

# ICP

## IDAHO CLEANUP PROJECT

### ICP Progress Overview

*Presented by*

**Allen Schubert**

**Vice President, Strategic Planning**

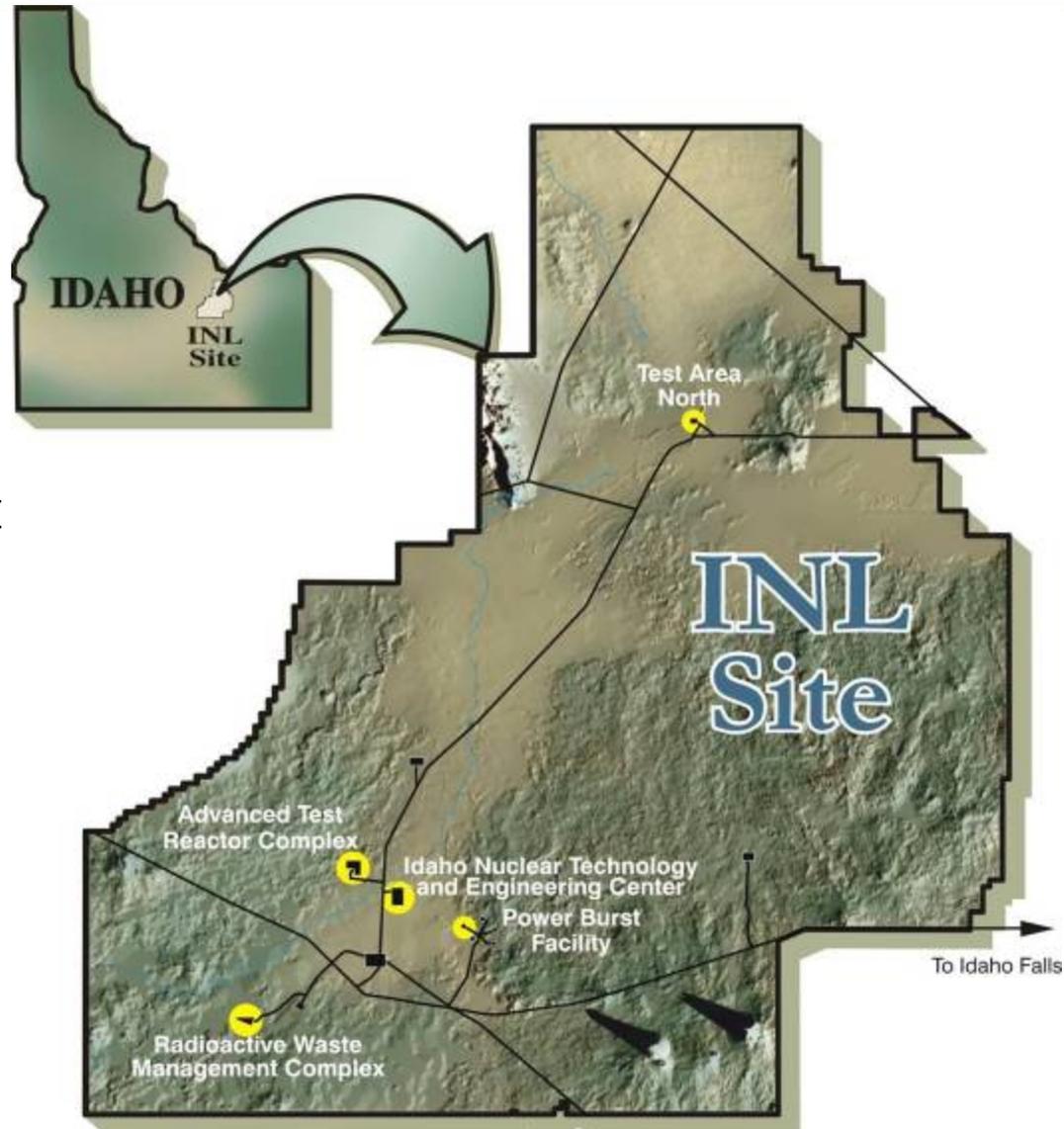
May 2009



**SAFELY PLAN • MOTIVATE • DELIVER**

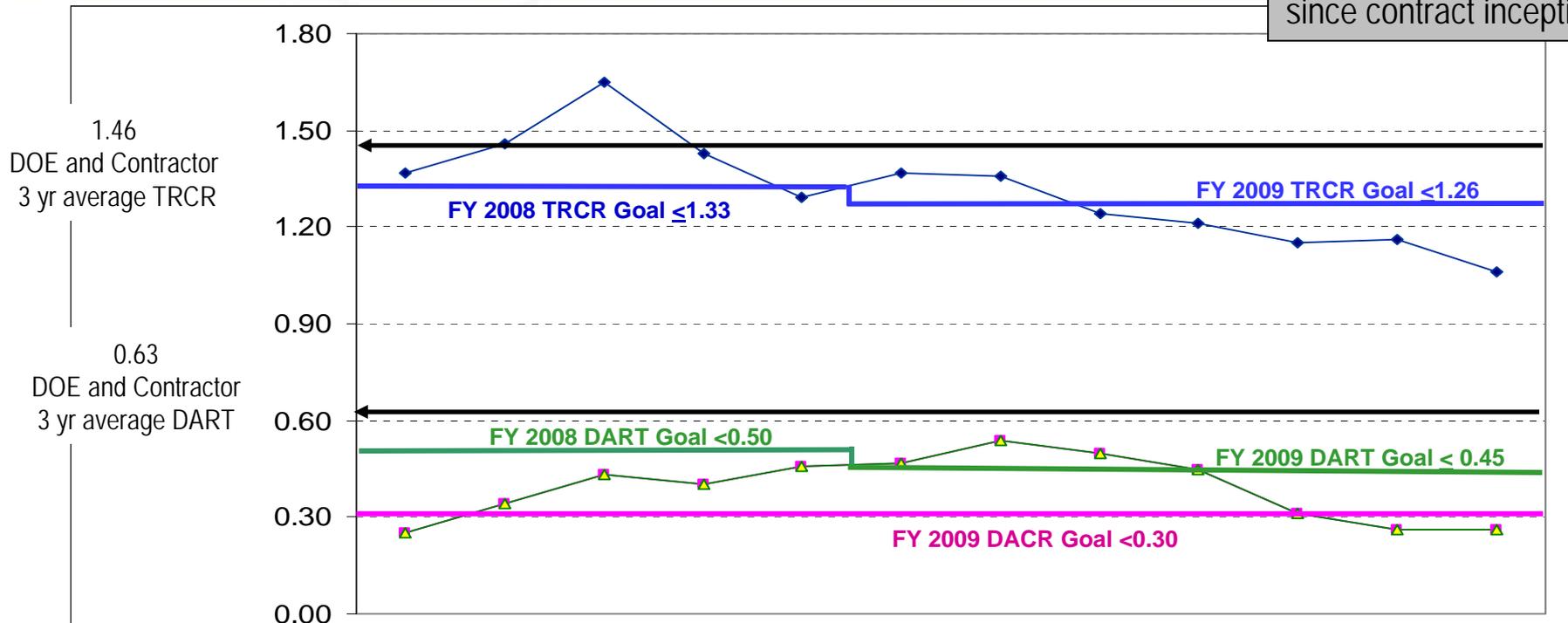
# Idaho Cleanup Project

- ◆ Cleanup centered around five major project areas in addition to miscellaneous sites
- ◆ Scope includes
  - Facility decontamination and decommissioning
  - Sodium-bearing waste treatment and disposition
  - Nuclear material disposition
  - Spent nuclear fuel stabilization and storage
  - Environmental restoration
  - Waste management



# Environmental, Safety and Health Status

In April, reached 2 million man hours without a lost workday injury (first time since contract inception)



	May-08	Jun-08	Jul-08	Aug-08	Sep-08	Oct-08	Nov-08	Dec-08	Jan-09	Feb-09	Mar-09	Apr-09
◆ TRCR	1.37	1.46	1.65	1.43	1.29	1.37	1.36	1.24	1.21	1.15	1.16	1.06
■ DART	0.25	0.34	0.43	0.40	0.46	0.47	0.54	0.50	0.45	0.31	0.26	0.26
▲ DACR	0.25	0.34	0.43	0.40	0.46	0.47	0.54	0.50	0.45	0.31	0.26	0.26

Total Recordable Case Rate (TRCR)

