



*Idaho Cleanup Project Progress  
Citizens Advisory Board  
September FY 2012 Status*

**Kenneth Whitham**

**Department of Energy**

**Idaho Operations Office**



**EM** *Environmental Management*

# *Idaho Cleanup Project Scope*

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- Transuranic Waste Disposition
- Advanced Mixed Waste Treatment Project
- CERCLA Remediation
  - Waste Area Group 1 – Test Area North
  - Waste Area Group 3 – Idaho Nuclear Technology and Engineering Center
  - Waste Area Group 7 – Radioactive Waste Management Complex
  - Waste Area Group 10 – Site-wide Miscellaneous Sites/Snake River Plain Aquifer
- Idaho CERCLA Disposal Facility



# *Idaho Cleanup Project Scope*

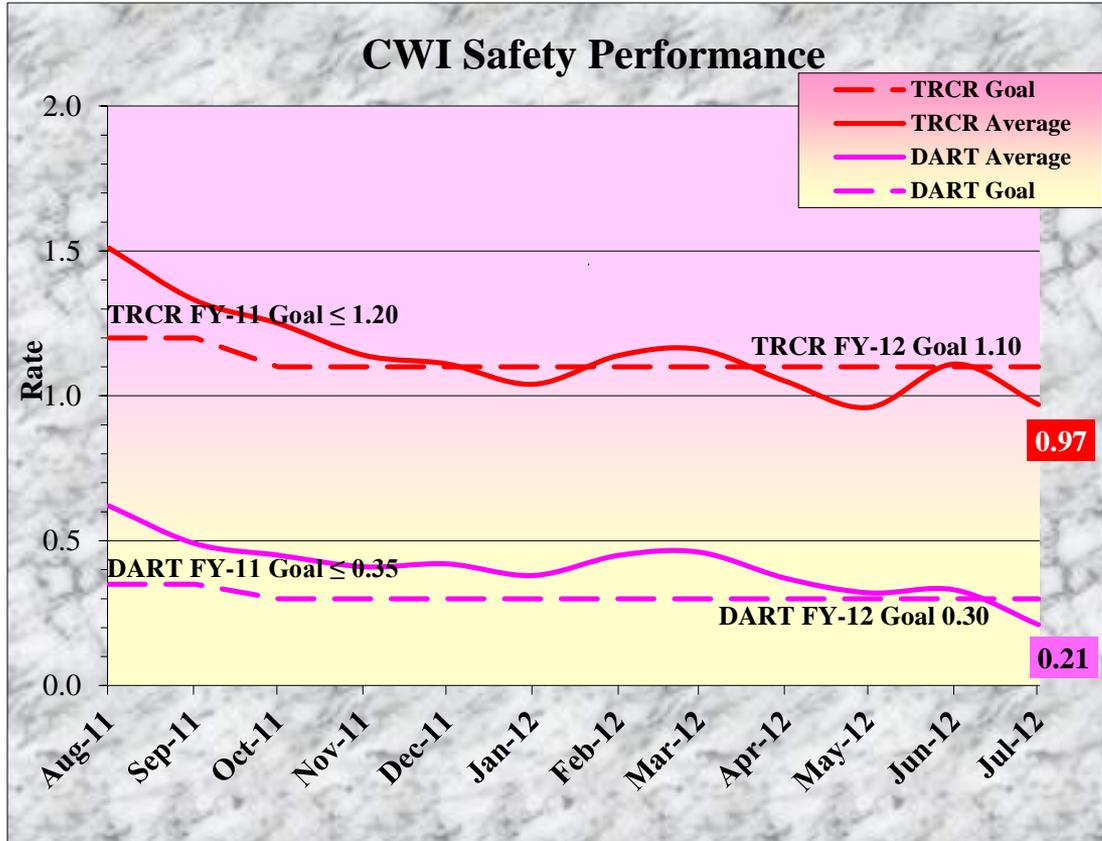
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- Decontamination and Decommissioning
  - Test Area North (Completed)
  - Advanced Test Reactor (ATR) (Completed)
  - Idaho Nuclear Technology and Engineering Center (INTEC) (Completed)
  - Radioactive Waste Management Complex (RWMC) (Completed)
  - Power Burst Facility (ARRA) (Completed)
  - Materials and Fuels Complex (MFC) D&D
  - ARP I & VI D&D Preparation (Completed)
  - ARP VI D&D (Completed)
  - ARP I D&D
- Nuclear Materials Completion (Completed)
- Integrated Waste Treatment Unit (Sodium-Bearing Waste)
- INTEC Liquid Waste Treatment Facility (Tank Farm Closure)
- Spent Nuclear Fuel Disposition (Completed)
- Calcine Disposition



