



U.S. DEPARTMENT OF  
**ENERGY**

OFFICE OF  
**ENVIRONMENTAL  
MANAGEMENT**

# Idaho Cleanup Project Program Citizens Advisory Board

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Idaho Cleanup Project

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# Idaho Cleanup Project Scope

- Transuranic Waste Disposition
- Advanced Mixed Waste Treatment Project (AMWTP)
- Comprehensive Environmental Response Compensation Liability Act (CERCLA) Remediation
  - Waste Area Group (WAG) 1 – Test Area North (TAN)
  - Waste Area Group (WAG) 2 – Test Reactor Area (TRA)
  - Waste Area Group (WAG) 3 – Idaho Nuclear Technology and Engineering Center (INTEC)
  - Waste Area Group (WAG) 4 – Central Facilities Area (CFA)
  - Waste Area Group (WAG) 5 – Power Burst Facility (PBF)/Auxiliary Reactor Area (ARA)
  - Waste Area Group (WAG) 6 – Experimental Breeder Reactor No. I (EBR-I)
  - Waste Area Group (WAG) 7 – Radioactive Waste Management Complex (RWMC)
  - Waste Area Group (WAG) 9 – Argonne National Laboratory – West (ANL-W)
  - Waste Area Group (WAG) 10 – Site-wide Miscellaneous Sites/Snake River Plain Aquifer
- Idaho CERCLA Disposal Facility

