



*Idaho Cleanup Project Progress  
Citizens Advisory Board  
June 2013 Status*

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# *Idaho Cleanup Project Scope*

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- 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*

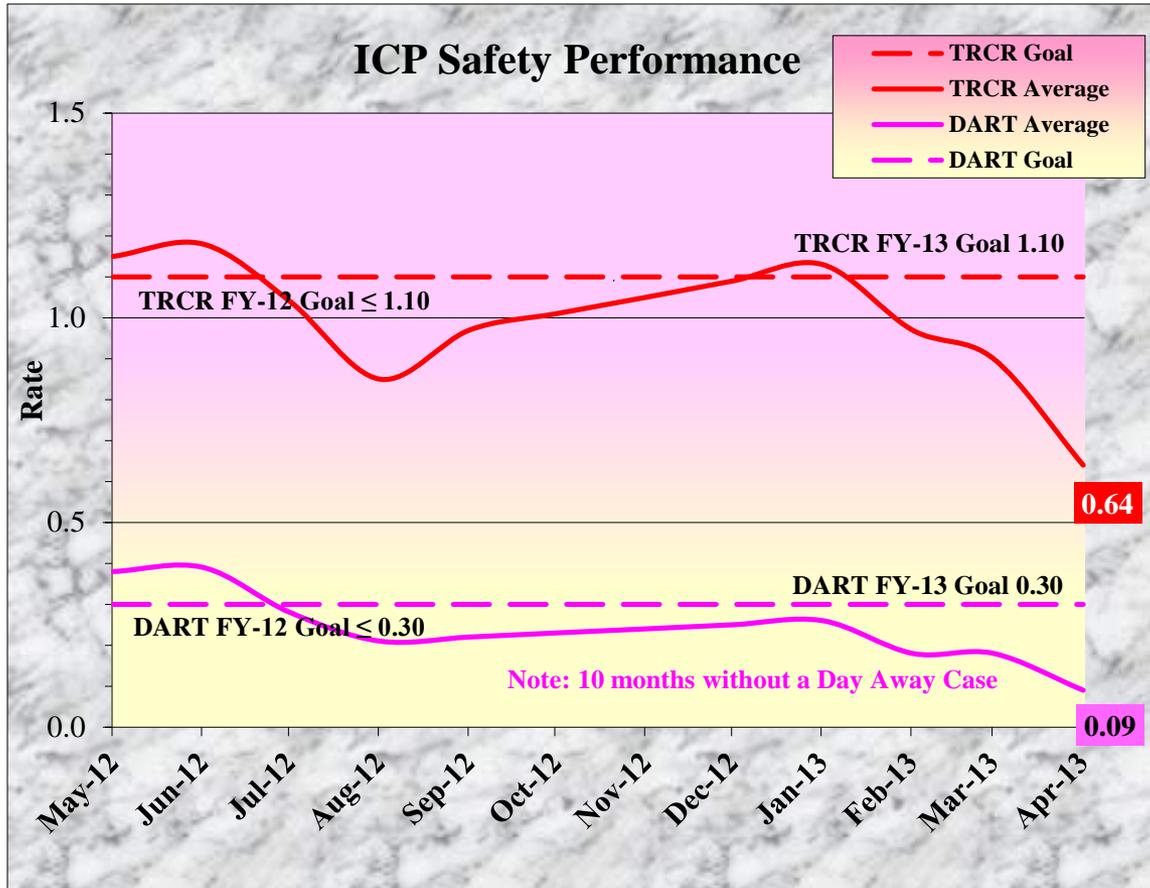
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- Sodium Bearing Waste Treatment
- INTEC Liquid Waste Treatment Facility (Tank Farm Closure)
- Spent Nuclear Fuel Dry Storage (Completed)
- Calcine Disposition
- Decontamination & Decommissioning
  - TAN (Test Area North)
  - PBF (Power Burst Facility)
  - ATR (Advanced Test Reactor)
  - MFC (Materials and Fuels Complex)
  - INTEC (Idaho Nuclear Test and Engineering Complex)
  - RWMC (Radioactive Waste Materials Complex)



# ICP Safety Performance – June 2013

(Data through April 2013)