Day Away Case Rate (DACR)

Day Away, Restricted, or Transfer Rate (DART)

# Environmental, Safety and Health Status

## ◆ Accomplishments

- Received numerous awards and recognitions for Voluntary Protection Program (VPP) including:
  - ◆ DOE STAR of Excellence Award for three years of safety performance well below industry average
  - ◆ DOE Contractor Champions Award for performance and leadership in advancing VPP
  - ◆ National VPP Participant's Association (NVPPPA) Innovation Award for the CWI-Light Zone safety video series – employee produced, based on behavior observation data and current trends



DOE STAR of Excellence



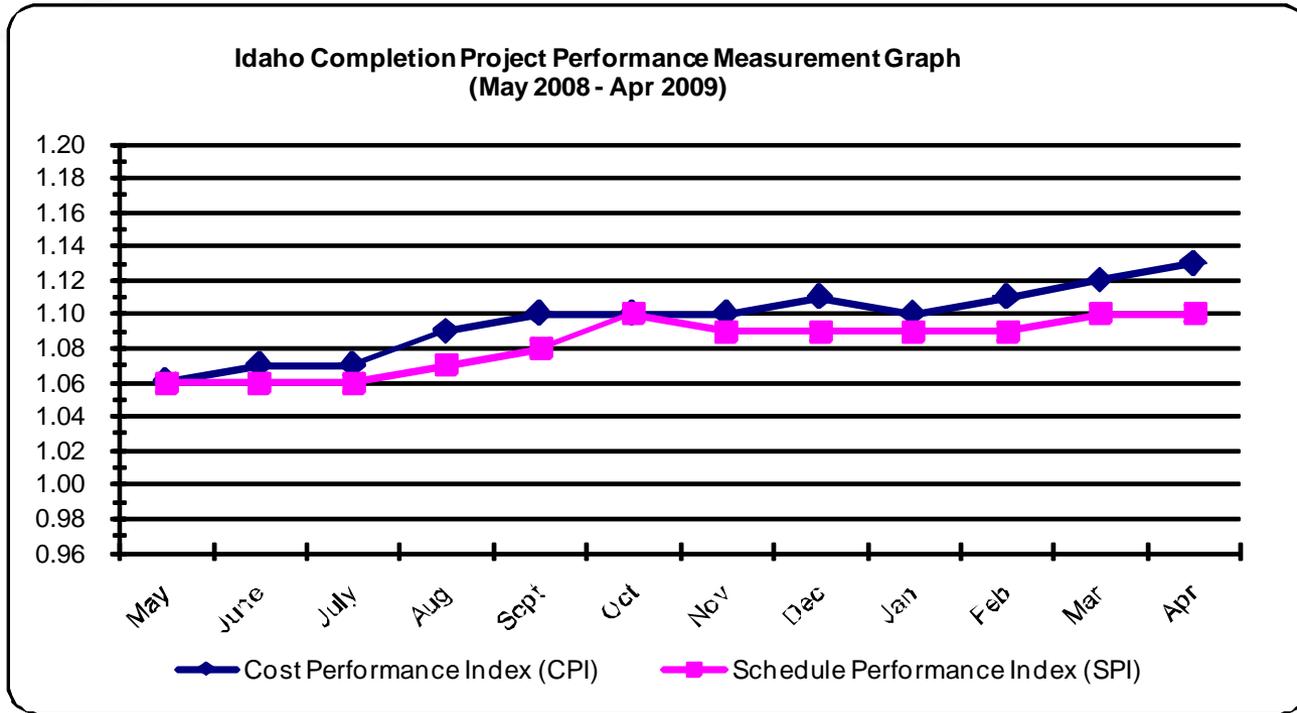
DOE Contractor  
Champions Award –  
Jeff Long



NVPPPA Innovation Award

## **CWI-Light Zone #11: The Unsafe Adventures of Napoleon CWI-namite**

# Project Performance



	May	June	July	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Apr
<b>Cumulative</b>												
CPI	1.06	1.07	1.07	1.09	1.10	1.10	1.10	1.11	1.10	1.11	1.12	1.13
SPI	1.06	1.06	1.06	1.07	1.08	1.10	1.09	1.09	1.09	1.09	1.10	1.10