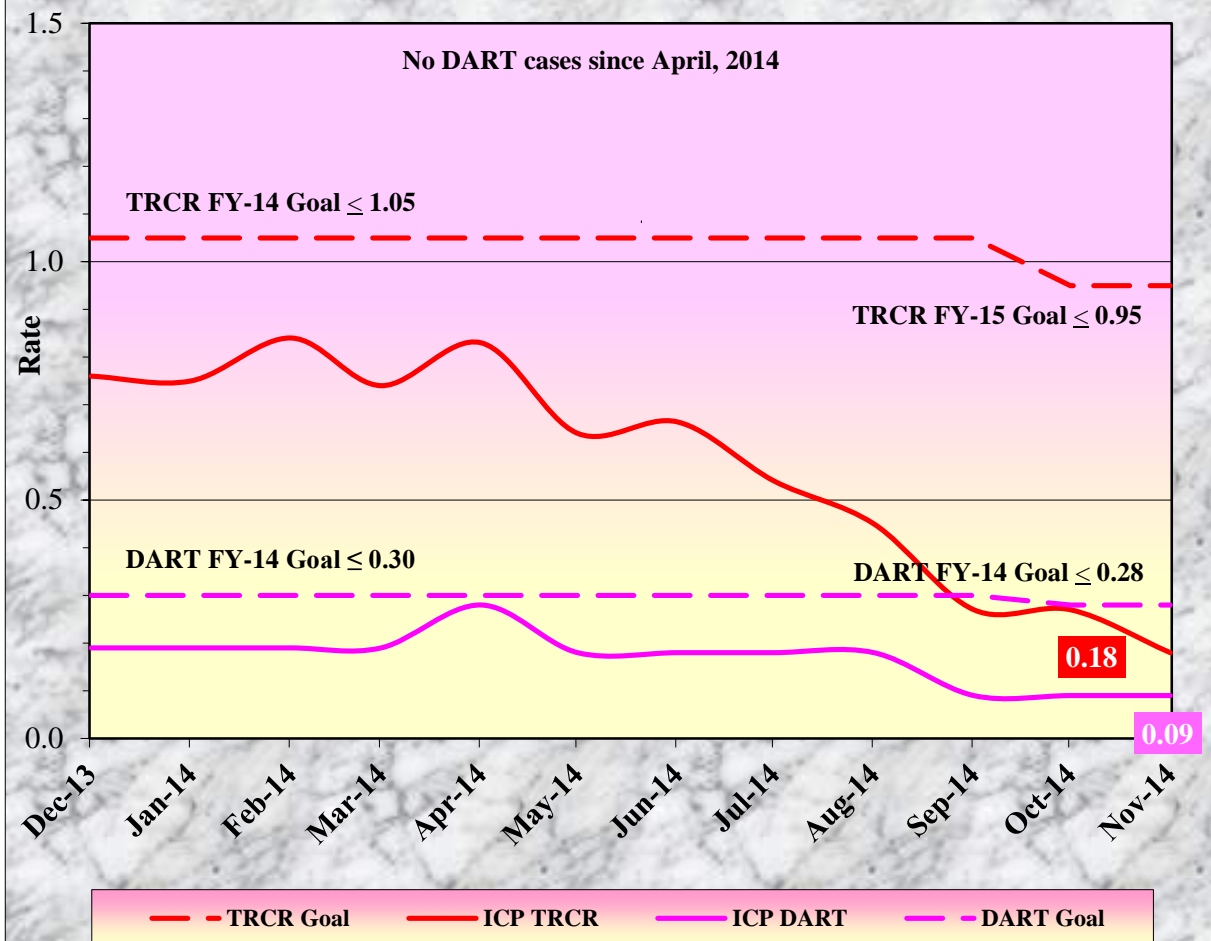
# Idaho Cleanup Project Scope

- Sodium Bearing Waste Treatment
- INTEC Liquid Waste Treatment Facility (Tank Farm Closure)
- Calcine Disposition
- Spent Nuclear Fuel Management
- Decontamination & Decommissioning
  - MFC (Materials and Fuels Complex)

# Safety Performance – December 2014

## (Information and Data through November 23, 2014)

### ICP Safety Performance



#### October 2014

**No First Aid Cases or Recordable Injuries**

#### Three ORPS Reportable Occurrences:

- IWTU – Installed Waste Feed Nozzle Declared Inoperable
- IWTU – USQ: Waste Feed Pump Surveillance Test Interval Incorrect
- IWTU-OGF Jumper Assembly Falls Off Jack Stands During Transport