## March 2013

### Three First Aid Cases and One Recordable Injury

- A worker strained his back while working underneath a counter

### Two ORPS Reportable Occurrences

- Air Dryer Fire Inside Boiler House CPP-606
- Missed Technical Safety Requirement (TSR) Surveillance Requirement

## April 2013

### One First Aid Case and No Recordable Injuries

### One ORPS Reportable Occurrences:

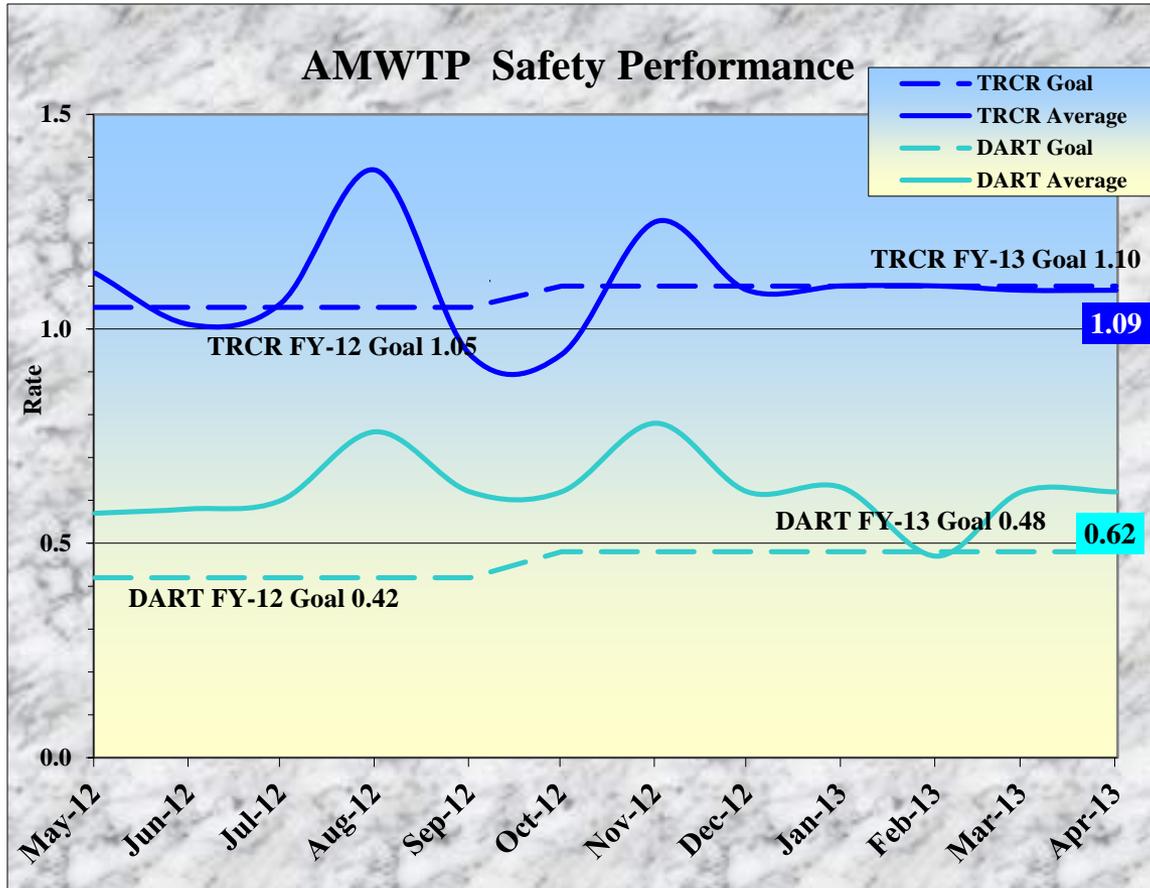
- Limiting Condition for Operations (LCO) Entered for Fuel Storage in CPP-666



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# AMWTP Safety Performance – June 2013

(Data through April 2013)



## March 2013

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

- An employee suffered a strained shoulder during puck handling in glovebox.

