09, 2020 Looking North-Northeast

Path Forward:

- Ongoing field activities include:
 - Continue Westbay Well rehabilitation.
 - ISB treatment injection at well TAN-1860 in March.
 - Prepare the CERCLA 5-Year Review due to EPA and the state of Idaho for review in late 2020.



Waste Type	Origin	Volume Remaining	Amount Shipped	Ultimate Destination	Applicable Agreements
Sodium-Bearing waste	De-Con of reprocessing facilities	~850,000 gallons	None	Geologic repository	Idaho Settlement Agreement, Site Treatment Plan, Notice of Non-Compliance/Consent Order



Integrated Waste Treatment Unit

See Separate IWTU Presentation



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