## Scope

- ◆ Demolish or otherwise disposition facilities and structures
  - 36 industrial
  - 21 radiological (moderately contaminated)
  - 14 nuclear facilities (reactor vessels, spent nuclear fuel basins, fuel reprocessing and handling facilities)
  - 100 other structures



Demolish buildings/structures

171 buildings/structures

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Baseline goal  
through April 2009: **89**

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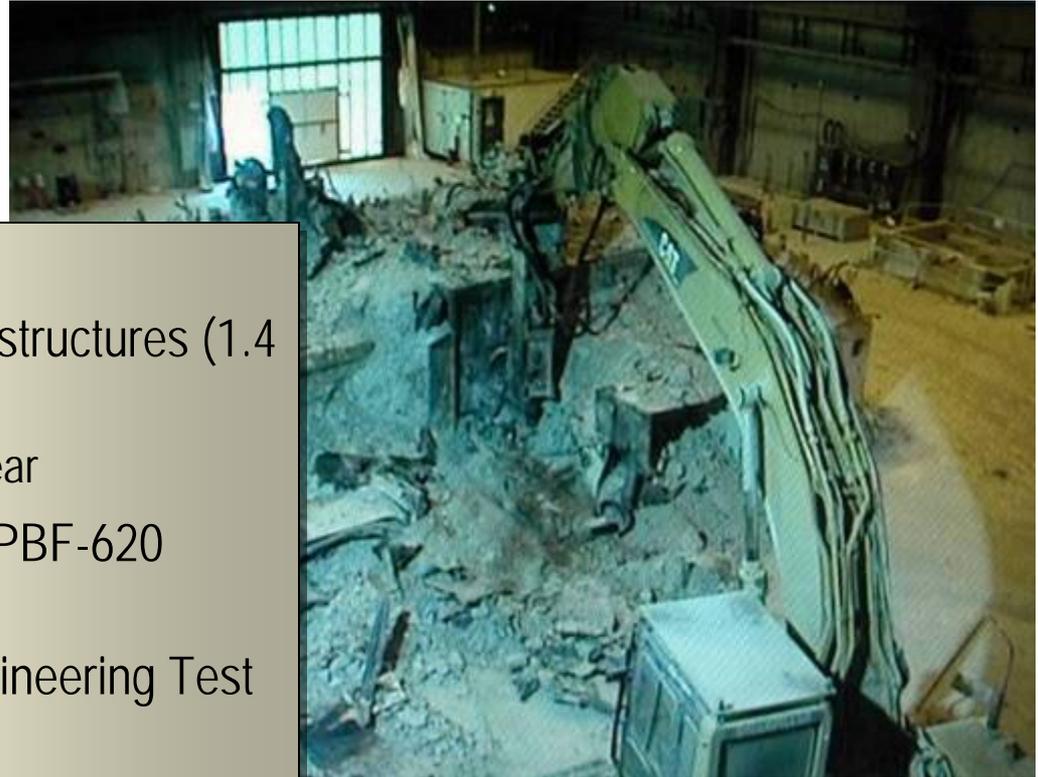
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**129 buildings demolished**

## Scope

- ◆ Demolish or otherwise disposition facilities and structures
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## Accomplishments

- ◆ Completed 129 of 171 total facilities/structures (1.4 million square feet)
  - 29 industrial, 16 radiological, 7 nuclear
- ◆ Completed removal and disposal of PBF-620 reactor vessel
- ◆ Completed Test Area North and Engineering Test Reactor D&D

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171 buildings/structures



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## Look Ahead

- ◆ Continue D&D activities at Materials Test Reactor
- ◆ Continue internal deactivation of CPP-601/640
- ◆ Continue demolition of Zero Power Physics Reactor (ZPPR)

Demolish buildings/structures

171 buildings/structures



Baseline goal through April 2009: **89**

**129 buildings demolished**

# Power Burst Facility demolition and vessel removal



# Power Burst Facility



# Sodium-bearing waste/ Integrated Waste Treatment Unit

## Scope

- ◆ Design and construct IWTU
- ◆ Process 900,000 gallons of sodium-bearing waste
- ◆ Store processed waste until determination to ship

IWTU construction



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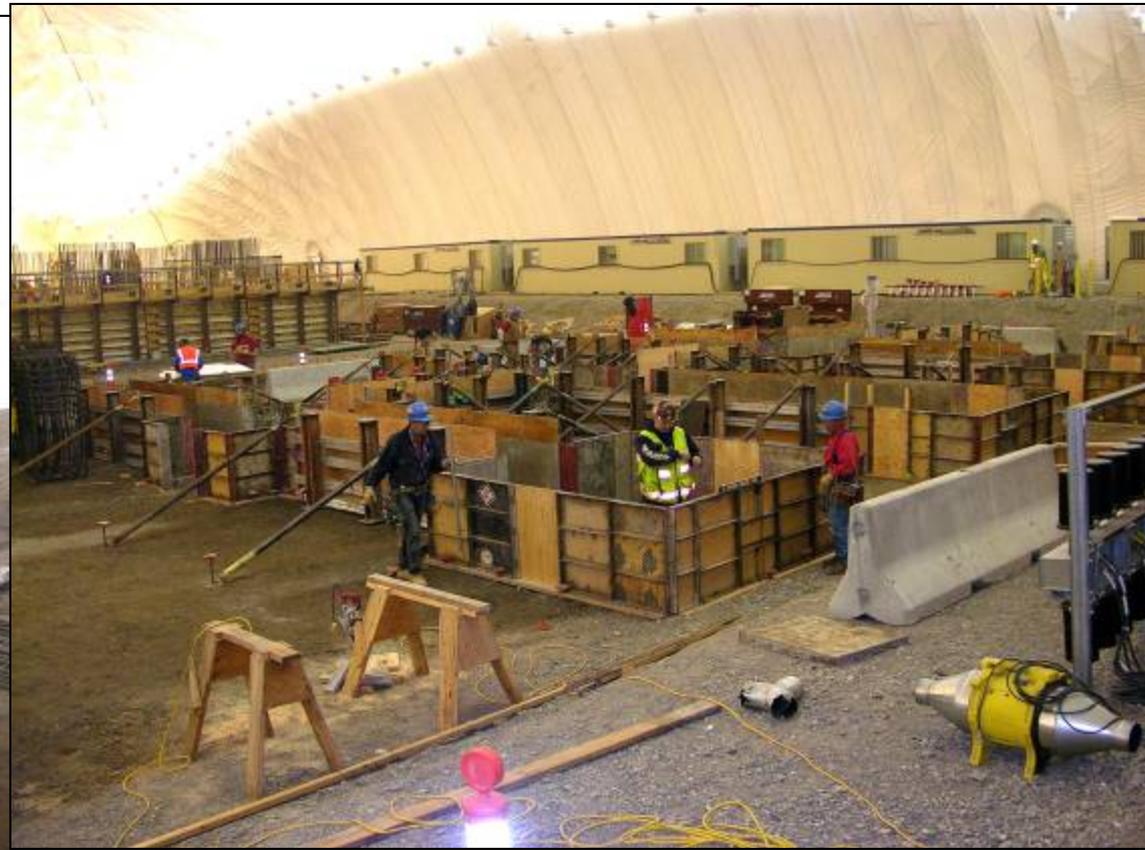