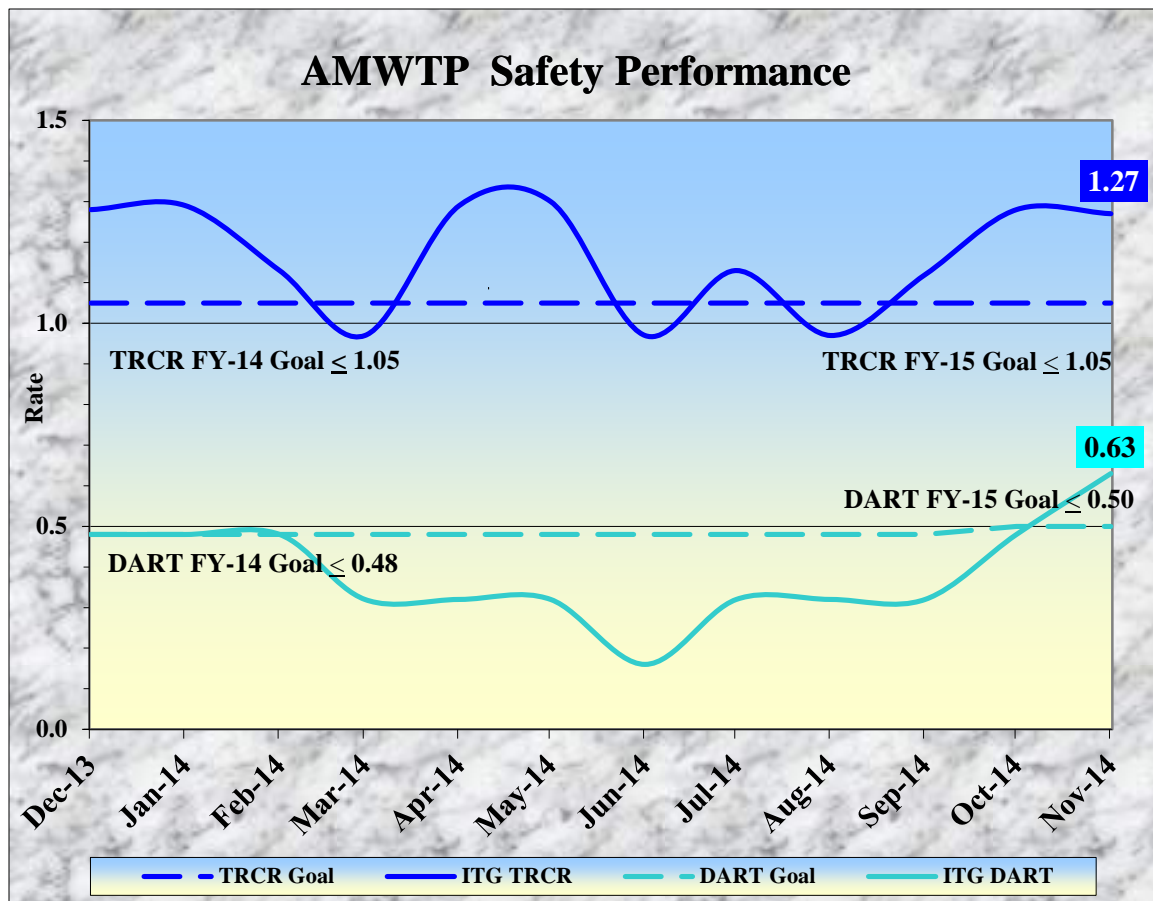
#### November 2014

**One First Aid Case and No Recordable Injuries**

#### Three ORPS Reportable Occurrences:

- IWTU – High Failure Rate of Process Exhaust Blower Seals
- IWTU-Non Safety Significant Rupture Disk Ruptures During Startup
- IWTU – Electrical Power Pedestal Struck By Front End Loader

# AMWTP Safety Performance – June 2014 (Information and Data through November 23, 2014)



## October 2014

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

- Worker Slip and Fall From Early Morning Frost Requires Surgery

### Two ORPS Reportable Occurrences

- AMWTP – Legacy Radioactive Contamination Discovered on Pad-1
- AMWTP – Serious Slip and Fall Injury From Early Morning Frost

## November 2014

### Three First Aid Cases and Two Recordable Injuries:

- Worker Injured Knee on Portable Stair; Provided Prescription Rx.
- Worker Injured Shoulder Moving Electrical Cable

### Two ORPS Reportable Occurrences

- AMWTP – TSR During Drum Venting; Procedure Violation
- AMWTP – Movement Of Electrical Cable Results In A Hernia Injury

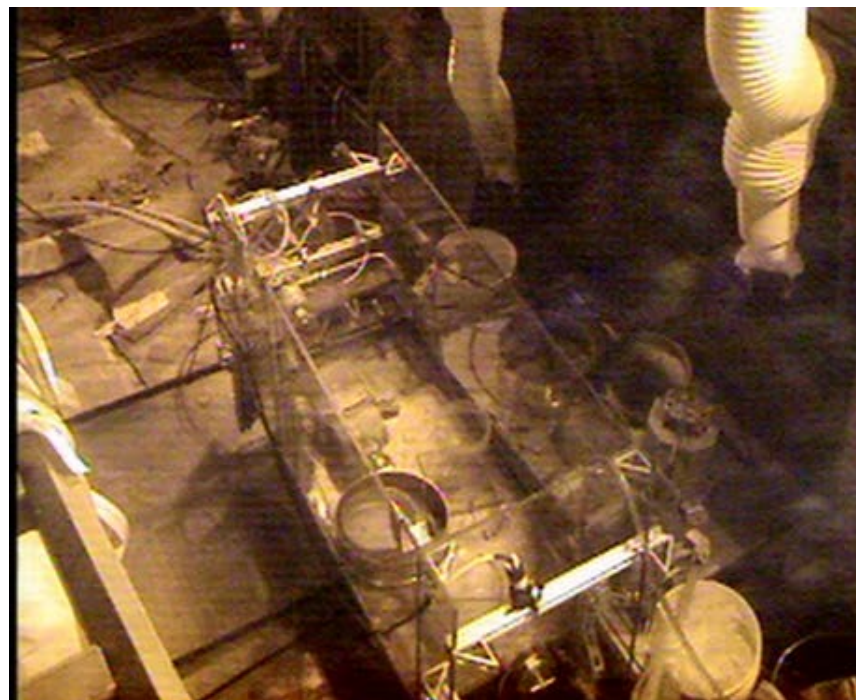
# Remote-Handled Transuranic Waste Disposition

## Key Activities/Actions:

- Remote-handled transuranic waste shipments are on hold until WIPP re-opens.
- Approval of 3 additional waste streams from EPA, expect final certification packages in the Spring.
- Efforts to clear distillation system blockage are ongoing.
- Work around being developed in parallel.
- Completed recovery of CPP-659 after contamination event.
- Completed 7 treatment runs of sodium-contaminated RH-TRU using the sodium distillation system.