### Four ORPS Reportable Occurrences:

- Repackaged Drum Exceeds Allowable Fissile Material Content
- Failure To Follow USQ Process
- Fire in Treatment Facility Boxline
- Injury During Manual Puck Handling Results in Surgery

## April 2013

### One First Aid Case and No Recordable Injuries:

### One ORPS Reportable Occurrence:

- Failure To Comply With Operational Restrictions Implemented From A PISA Determination Results In TSR Violation



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# *Advanced Mixed Waste Treatment Project*



Retrieval Operations employees demonstrate degraded box retrieval during the Contractor Readiness Assessment (CRA)

## **Key Activities/Actions:**

- Continued shipment of TRU waste to WIPP
- ITG continued to maintain shipping to meet the identified baseline, “Blue line”, production goals.
- Successfully completed a Contractor Readiness Assessment (CRA) to manually repackage degraded boxes and resumed box retrieval.
- Received approval from New Mexico Environment Department to eliminate the requirement for coring head space gas and RCRA sampling
- Received approval from Idaho DEQ to use super compaction to treat prohibited items (i.e. aerosol cans, sealed containers, and liquids). Began direct compaction of prohibited items.
- Currently working with Los Alamos National Laboratory to receive and process off-site transuranic waste during first quarter 2014.



# *Transuranic Waste Disposition*

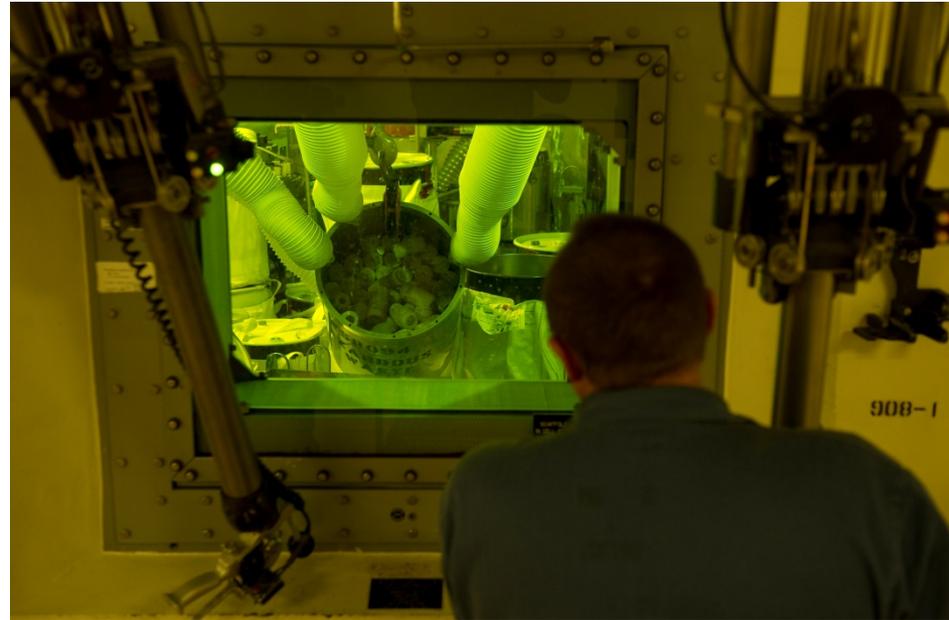
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## **Key Activities/Actions:**

- Completed 44 shipments to date in FY13 of remote-handled transuranic waste to WIPP
- Submitted RCRA permit modification request for the Sodium Distillation System per the state requirement; DEQ is reviewing
- Submitted air permit application for Sodium Distillation System to DEQ and EPA
- Submit ARP-V air permit modification for Inorganic Sludge Drums to DEQ and EPA

## **Upcoming Activities:**

- Continue ARP V sludge repack
- Receive agency approval on permit modification request and air permit application for sodium distillation.
- Continue RH-TRU shipments to WIPP
- Acquire ARP-V air permit modification



RH-RTU repackaging in CPP-659



# *CERCLA Remediation Project Objectives*

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- 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 3.11 acres](#))
  - 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*

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## **Key Activities/Actions:**

- Completed munitions and explosives of concern field work at the Twin Buttes Bombing Range
- Submitted the final Operational Unit (OU) 10-04 Phase I Remedial Action Report to the IDEQ and EPA
- Conducted soil moisture and groundwater monitoring at ICDF, WAGs 1, 3, and 7