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# ICP Safety Performance – September 2012



## June 2012

### Four First Aid Cases and One Recordable Injury:

- Injured arm while using forty foot fuel handing tool to remove bolts from an underwater basket

### One ORPS Reportable Occurrence:

- IWTU Process Event - Activation of Facility Safety Significant Systems & Components (SSC)

## July 2012

### No First Aid Cases and One Recordable Injury:

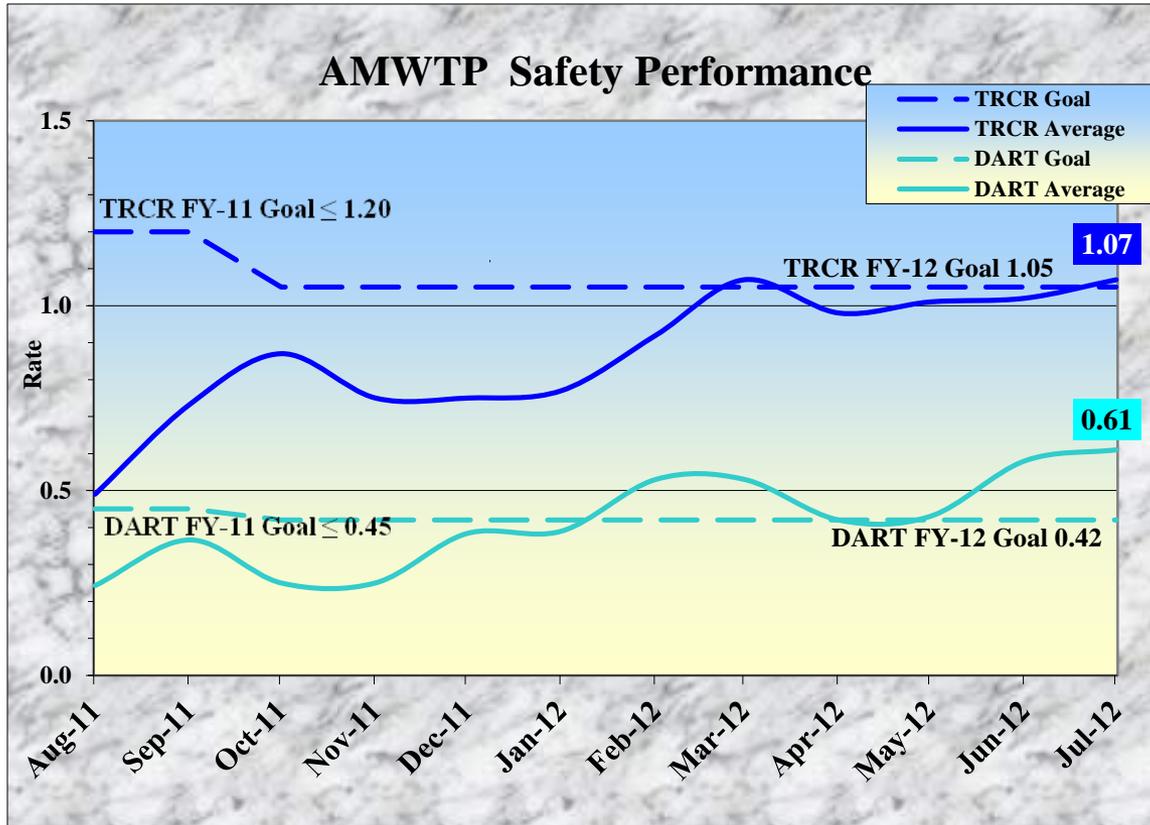
- Injured wrist /elbow when a drill bound up causing the handle to rotate