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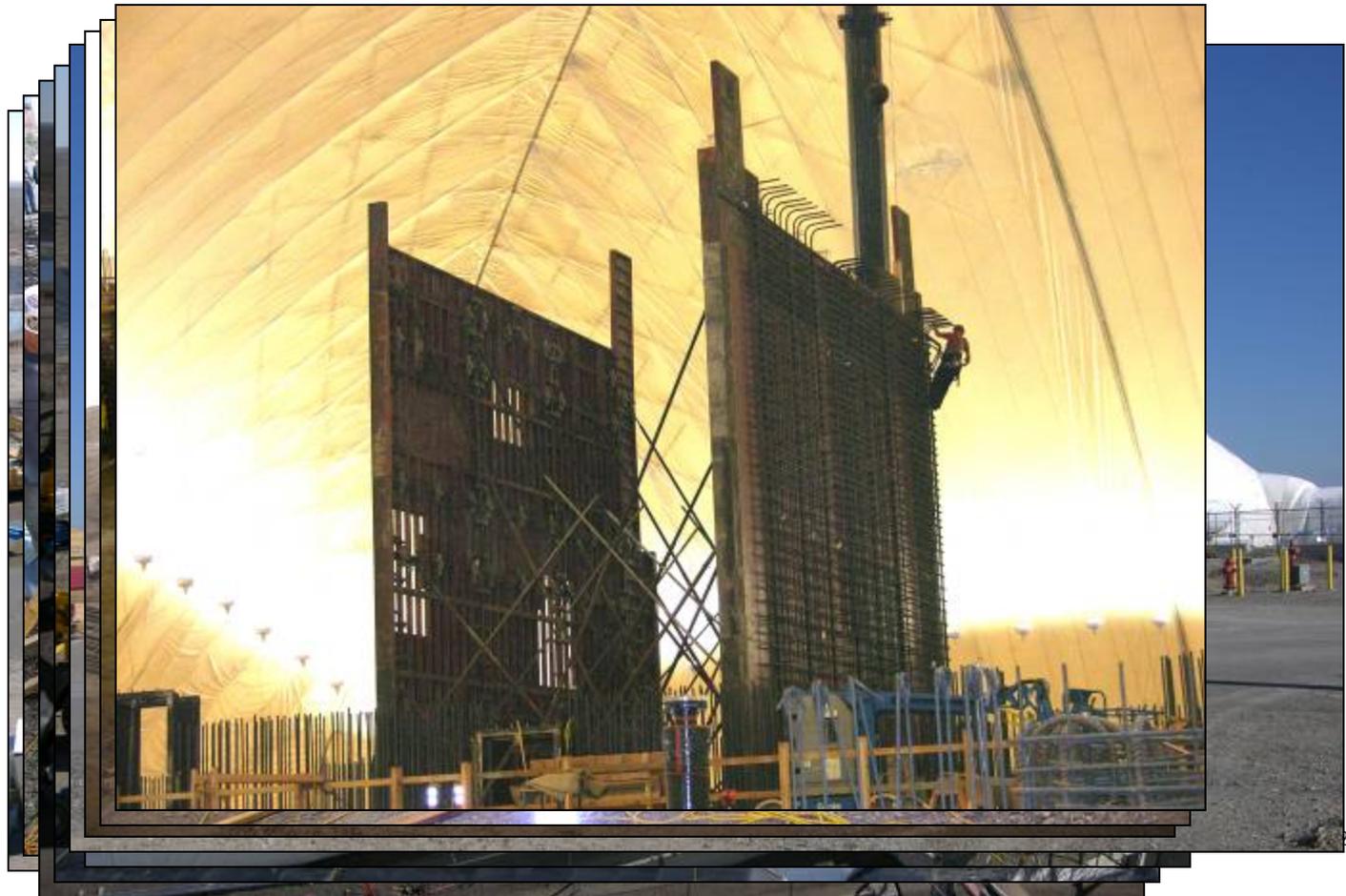