## **Upcoming Activities:**

- Conduct Munitions and Explosives of Concern (MEC) field work at the Arco High Altitude Bombing Range
- Conduct soil remediation at ANL-65, Steel Shot North of MFC
- Continued operation of the TAN pump and treat facility and OCVZ units at SDA
- Submit the WAG 7 Phase 1 RD/RA Work Plan for ARP VIII exhumation



Ordnance Discovery During WAG-10 Remediation



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

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## **Key Activities/Actions:**

- Received a total of 19,227 gallons of liquid waste at the Evaporation Ponds this fiscal year
- Continuing to perform annual preventative maintenance
- Performing performance checks of the facility's pump systems and calibrating the truck scale

## **Upcoming Activities:**

- Continue receipt and disposal of aqueous wastes in Evaporation Ponds
- Continue operation and maintenance of ICDF complex processes and facilities



ICDF landfill in May 2013



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

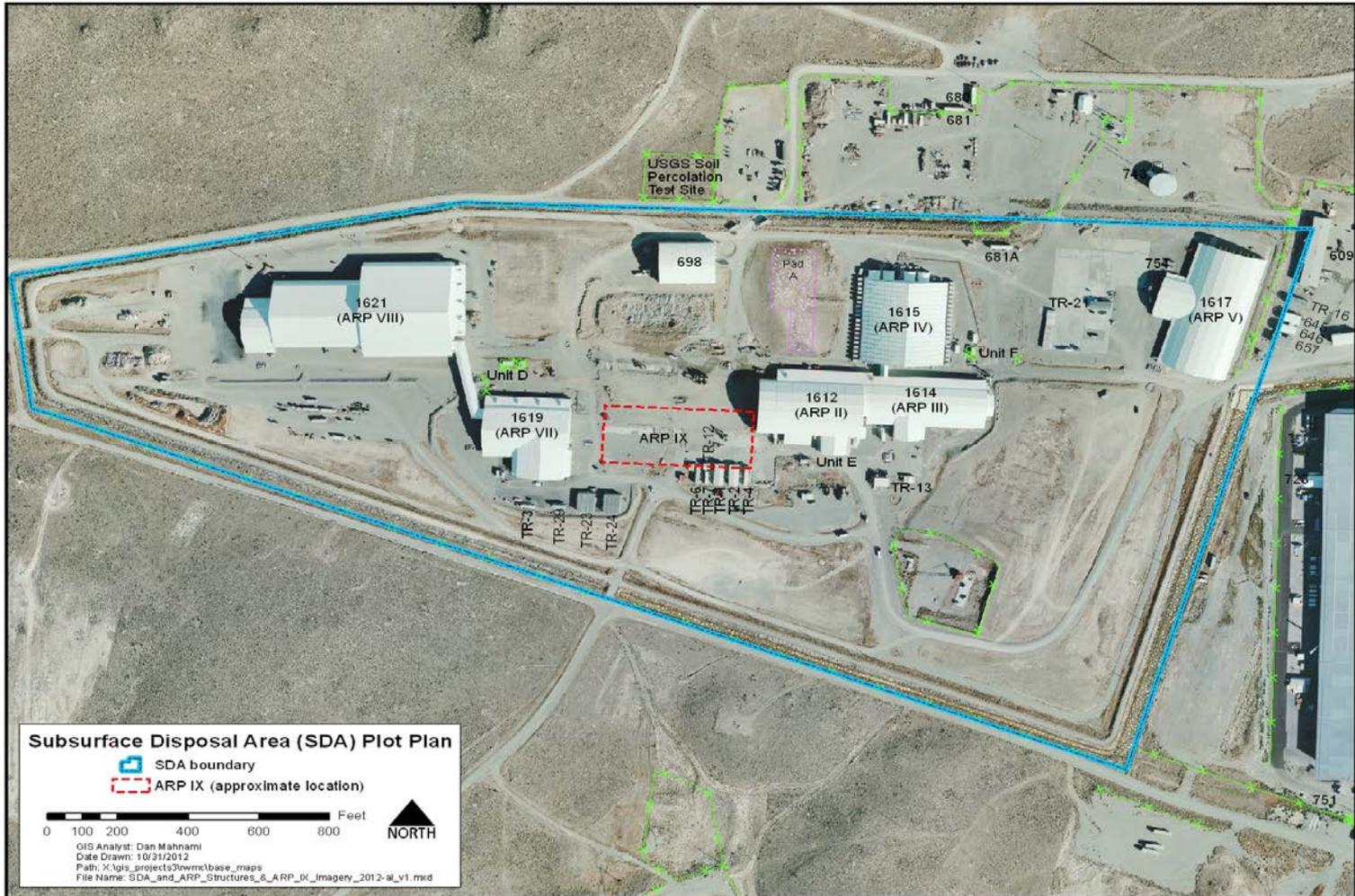
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- Complete remediation work in accordance with the Record of Decision (ROD) for OU 7-13/14
- Conduct Targeted Waste Retrieval at the Accelerated Retrieval Projects (ARP) and disposition waste:
  - ARP I, II, IV, V, and VI (Completed)
  - ARP III exhumation completed 0.38 of 0.43 acres
  - ARP VII exhumation completed 0.15 acres of 0.27 acres
  - ARP VIII construction (Completed)
  - ARP I & VI D&D (Completed)
- Complete in situ grouting of 21 locations (completed)
- Subsurface solvent vapor extraction (OCVZ)
- Environmental monitoring and institutional controls