### Two ORPS Reportable Occurrences:

- IWTU Positive Unreviewed Safety Question - Off-gas Filter (OGF) Blinding
- IWTU - Failure to Follow Confined Space Entry Process



# AMWTP Safety Performance – September 2012



## June 2012

Seven First Aid Cases and No Recordable Injuries

### Two ORPS Reportable Occurrences:

- Failure to Use Lockout/Tagout During BROKK Maintenance
- Backup Generator Battery Casing Rupture

## July 2012

Two First Aid Cases and No Recordable Injuries

### One ORPS Reportable Occurrence:

- Failure to Follow the Work Control Process Results in Equipment Damage (Air Conditioner unit)



# Advanced Mixed Waste Treatment Project

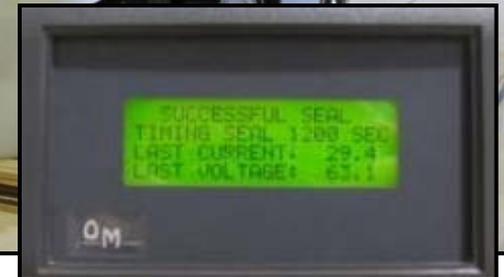
## Key Activities/Actions:

- ITG employees have worked more than 1.1 million hours (13.6 million hours over life of the project) without a lost-time injury
- Retrieval operations have safely and compliantly retrieved 265 cubic meters since restart of work
- Have met all AMWTP scheduled shipments of transuranic waste to WIPP
- New macroencapsulation shipping program started Aug. 13. treated 130 containers
- Began operations in Waste Handling Tent, designed to unpack and overpack drums. Work is integrated with Waste Tracking System, eliminating redundant characterization activities resulting in cost and time savings



Left: Employees prepare to overpack a drum in the Waste Handling Tent at AMWTP.

Below: A product drum containing mixed low-level waste is lowered into a high density polyethylene "macro-pack." The lid of the macro-pack contains heating wires. An electric current is sent through the wires to permanently seal the liner.



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# Transuranic Waste Disposition

## Key Activities/Actions :

- Processed 135 of 158 RH-TRU containers; processing under ARRA now complete
- Completed FY 2012 planned exhumation in ARP VII, 0.15 acres, on August 28. No further exhumation until funding is assured; 0.12 acres remain to be exhumed.
- Through August 2012, packaged 5,769.9 m<sup>3</sup> (77.1%) of targeted SDA waste and shipped 5,647.4 m<sup>3</sup> (5,483 m<sup>3</sup> buried TRU, 164.4 LLW/MLLW) (75.4%) from ARP I-VI
- Through August a total of 47,747 m<sup>3</sup> (35,550m<sup>3</sup> as CH-TRU and 9,197 m<sup>3</sup>) of Historically Managed TRU Waste has been shipped out of Idaho.

Remaining Milestone(s)	Completed	Target Date
Complete Disposition of EM RWMC RH-TRU	✓	3/31/2011
Complete Idaho Settlement Agreement RH-TRU Disposition		4Q FY2018
Complete Disposition of 65,000 m <sup>3</sup> CH-TRU		Sep-15

## Upcoming Activities:

- Complete CH-TRU shipments
- Complete 29 shipments (8 ARRA, 21 Navy) of RH-TRU to WIPP by 9/30/2012
- Completed processing of 7 (of 7) NRF Transuranic Vaults



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# *CERCLA Remediation Project Objectives*