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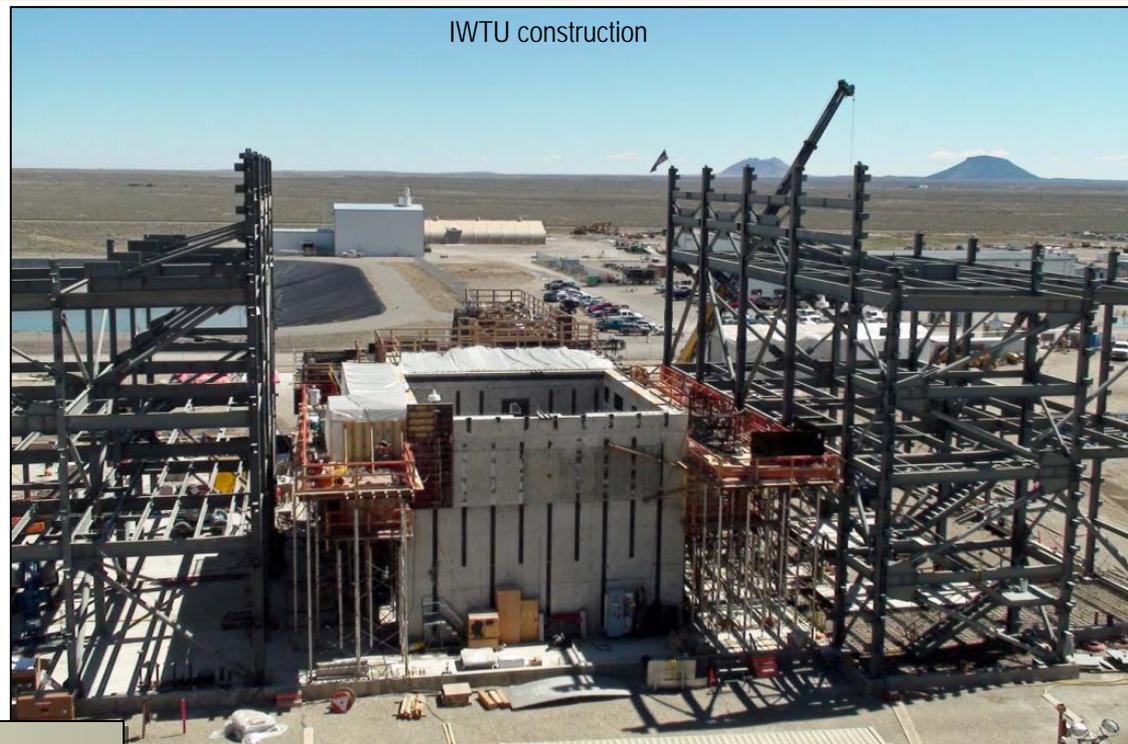
## Accomplishments

- ◆ Removed the weather enclosure
- ◆ Completed and released all Balance of Plant Isometric drawings
- ◆ Project 60 percent complete; construction 26 percent complete

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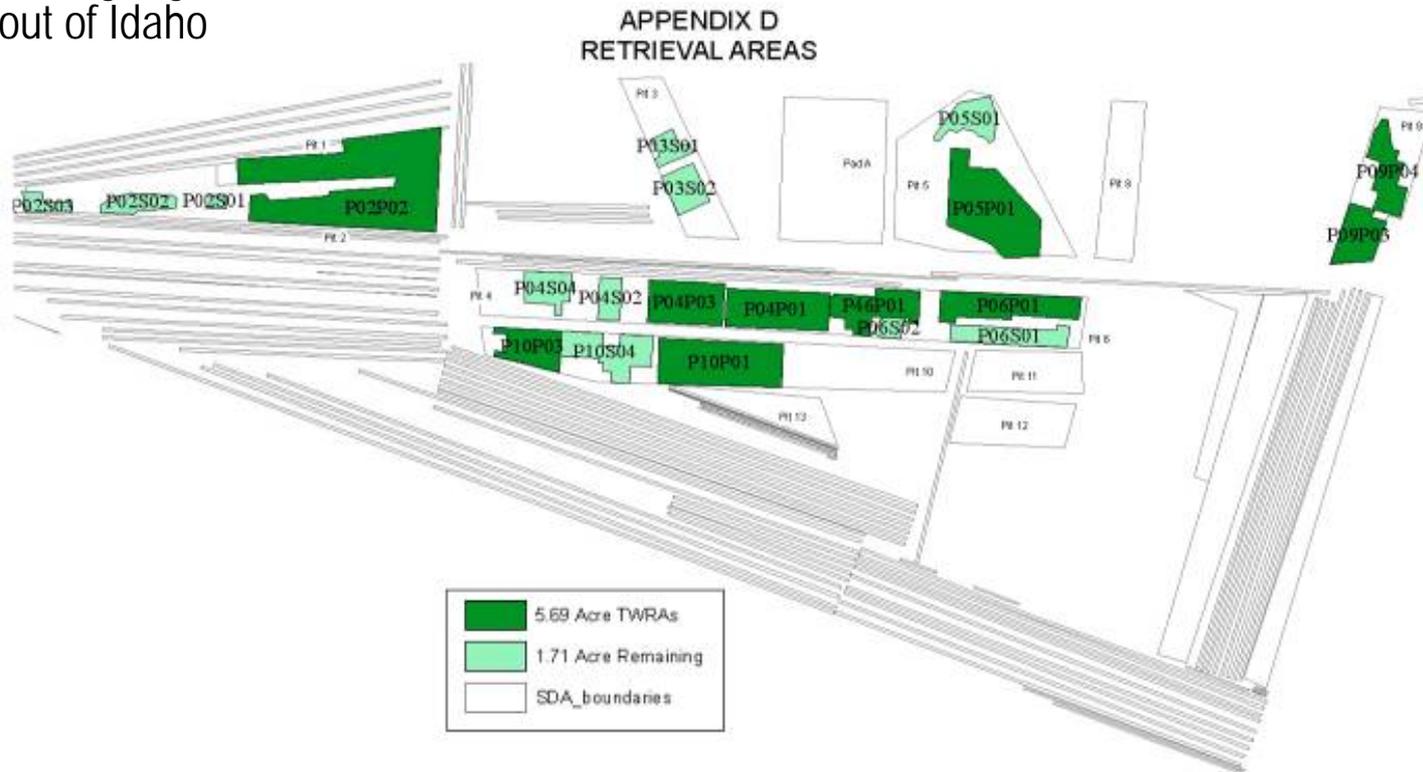
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## Look Ahead

- ◆ Construction completion set for August 2010
- ◆ Startup set for April 2011
- ◆ Treatment complete by end of 2012

# Buried Waste

- ◆ On July 1, DOE, Idaho, and EPA reached an agreement on buried waste to settle “All Means All” lawsuit
  - DOE will exhume “targeted” waste from 5.7 to 7.4 acres within Subsurface Disposal Area
    - ◆ No less than 7,485 cubic meters of plutonium-contaminated debris, oxidized uranium, and wastes containing organic solvents will be shipped out of Idaho
- ◆ Total remedy cost estimated at more than \$1.3 billion, target completion 2018