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# WAG 7 Project (cont'd)



# WAG 7 Project

## Key Activities/Actions:

- Contractor cost savings will allow for buried waste exhumation to resume this year
  - 10-grid area under ARP III
  - ARP VIII
- ARP crew members being rehired and retrained
- Processed 1,530 drums to date of RCRA sludge waste inside ARP V as of May 29, 2013.

## Upcoming Activities:

- Continue ARP V sludge repack
- Demolish the ARP III vestibule
- Begin ARP VIII management self assessment and readiness assessment

Metric	Actual (CTD)	Goal (9/30/15)
Exhume targeted buried waste	-	0.46 acres



ARP V sludge drum repackaging



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

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## Upcoming Activities:

- Install MFC-799 sodium treatment system
- Perform MFC-799 Management Self Assessment
- Initiate MFC-799 sodium treatment



Sodium treatment system preparations



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

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- Design, construct and test the Sodium Bearing Waste Treatment Facility (Completed)
- Complete facility improvement modifications
- Operate the Sodium Bearing Waste Treatment Facility
- Drain sodium-bearing waste material from tanks



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

## **Key Activities/Actions:**

- Initiated full-scale mockup testing to evaluate DMR ring header and fluidizing gas rail design performance
- Major plant modifications identified from June 16, 2012 event completed

## **Upcoming Activities:**

- Complete DMR ring header/fluidizing gas rail full-scale testing
- Complete remaining facility modifications
- Prepare for readiness review

Metric	Actual (CTD)	Goal (9/30/15)
Treat sodium-bearing waste	-	820,000 gallons to loss of suction
Package sodium-bearing waste	-	700 canisters filled
Process tank "heels"	-	360,000 gallons



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

## **Key Activities/Actions:**

- Completed demolition of selected piping within the C-37 valve box, which will allow for separation of active piping from inactive piping that is scheduled for closure
- Completed shop fabrication of the remaining two Upper Grout Arms and eight Upper Grout Mast Assemblies
- Initiated piping modifications inside C-37

## **Upcoming Activities:**

- Drain and flush the cooling coil underground supply and return main header lines outside of the tanks
- Continue pipe installation in valve box C-37
- Obtain PE certification of the C-37 piping modifications
- Continue fabrication of the four Lower Grout Arms

Metric	Actual (CTD)	Goal (9/30/15)
Close liquid waste tanks	-	4 tanks



C-37 piping before demolition



C-37 piping after demolition



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# *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 (suspended at this time)**
- **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 receipt and unloading of Advanced Test Reactor casks (14 of 15 completed as of 6/5/2013)

## Upcoming Activities:

- Continue receipt and unloading of ATR casks
- Continue cask shipments to NRF

Metric	Actual (CTD)	Goal (9/30/15)
Receive, unload, and store Advanced Test Reactor fuel	14	45 casks



Fuel movement during the winter



# *Calcine (HLW) Disposition Project Objectives*

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**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, paragraph C.3)**

- 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*

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### **Key Activities/Actions:**

- Continue to support state review of RCRA Part B Permit



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