

Idaho Cleanup Project Progress Citizens Advisory Board April 2014

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EM *Environmental Management*

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



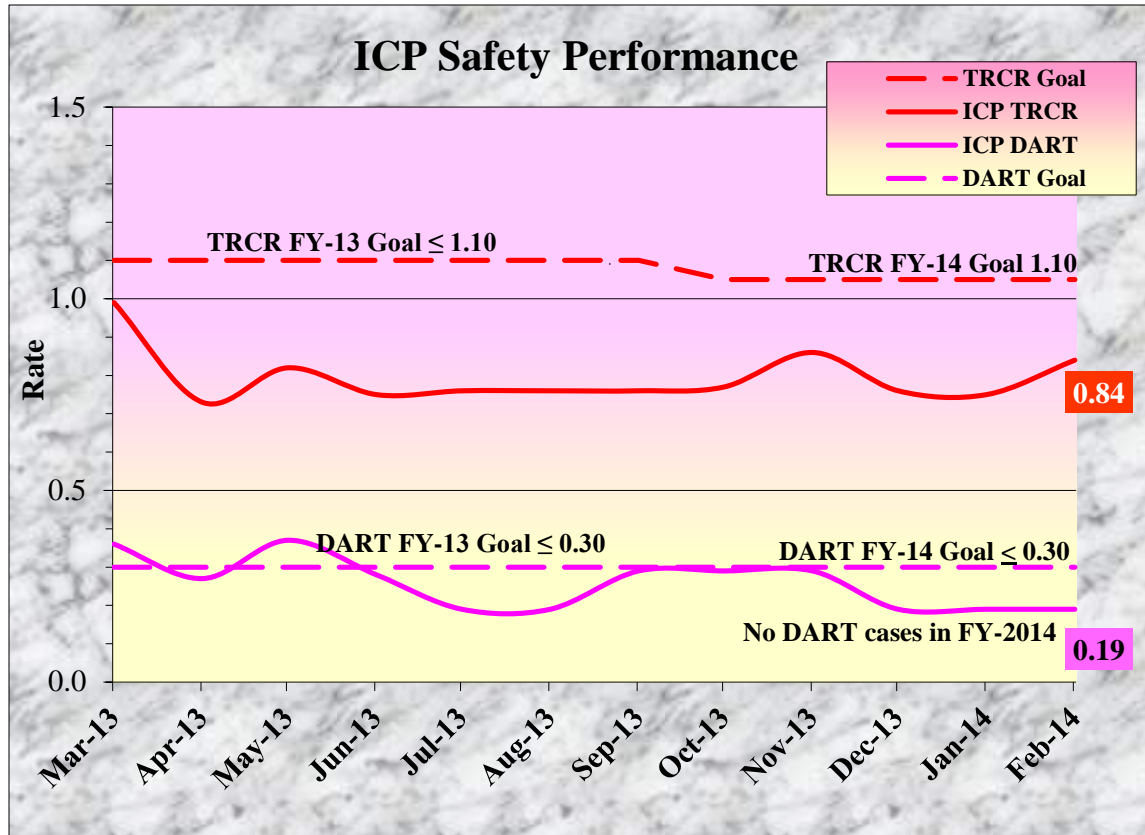
Idaho Cleanup Project Scope

- Sodium Bearing Waste Treatment
- INTEC Liquid Waste Treatment Facility (Tank Farm Closure)
- Calcine Disposition
- Decontamination & Decommissioning
 - MFC (Materials and Fuels Complex)
 - INTEC (Idaho Nuclear Technology and Engineering Center)
 - RWMC (Radioactive Waste Management Complex)



ICP Safety Performance – March 2014

(Data through **February 23, 2014**)



January 2014

One First Aid Case and No Recordable Injuries

One ORPS Reportable Occurrence:

- Positive USQ from PISA for NWCF HEPA filter failure source term

February 2014

Six First Aid Cases and One Recordable Injury

- Employee pinched and fractured a finger tip unfolding a hand cart

Three ORPS Reportable Occurrences:

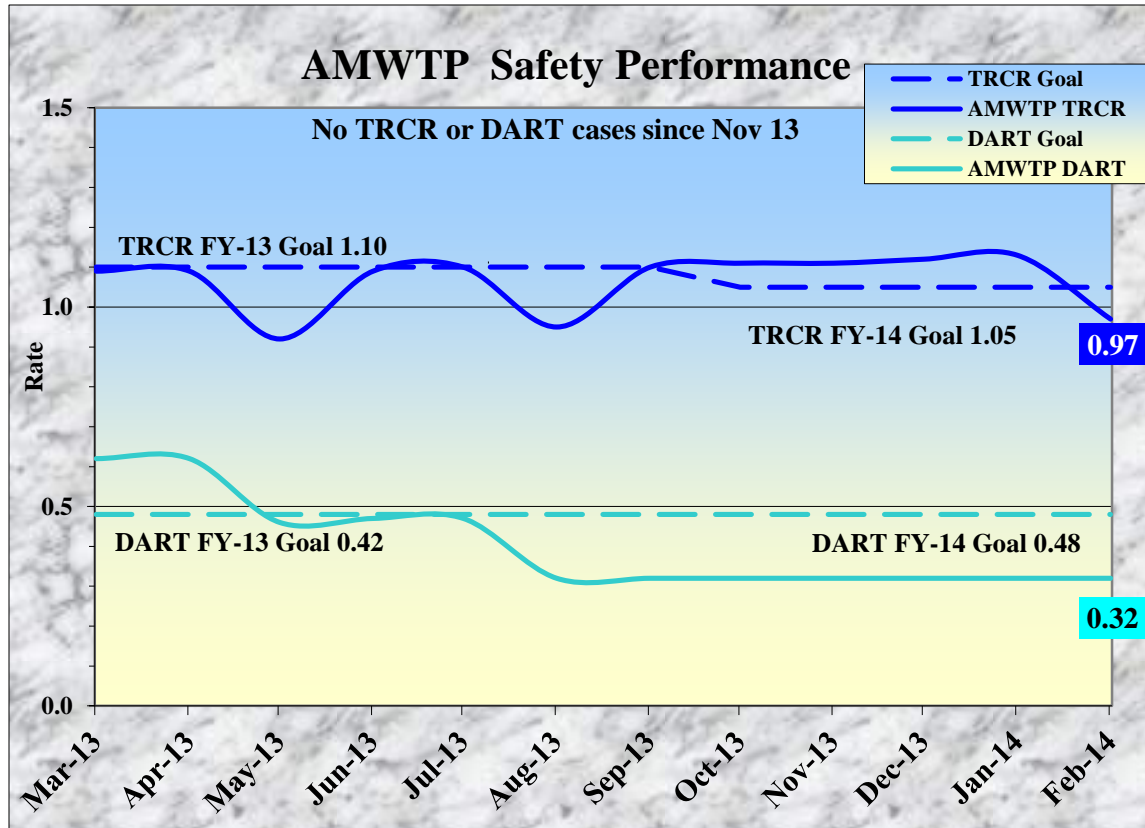
- Unidentified electrical conduit encountered when core drilling through a concrete floor
- Positive USQ from PISA for fuel storage water treatment IX resin degradation
- IWTU spreader bar damaged from contact with Overhead Bridge Crane



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AMWTP Safety Performance – March 2014

(Data through **February 23, 2014**)



January 2014

No First Aid Cases and No Recordable Injuries

No ORPS Reportable Occurrences

February 2014

One First Aid Case and No Recordable Injuries

No ORPS Reportable Occurrences

- Last ORPS reportable occurrence in November 2013



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Remote-Handled Transuranic Waste Disposition

Key Activities/Actions:

- Remote-handled transuranic waste shipments are on hold until WIPP re-opens
- Disposed off site 47.3 m3 of low-level/mixed low-level waste generated from RH-TRU processing
- Completed installation of all sodium distillation system (SDS) in the CPP-666 facility
- Completed SDS component testing and started Management Self-Assessment (MSA)

Upcoming Activities:

- Complete SDS MSA and Contractor Readiness Assessment by the end of May 2014
- Obtain startup approval of the SDS in early June 2014



Assembly of sodium distillation equipment at INTEC



Advanced Mixed Waste Treatment Project



The clamshell tool
grabs a drum of
debris waste



Employees working on
Unoverpacking Project



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Key Activities/Actions:

- Through March 22, 2014, AMWTP operations have shipped over 53,000 cubic meters of waste out of Idaho.
- Shipments to WIPP were expected to resume the week of March 10, 2014; resumption of shipments is unknown at this time.
- Received eight (8) of ten (10) planned shipments of transuranic waste from Los Alamos National Laboratory. Remaining two (2) waste shipments expected to be received by April 5, 2014.
- Full operations in the Treatment are on hold until corrective actions can be put into place to address a Technical Safety Requirement violation that occurred on March 5, 2014 (drums mislabeling).