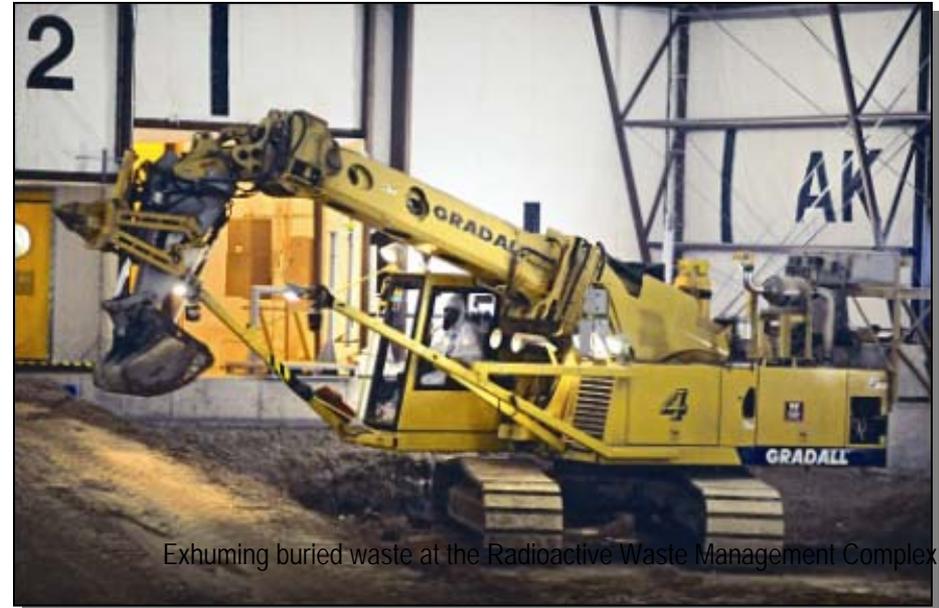


# Buried Waste

## Scope

- ◆ Retrieve targeted waste from approximately 2.8 acres\* of the Subsurface Disposal Area (Accelerated Retrieval Project)

\*Changed to 2.55 acres as a result of final Record of Decision



Exhume targeted waste

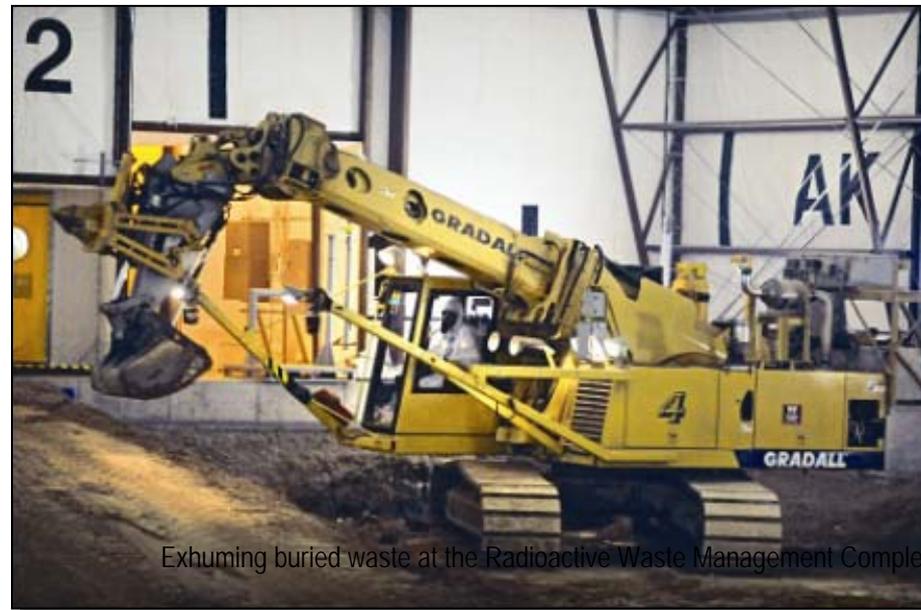
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Exhuming buried waste at the Radioactive Waste Management Complex