## Upcoming Activities:

- Complete processing of all Idaho Settlement Agreement RH-TRU waste.
- Installation of second Argon Repackaging Station in CPP-659.



# Advanced Mixed Waste Treatment Project



Top: Demonstration Macro Bag  
Bottom: Unloading of LANL waste at WCS in Texas.

## Key Activities/Actions:

- Through November, 2014, AMWTP operations have shipped over 54,800 cubic meters of legacy waste out of Idaho.
- Contact-handled transuranic waste shipments are on hold.
- Completed startup of Cargo Container Unloading.
- Completed transfer of 105 empty cargo containers to ICDF for disposal.
- Completed shipment of LANL waste out of Idaho prior to 1-year requirement.

## Upcoming Activities:

- Complete removal of soil fire break and entry into Cell 1.
- Shipment of waste using Macro Bags.
- TSA-RE Storage reconfiguration.
- Certification of box assay system.
- Startup of aerosol can venting in AMWTF.

# CERCLA Remediation Project Objectives

- WAG 1: Test Area North (TAN)
  - TAN Groundwater Remediation
- WAG 3: Idaho Nuclear Technology and Engineering Center (INTEC)
  - Complete the OU 3-14 Record of Decision for the Tank Farm
  - Operate the Idaho CERCLA Disposal Facility (ICDF) to compliantly disposition CERCLA waste
- WAG 7: Radioactive Waste Management Complex (RWMC)
  - Exhume 5.69 acres of buried waste (Completed 3.69 acres as of January 10, 2015)
  - 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) sites. Final Remedial Action Report approved by the Agencies August, 2014.

## Key Activities/Actions:

- The initial 2 years of the TAN In-Situ Bioremediation (ISB) Rebound Test were completed.
- In situ bioremediation rebound test will continue for at least 5 more years.
- Two new aquifer injection wells will be drilled in the vicinity of the Test Area North injection well and new bioremediation amendments will be considered as a replacement to whey.

## Upcoming Activities:

- As a result of the information obtained from the ISB Rebound Test, the Agencies have agreed to extend the ISB Rebound Test for 3-5 years to allow additional time needed for conditions to return to background, as well as drill an additional injection well(s) in the hot-spot to treat a residual source of TCE, which is visible at monitoring well TAN-28.
- An updated work plan will be submitted for review in February 2015.

# CERCLA Remediation Projects – Idaho CERCLA Disposal Facility (ICDF)

## Key Activities/Actions:

- FY 15 Received 5,841 gallons of liquid for disposal to evaporation ponds
- FY 15 Received a total of 1,717 m<sup>3</sup> of solid waste for landfill disposal, including 105 of 105 Phase I cargo containers from AMWTP

## Upcoming Activities:

- Continue receipt and disposal of aqueous wastes in Evaporation Ponds
- Dispose of solid waste from environmental restoration actions, including planning for second phase (104) of cargo containers and soil from AMWTP
- Continue operation and maintenance of ICDF complex processes and facilities



ICDF waste placement

# CERCLA Remediation Projects – INL Site-Wide Five-Year Review

## **Purpose:**

- Evaluate implementation and performance of multiple remedies at the INL Site
- Determine if remedies remain protective of human health and the environment

## **Period of review:**

- Covers 5 years from Fiscal Year 2010 (October 2009) to Fiscal Year 2014 (September 2014)