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- WAG 1: Test Area North
  - TAN Groundwater Remediation
- WAG 3: INTEC
  - Complete the OU 3-14 Record of Decision for the Tank Farm
  - Operate the ICDF to compliantly disposition CERCLA waste
- WAG 7: Radioactive Waste Management Complex
  - Exhume 5.69 acres of buried waste
  - Complete the OU 7-13/14 Record of Decision
- WAG 10: Site Wide
  - Maintain site wide institutional controls and operations and maintenance program
  - Maintain groundwater monitoring program
  - Maintain the New Site Identification Process for future CERCLA sites
  - Remediate Munitions and Explosives of Concern (MEC)



# CERCLA Remediation Projects

## Key Activities/Actions:

- Completed the revised OU 10-04 work plan for remediation of ordnance areas at the INL
- Completed seal coating the OU 3-14 Phase I asphalt cover

## Upcoming Activities:

- Submit revised OU 10-04 Phase I Remedial Action Report addressing ecological monitoring at the INL
- Submit draft OU 3-14 Phase I Remedial Action Report

Remaining Milestone(s)	Completed	Target Date
Complete 10-04 MDA Surficial Cleanup	(8/2011) ✓	9/2011
Complete INTEC Tank Farm Remedial Action Phase I	(8/2012) ✓	9/2011
Complete Phase II 90% Design	(02/2011) ✓	11/2011
Complete INTEC Tank Farm Remedial Action Phase III		FY 2020



OU 3-14 Phase I drainage ditch repair



# ***CERCLA Remediation Projects - ICDF***

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## **Key Activities/Actions:**

- Disposed of 2,263 cubic meters (4,036,246 pounds) of waste in the ICDF landfill
- Received 21,640 gallons of aqueous waste into the ICDF Evaporation Ponds

## **Upcoming Activities:**

- Disposition debris and liquid from MFC D&D projects
- Disposition debris from RWMC
- Disposition soil and debris from INTEC



## *Waste Area Group (WAG) 7 Project Objectives*

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- Complete remediation work in accordance with the Record of Decision (ROD) for OU 7-13/14
- Conduct Targeted Waste Retrieval at the Accelerated Retrieval Projects (ARP) and disposition waste:
  - ARP I, II, III, IV and V, VI (Completed)
  - ARP VII exhumation completed for FY2012 at 0.15 acres
  - ARP VIII being constructed
- Complete in situ grouting of 21 locations (completed)
- Subsurface solvent vapor extraction (OCVZ)
- Environmental monitoring and institutional controls



# WAG 7 Project

## Key Activities/Actions:

- Exhumed 3.11 acres
- Packaged 27,740 drums of targeted waste
- Completed structural steel erection and fabric installation at ARP VIII
- Exhumed 0.15 acres of ARP VII waste (Complete)
- Submitted ARP V RCRA Permit – Sludge Repackaging

## Upcoming Activities:

- Continue construction of ARP VIII

Metric	Actual (CTD)	Goal
Targeted Waste Packaged (m <sup>3</sup> )	5,626 m <sup>3</sup>	7,485 m <sup>3</sup>
Acres Remediated	3.09 acres	5.69 Acres