Exhume targeted waste

2.55 acres

Baseline goal  
through April 09: **0.91**

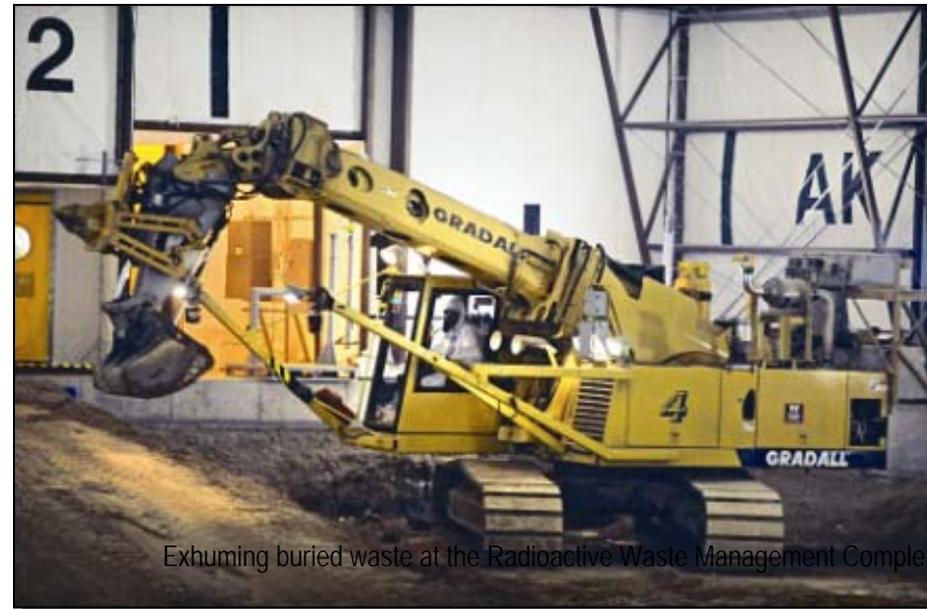


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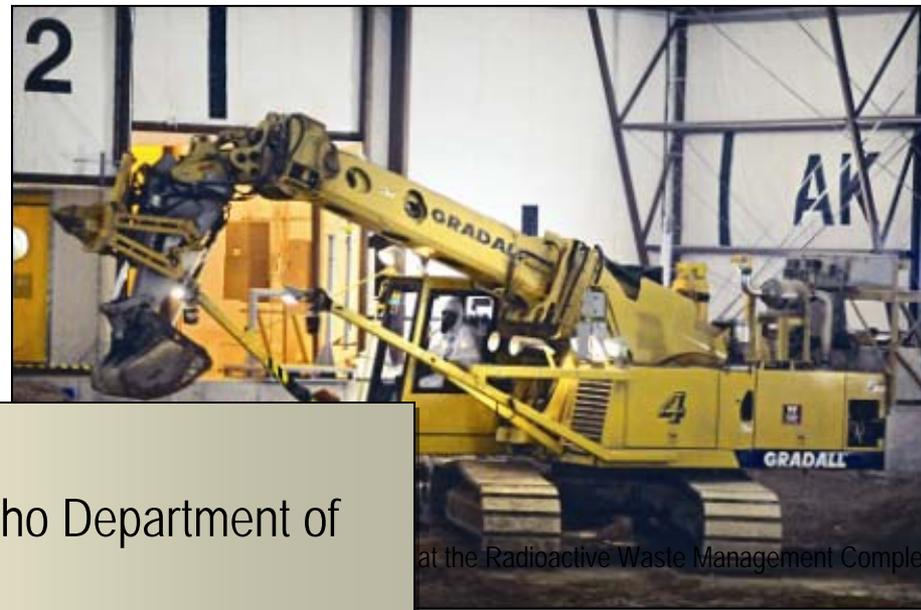
**0.95 acres complete**

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## Accomplishments

- ◆ Record of Decision signed by DOE/EPA/Idaho Department of Environmental Quality
- ◆ Completed fabrication and delivery of all steel components for the Accelerated Retrieval Project (ARP) IV exhumation facility
- ◆ Retrieved 2,732 m<sup>3</sup> of buried waste from the Subsurface Disposal Area

Exhume targeted waste

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through April 09: **0.91**

**0.95 acres complete**

# Spent Nuclear Fuel

## Scope

- ◆ Transfer legacy, EM-owned spent nuclear fuel (SNF) from wet storage in the CPP-666 storage pool to appropriate dry storage by September 2009
- ◆ Receive and store SNF from the Advanced Test Reactor
- ◆ Provide safe, regulatory-compliant, routine operations for INTEC SNF handling and storage facilities until



## Accomplishments

- ◆ Transferred 75 percent of spent nuclear fuel assemblies from wet to dry storage
- ◆ Commenced Shippingport fuel transfers
- ◆ Completed eighth fuel transfer to Naval Reactors Facility

## Look Ahead

- ◆ Begin design for Experimental Breeder Reactor II campaign under stimulus funding
- ◆ Resume transfers for Shippingport and Advanced Test Reactor fuels
- ◆ Receive fuel from two domestic reactors

Transfer spent nuclear fuel from wet to dry

Baseline goal through April 2009: 2,396

3,186 units

2,396 units complete

# Nuclear Material Disposition

## Scope

- ◆ Dispose of all legacy, Environmental Management (EM)-owned, unirradiated special nuclear materials by September 30, 2009



Disposition nuclear material items

692 items

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692 items complete<sup>46</sup>

# Waste Management Services

## Scope

- ◆ Transuranic waste
  - Retrieve, characterize, and ship remote-handled (RH) and contact-handled (CH) transuranic waste to Waste Isolation Pilot Plant (WIPP)
- ◆ Low-level and low-level mixed waste
  - Provide waste management, packaging, and transportation services to Idaho National Lab and Idaho Cleanup Project
  - Dispose of low-level waste at the RWMC (until 2008)
  - Provide offsite disposal of low-level and mixed low-level waste
  - Operate the Idaho CERCLA Disposal Facility (ICDF)
  - Repack, treat, and/or dispose of mixed low-level waste backlog



RH TRU waste inspection

RH-TRU shipments

218 shipments

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Baseline goal  
through April 2009: **91**

**199 shipments complete**

218 shipments

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## Accomplishments

- ◆ RH TRU
  - Completed 199 of 218 shipments of remote-handled (RH) transuranic waste to WIPP
- ◆ CH TRU
  - Completed 187 of 1,484 contact-handled waste shipments to WIPP
- ◆ Low-level/mixed low-level
  - Dispositioned 28,073 cubic meters



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RH-TRU shipments



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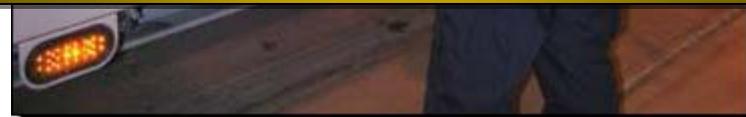
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## Look Ahead

- ◆ Start up automated high production/repackaging process in CPP-666
- ◆ Complete first ARRA RH –TRU shipment to WIPP in September (based on Carlsbad approval)



RH-TRU shipments



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218 shipments

# Key Challenges

- ◆ Continuous safety improvement
- ◆ Achieve and sustain productivity as we construct the Integrated Waste Treatment Unit



IWTU  
construction  
progress

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- ◆ Continuous safety improvement
- ◆ Achieve and sustain productivity as we construct the Integrated Waste Treatment Unit
- ◆ Sustain recent excellent performance in exhumation of buried waste at the Subsurface Disposal Area



IWTU  
construction  
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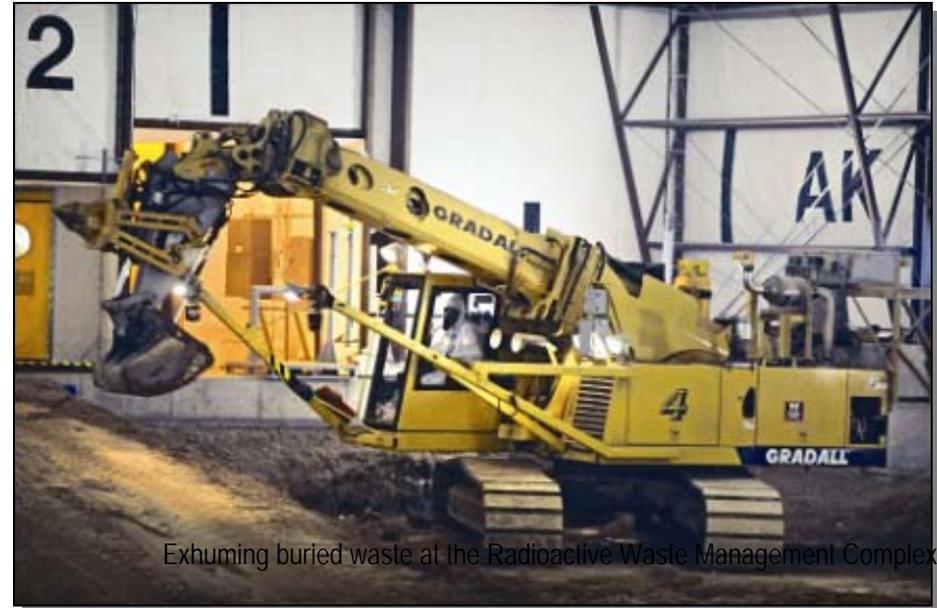
Workers sort  
excavated  
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Exhume targeted waste