CERCLA Remediation Project Objectives

- WAG 1: Test Area North (TAN)
 - TAN Groundwater Remediation-In Situ Bioremediation (ISB) Rebound Test is nearing completion in June 2014.
- 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 3.22 acres as of 3/24/2014)
 - 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)



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CERCLA Remediation Projects

Key Activities/Actions:

- After completion of a 20-year-long ordnance investigation, walking over 1,100 miles, the Mass Detonation Area will be closed and transitioned to long-term institutional control program.
- Continued operation of the Test Area North pump and treat facility and vapor vacuum extraction units at the Subsurface Disposal Area
- TAN In Suite Bioremediation Rebound Test completion date, 2014. A 3-5 year extension is being considered for the test so that more information can be obtained.

Upcoming Activities:

- New scope was added to CWI's contract to develop Field Sampling Plans for several New Sites in preparation for remediation.



Mass Detonation Area Disposal Crater



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CERCLA Remediation Projects – Idaho CERCLA Disposal Facility (ICDF)

Key Activities/Actions:

- Received 2,515 gallons of liquid from WAG 3 at INTEC.
- Received a total of 7.67 m³ of waste for landfill disposal from INTEC Tank Farm WAG 3

Upcoming Activities:

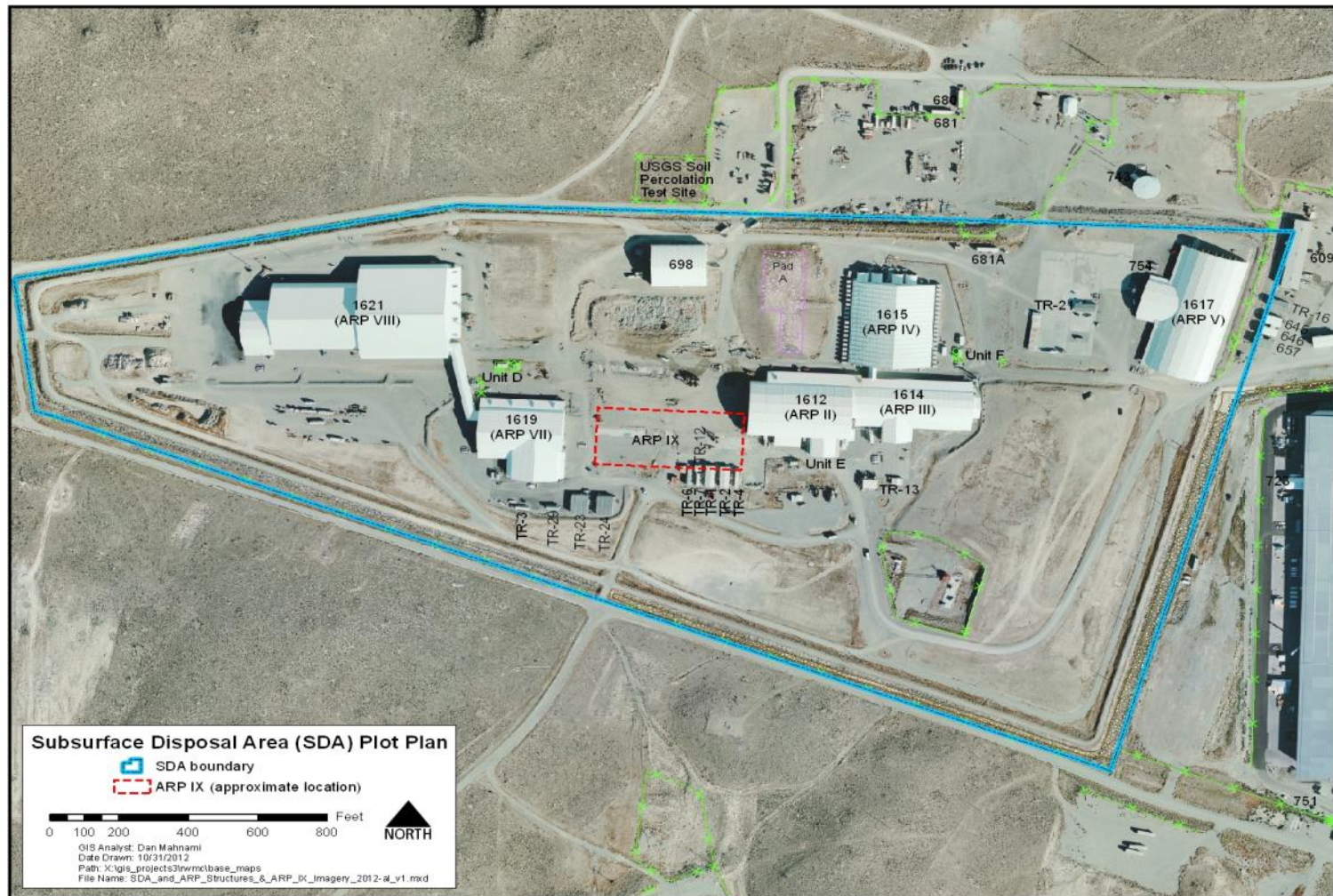
- Continue receipt and disposal of aqueous wastes in Evaporation Ponds
- Dispose of solid waste from environmental restoration actions
- Continue operation and maintenance of ICDF complex processes and facilities