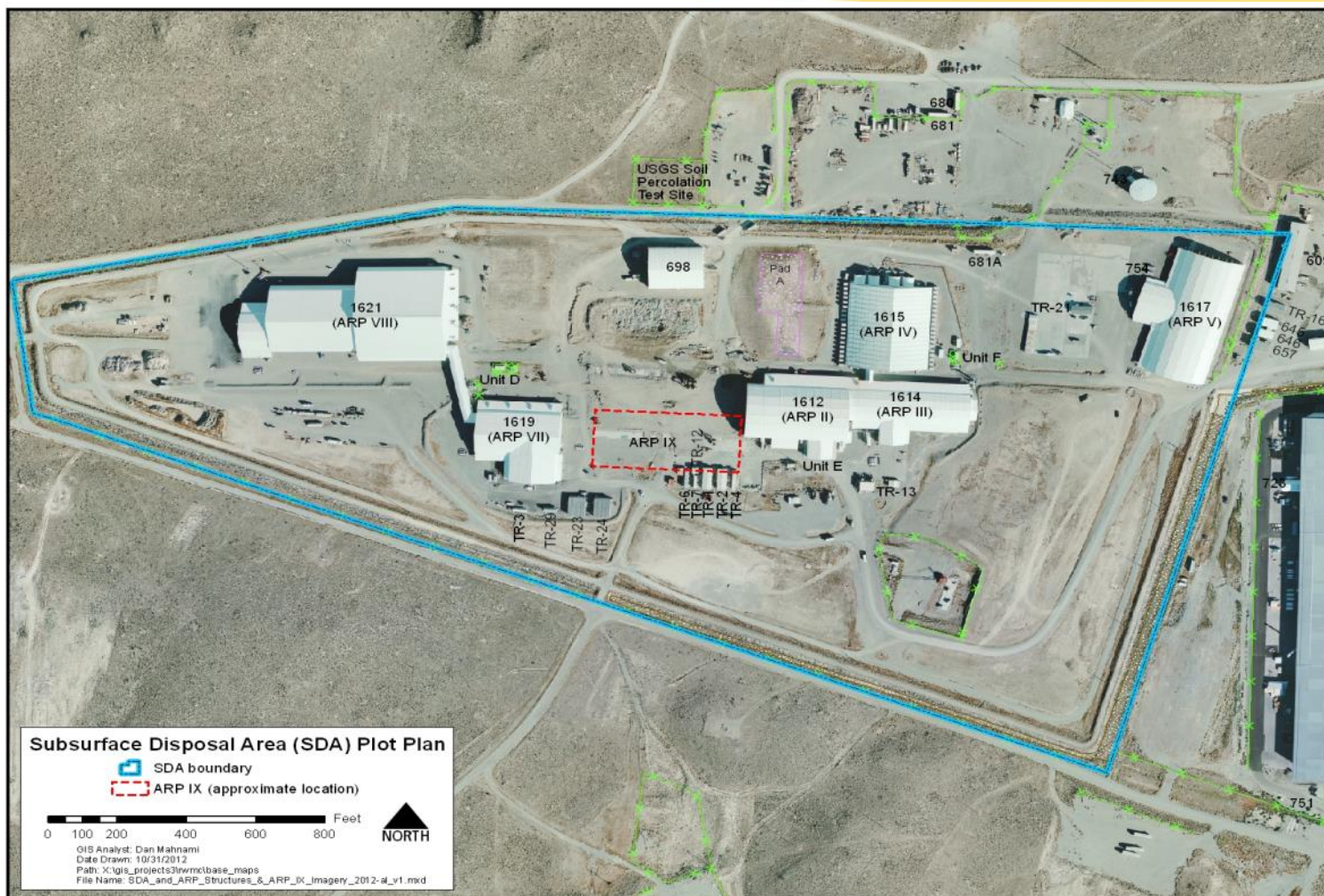
## **Five-Year Review Schedule:**

- November 2014 – Publish public announcement
- October 2014 to July 2015 – Prepare draft
- Citizen's Advisory Board briefings
- December 2015 – Publish final report and public announcement

# WAG 7 Project Objectives

- 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, V, VI and VII **(completed)**
  - ARP VIII: 0.407 (as of 1/12/14) acres out of 1.72 acres have been exhumed
  - ARP IX: Initiated design and construction planning December 2014
  - ARP I & VI D&D **(completed)**
- Complete in situ grouting of 21 locations **(completed)**
- Subsurface solvent vapor extraction (OCVZ)
- Environmental monitoring and institutional controls

# Waste Area Group (WAG) 7 Project



# WAG 7 Project

## Key Activities/Actions:

- Continued ARP VIII waste exhumation using two crews
- During November 2014, CWI completed its contract requirement to exhume 0.51 acres by 9/30/2015. Nearly 0.58 acres have been exhumed as of 1/16/15.
- Additional exhumation in ARP VIII and AMWTP sludge repackaging in ARP V is being planned with CWI
- Began putting ARP-V back to operational status in order to repackage additional AMWTP sludge waste.
- Began ARP IX design and construction planning