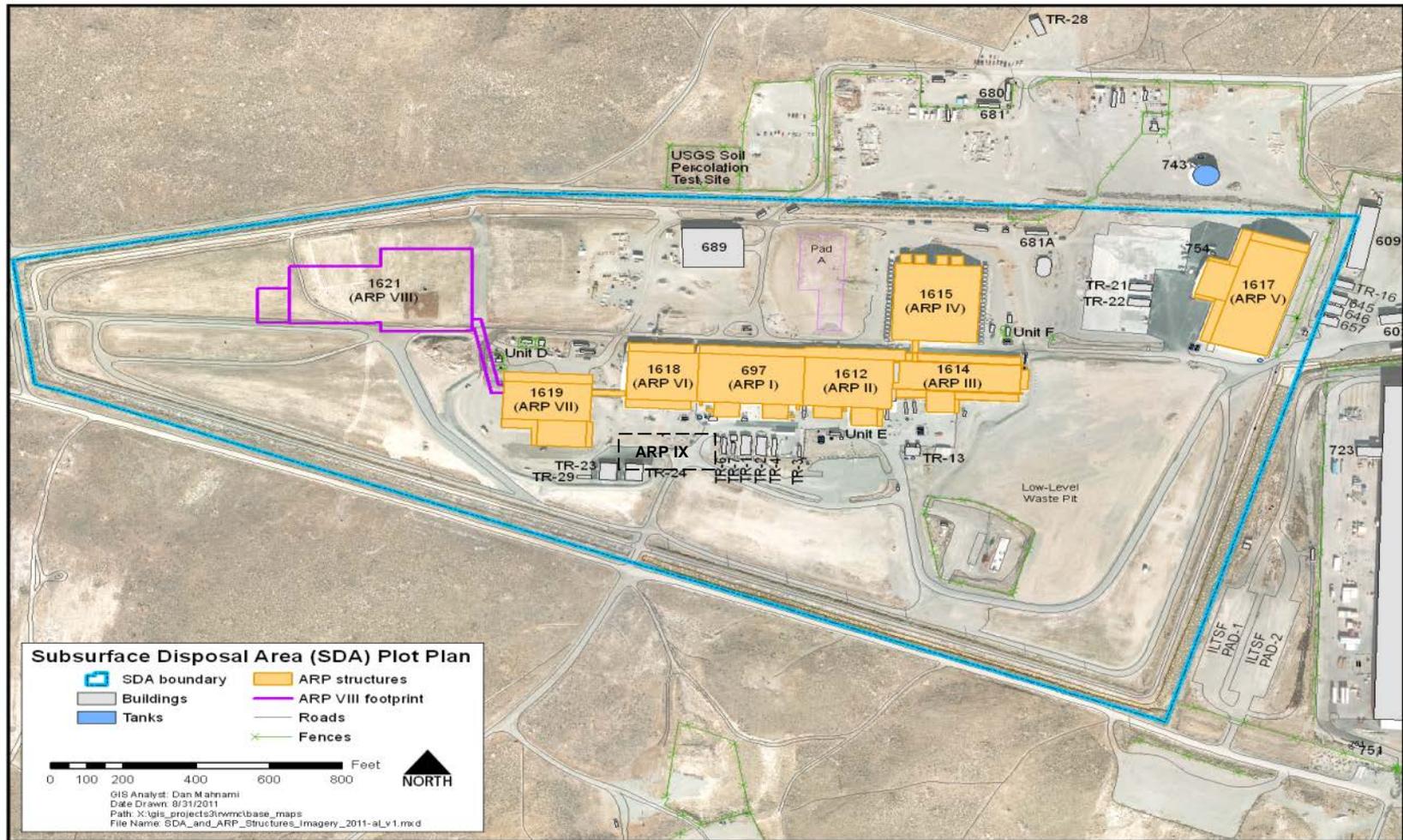
Remaining Milestone(s)	Completed	Target Date
Complete current contract WAG 7 Target Waste Retrieval volume	✓	9/2012
Continue Exhumations Bridge Scope		9/2012
Complete Cap Per ROD		Post 2012



ARP VIII construction



# WAG 7 Project (cont'd)



# *D&D Objectives*

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**ARP airlock demolition**



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# *D&D – RTC/RWMC Project*

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## **Key Activities/Actions:**

- Applied fixative in ARP I and initiated placement of clean soil
- Completed demolition of ARP VI

## **Upcoming Activities:**

- Complete demolition of ARP I



Fixative applied in ARP VI



# *D&D – INTEC Project*

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## **Key Activities/Actions:**

- Completed close-out reports

## **Upcoming Activities:**

- Prepare closure plans for PEW and New Waste Calcining Facility



# *D&D – Materials and Fuels Complex (MFC) Project*

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## **Key Activities/Actions:**