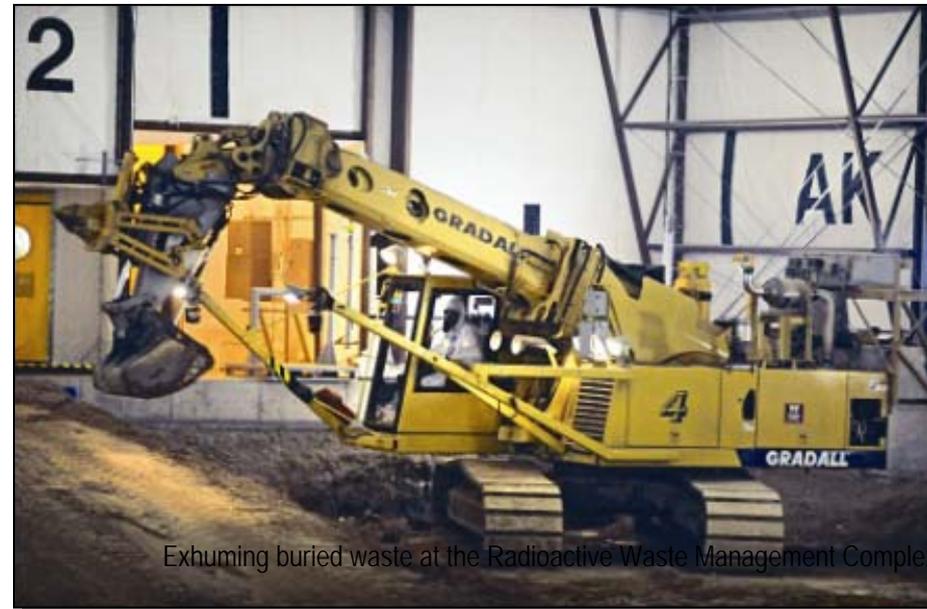
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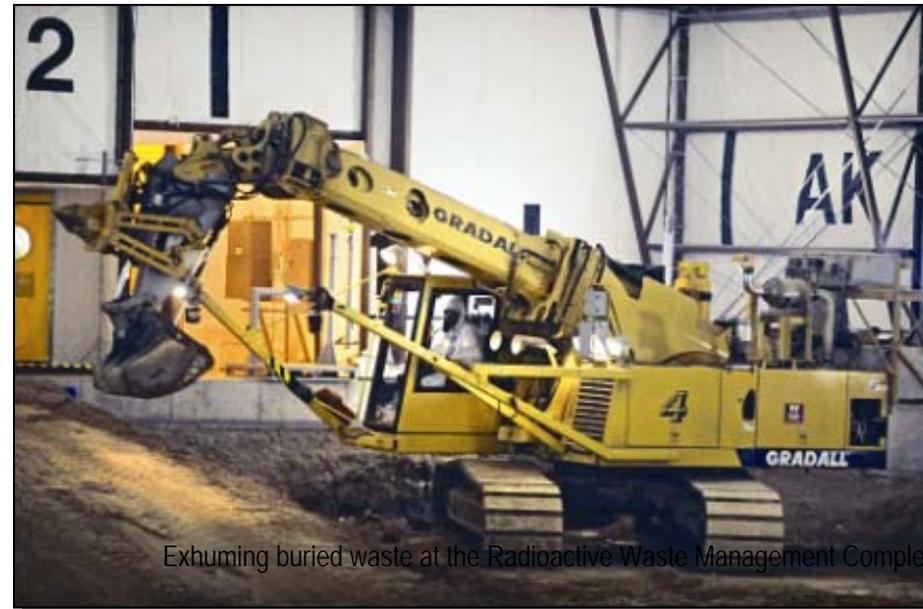
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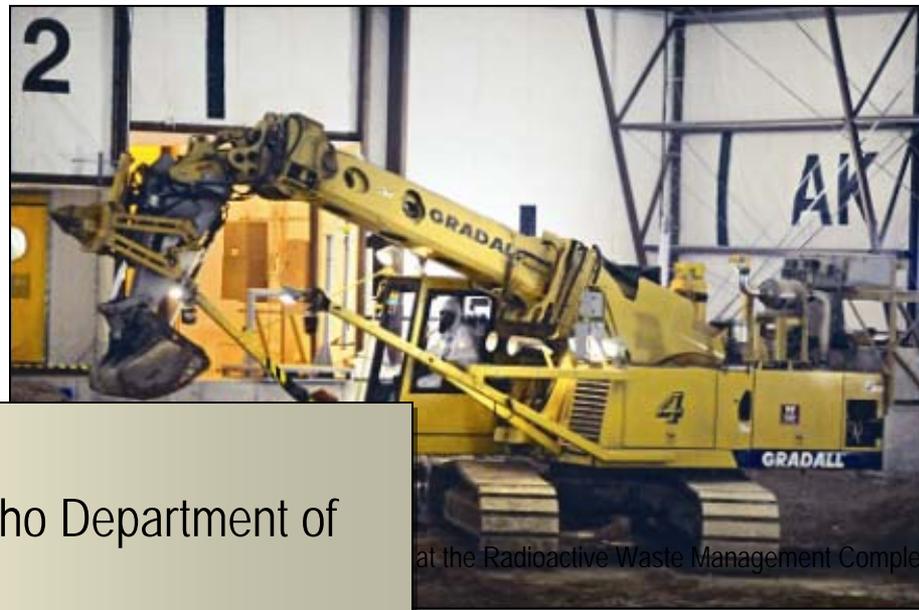
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## Look Ahead

- ◆ Complete exhumation in ARP II
- ◆ Complete ARP IV construction by September 2009

Exhume targeted waste

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**0.95 acres complete**