## Upcoming Activities:

- Continue to exhume targeted buried waste from ARP VIII
- Restart AMWTP sludge repackaging in ARP V
- Design ARP IX and construct foundation

Metric	Baseline
Exhume targeted buried waste	0.51 acres by 9/2015



ARP VIII exhumation

# Integrated Waste Treatment Unit (SBW) Project

## Key Activities/Actions:

- Demonstrated steam fluidization
- Initiated water feed (precursor to simulant feed)
- Shutdown to address equipment challenges and modifications
- Restarted facility on 11/6/14
- Introduced surrogate waste (simulant)
- Completed initial simulant run

## Upcoming Activities:

- Conduct confirmatory outage (inspection of equipment)
- Complete scheduled maintenance

Metric	Baseline
Treat sodium-bearing waste	~ 850,000 gallons to loss of suction
Package SBW Waste	704 canisters filled
Process tank "heels"	360,000 gallons



Integrated Waste Treatment Unit Facility

## Key Activities/Actions:

- Completed Contractor and DOE Tank Washing Closure Readiness Assessments
- Continuing with draining of the cooling coil underground line headers in preparation of flushing the system

## Upcoming Activities:

- Start tank washing activities

Metric	Baseline
Close liquid waste tanks	4 tanks by 9/2015



Prepping for tank farm work

# Spent Nuclear Fuel Disposition Project

## Key Activities/Actions:

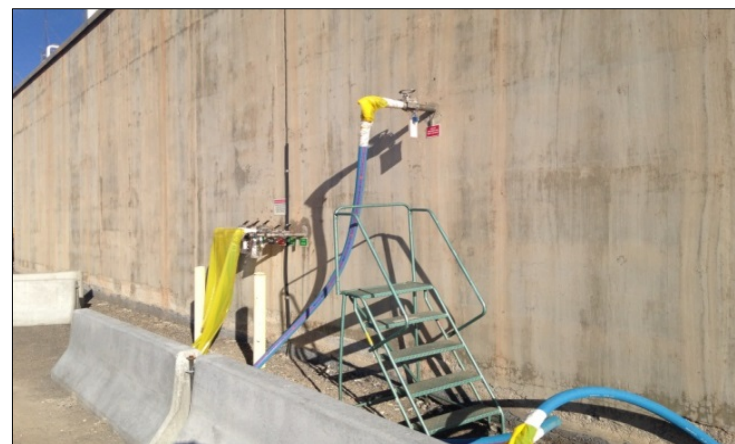
- Four ATR and one EBR-II fuel transfers were completed in the first quarter of FY 15
- Initiated Contractor Readiness Assessment for CPP-666 resin removal

## Upcoming Activities:

- Continue ATR and EBR-II SNF fuel transfers
- Complete Contractor Readiness Assessment for CPP-666 resin removal
- Perform DOE Readiness Assessment for CPP-666 resin removal
- Initiate Contractor and DOE Readiness Assessments for CPP-666 resin loading/recharge
- Continue to prepare Three Mile Island's NRC license renewal application

Top – CPP-666 resin flush fill connections  
Bottom – Temporary tent to support winter resin removal operations

Metric	FY 15 Baseline
Ship Advanced Test Reactor fuel	15 ATR
Ship EBR-II	6 EBR II



## Completed Activities/Actions:

- Completed review (MSA) for steam treatment of MFC-766 heat exchangers and superheaters.
- Initiated grouting of MFC-767, EBR-II reactor building basement.
- Minor sodium reaction during cutting of EBR-II control rod drive mechanism. H2 monitors alarmed, peaked at 1200 ppm, but quickly dropped under alarm set point of 500 ppm alarm set point. No radiological dose rate or external contamination was detected.

## Upcoming Activities:

- Complete grouting of MFC-767, EBR-II reactor building basement
- Initiate steam treatment of MFC-766 heat exchangers and superheaters. Anticipate start of treatment in January 2015.