ICDF in late March 2014



Waste Area Group (WAG) 7 Project



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, and VI (Completed)
 - ARP VII: 0.18 acres out of 0.27 acres has been exhumed
 - ARP VIII: 0.03 acres out of 1.72 acres has been exhumed
 - ARP I & VI D&D (Completed)
- Complete in situ grouting of 21 locations (completed)
- Subsurface solvent vapor extraction (OCVZ)
- Environmental monitoring and institutional controls



WAG 7 Project

Key Activities/Actions:

- Continued ARP VII waste exhumation
- Continued ARP VIII waste exhumation, on an as needed bases
- Continuing sludge drum treatment in ARP V (more than 4,500 of 6,000 drums opened/treated as of late March)
- CWI baseline is to exhume 0.51 acres by 9/20/2015, completed 0.12 acres

Upcoming Activities:

- Complete ARP VII exhumations by the end of December 2014.
- Complete 6,000 sludge drum repacking campaign by the end of June 2014.

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



ARP VIII exhumation



Integrated Waste Treatment Unit (SBW) Project

Key Activities/Actions:

- Completed Contractor Readiness Assessment
- Completed DOE Readiness Assessment
 - Five Pre-Start Findings

Upcoming Activities:

- Begin simulant run in April
- Prepare for Radioactive Operation

| 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



INTEC Liquid Waste Facility Closure Project

Key Activities/Actions:

- Completed installation of a cooling coil flush pump.
- Initiated the draining of the cooling coil underground line headers in preparation of flushing the system

Upcoming Activities:

- Complete the draining of the cooling coil underground lines
- Perform demolition and modifications in valve boxes to separate the active and inactive lines from each other

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



Prepping for tank farm work



Spent Nuclear Fuel Disposition Project

Key Activities/Actions:

- Ten cask shipments of SNF received from the Advanced Test Reactor (ATR)
- One Experimental Breeder Reactor (EBR) II shipment made to the Materials and Fuels Complex
- Held public meeting for Three Mile Island-2 license renewal process with the Nuclear Regulatory Commission in DC

Upcoming Activities:

- Continue SNF cask receipts from ATR
- Continue EBR-II Fuel transfer
- Transfer West Valley Casks From rail cars to cask storage pad
- Continue to prepare Three Mile Island's NRC license renewal application

| Metric | FY 14 Baseline |
|--|-----------------|
| Ship Advanced Test Reactor fuel Ship EBR-II | 15 ATR 6 EBR |



Fuel movement in CPP-666



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Calcine (HLW) Disposition

Project Objectives:

DOE shall treat all high-level waste currently at INL so that it is ready to be moved out of Idaho for disposal by a target date of 2035. (Idaho Settlement Agreement)

- Design and construct processing facility using IWTU structure
- Treat Calcine
- Package treated waste form
- Store resultant canisters pending shipment out of State
- Perform RCRA performance-based closure on existing HLW facilities

Calcine (HLW) Disposition Project

Key Activities/Actions:

- Continue to support DEQ's review of RCRA Part B Permit



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

Completed Activities:

- Completed removal of the MFC-799 Sodium Storage Tank
- Completed affected, small bore, & dead leg sodium contaminated pipe removal from MFC-766
- Initiated fabrication of MFC-766 evaporator treatment mock-up assembly

Upcoming Activities:

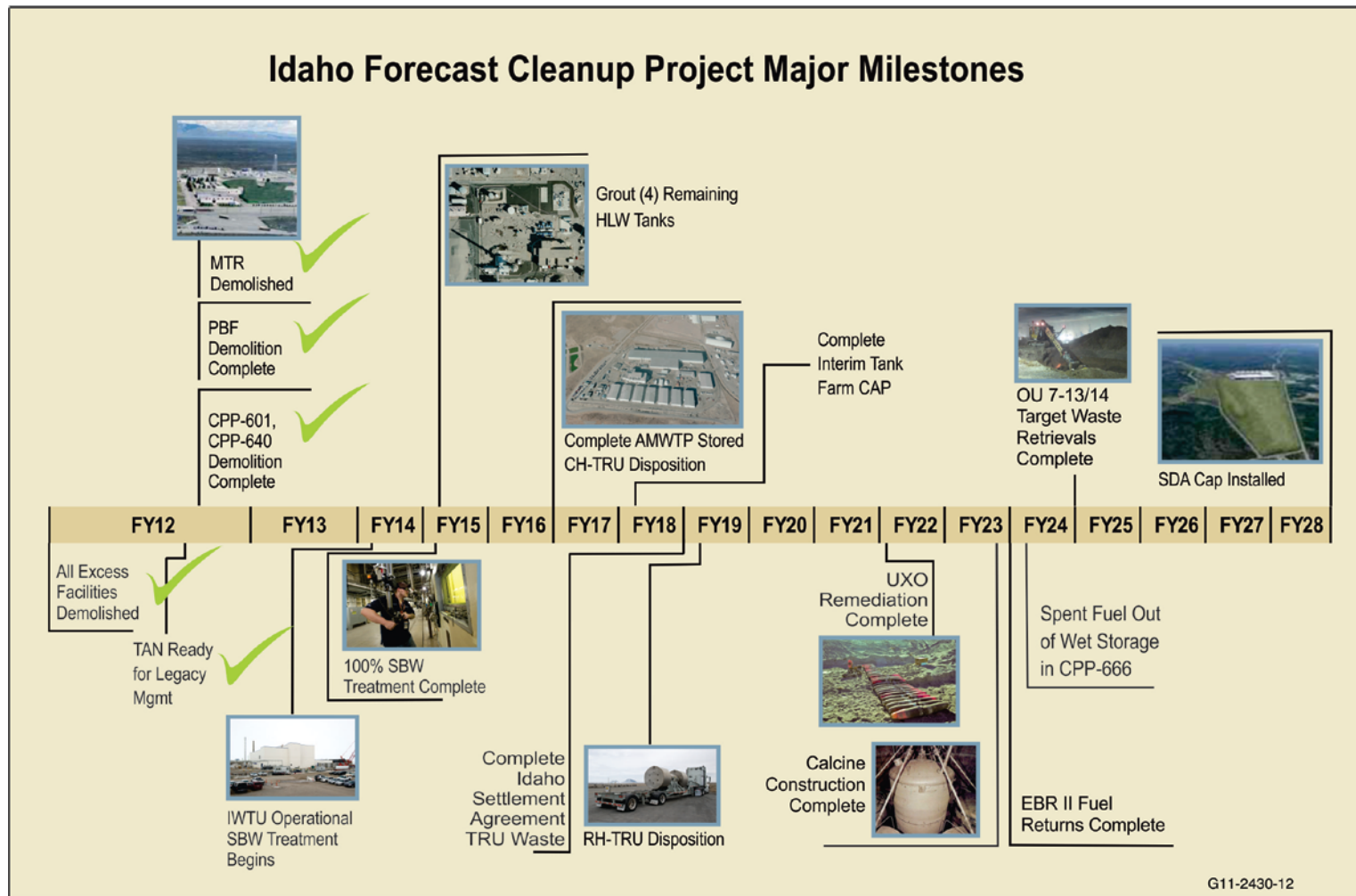
- Complete MFC-766 evaporator treatment mock-up assembly testing
- Initiate removal of the balance of sodium contaminated piping from MFC-766








Removal of sodium-contaminated piping



Idaho Completion Project Milestones



Dashboard Summary for ICP Program

| Key Questions | Dashboard Indicator | Comments |
|--------------------------------|---|---|
| Budget Concerns and Issues |  | An appropriation for FY14 has been signed. Appropriations provides adequate funding for ITG and CWI. |
| Employment/Economic Conditions |  | Employment/Economic conditions should remain consistent. |
| Affect on Agreements |  | No impact on meeting current agreements |
| Safety and Environment |  | CWI Safety record is exceptional ITG safety record is at targets and improving |
| ICP Cleanup Condition |  | ICP continues to support WIPP – Meet scheduled TRU shipments |