- Completed demolition of MFC-793B
- Completed grouting of EBR-II reactor vessel (1<sup>st</sup> disposition of a passivated, sodium-cooled reactor)
- Submitted RCRA closure certification for MFC-767 to DEQ

## **Upcoming Activities:**

- Complete RCRA closure of MFC-766 (FY-13)



Grouting primary tank



# *Integrated Waste Treatment Unit (Sodium-Bearing Waste) Project Objectives*

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- Design, construct, test and operate the Sodium Bearing Waste Treatment Facility
- Drain sodium-bearing waste material from tanks no later than December 31, 2012



# *Integrated Waste Treatment Unit (Sodium-Bearing Waste) Project*

## **Key Activities/Actions:**

- Completed the June 16 pressure event investigation report
  - Event caused by too much charcoal fuel, not enough oxygen, and filter loading
- Placed orders for new facility components

## **Upcoming Activities:**

- Continue making facility modifications and procedure upgrades

Remaining	Milestone(s)	Completed	Target Date
	Systems Turnover Complete	✓	2/20/2012
	Commence Operations of treatment facility		4/23/2012
	Complete SBW Treatment		12/31/2012



Process Gas Filter



# *INTEC Liquid Waste Facility (Tank Farm) Closure Project*

## **Key Activities/Actions:**

- Completed tent fabrication needed for washing of tanks (32 of 35 with three fabricated and in storage for grouting)
- Fabricated 4 of 4 new jet assemblies
- Installed steam jet, aboveground transfer line for WM-190
- Installed B-5 collection header and above-ground transfer lines to locations steam jets will be installed after liquid waste is processed in WM-188 & WM-189
- Completed system testing of the refurbished wash equipment
- Washed valve boxes C-11, C-16, and C-18

## **Upcoming Activities:**

- Begin fabrication of grout equipment

Remaining Milestone(s)	Completed	Target Date
West Side of Tank Farm Ready for D&D and closure	✓	9/30/2014
Complete Tank Farm Grouting		(Post - 2012)



Wash balls and nozzles



# *Spent Nuclear Fuel Disposition Project Objectives*

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- **Transfer legacy, EM-owned spent nuclear fuel (SNF) from wet storage to appropriate dry storage (completed)**
- **Receive and store SNF from the Advanced Test Reactor**
- **Receive Domestic and Foreign Research Reactor SNF for storage**
- **Prepare the SNF facilities for transition to another government entity by installing a segregation fence (completed)**
- **Provide safe, regulatory-compliant, routine operations for INTEC SNF handling and storage facilities**



# Spent Nuclear Fuel Disposition Project

## Key Activities/Actions:

- Completed Mexico TRIGA fuel receipts
- Completed 1 EBR-II fuel transfer; and 7 ATR receipts
- Completed major drill at Fort St. Vrain

## Upcoming Activities:

- Complete inspection and loading of TRIGA fuel for shipment to Austria
- Continue EBR-II and ATR fuel transfers

Remaining Milestone(s)	Completed	Target Date
Complete receipt of ATR fuel to CPP-666		(9/30/12)



FRR transfer



# Idaho Project Milestones

## Idaho Cleanup Project Major Milestones

✓ Indicates completed milestone



INTEC tank farm interim cap complete



MTR demolished

100% HLW Tanks Closed

Tank Farm cover installed (east side)

ICP Tank Farm Closure Complete



Complete CH-TRU disposition



OU 7-13/14 targeted waste retrievals complete



SDA cap installed



IWTU operational SBW treatment begins (12/2011)

PBF demolition complete

CPP-601, CPP-640 disposition complete

FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18	FY19	FY20	FY21	FY22	FY23	FY24	FY25	FY26	FY27
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ARR ✓ Milestone 2011

All excess facilities demolished ✓

100% HLW tanks closed

Complete RH-TRU disposition

100% SBW treatment complete

UXO remediation complete

Calcine construction complete



TAN ready for legacy mgmt. ✓

EBR-II D&D Complete



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