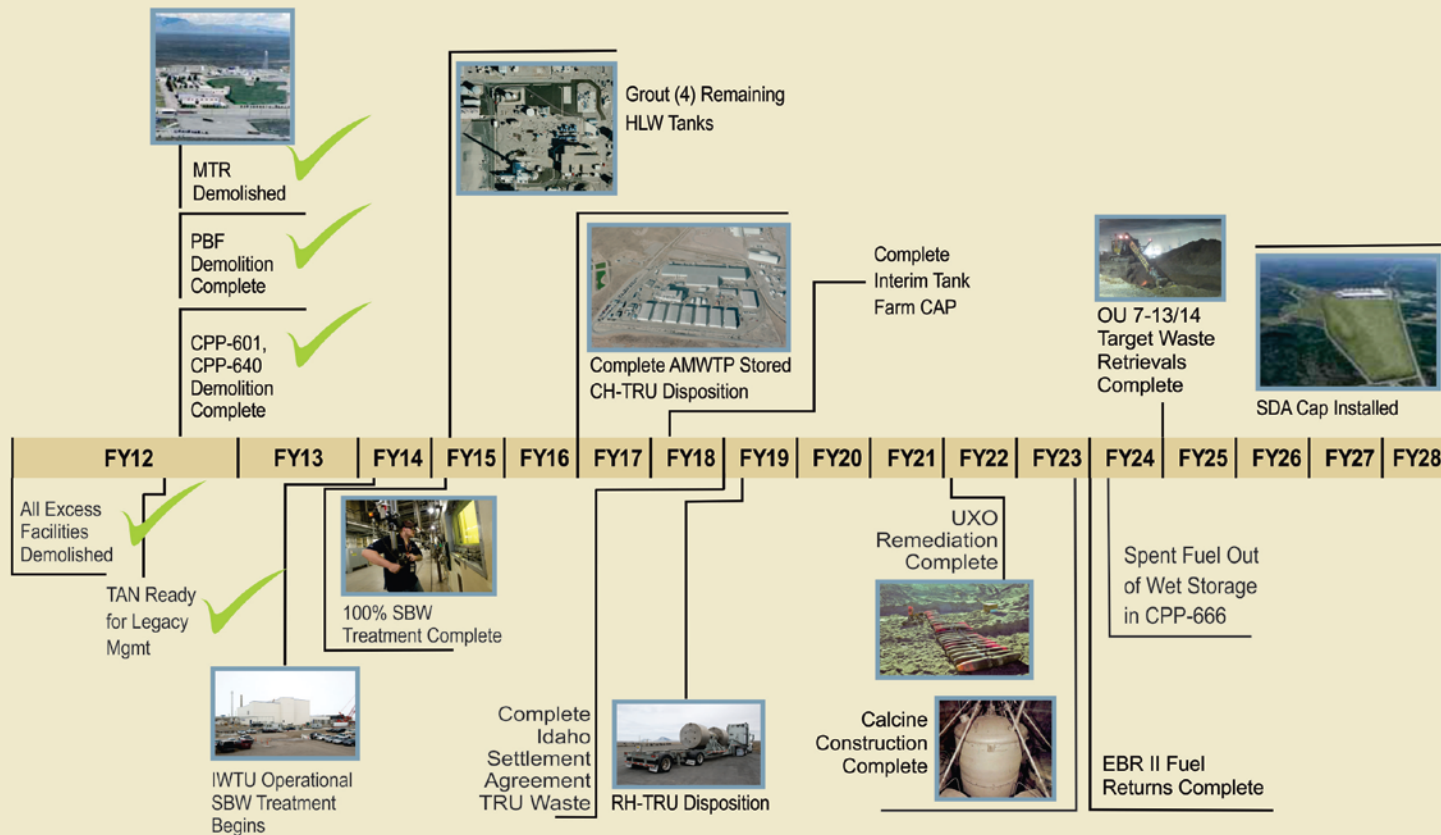


Bottom- Photo taken from reactor main floor (shield block removed) into the cells area and the sub-basement.

Top - D&D workers preparing to start the cut in the 2nd reactor lid lifting column








## Idaho Forecast Cleanup Project Major Milestones



G11-2430-12

# Dashboard Summary for ICP Program

Key Questions	Dashboard Indicator	Comments
Budget Concerns and Issues		An omnibus bill was signed that included funding for Idaho at \$380M defense funding and \$24M for non-defense funding.
Employment/Economic Conditions		Employment/Economic conditions should remain consistent.
Effect on Agreements		Will miss Consent Order for IWTU of 31 Dec 2014. No impact on meeting other current agreements
Safety and Environment		CWI Safety record is exceptional  ITG safety record is slightly declining
ICP Cleanup Condition		TRU shipments on hold

