



U.S. DEPARTMENT OF  
**ENERGY**

OFFICE OF  
**ENVIRONMENTAL  
MANAGEMENT**

# CHBWV Project Update

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CH2M HILL B&W West Valley, LLC.

Quarterly Public Meeting  
November 19, 2014

[www.wv.doe.gov](http://www.wv.doe.gov)

# Safety Share



## 1 Million Safe Work Hours without a Lost Time Accident

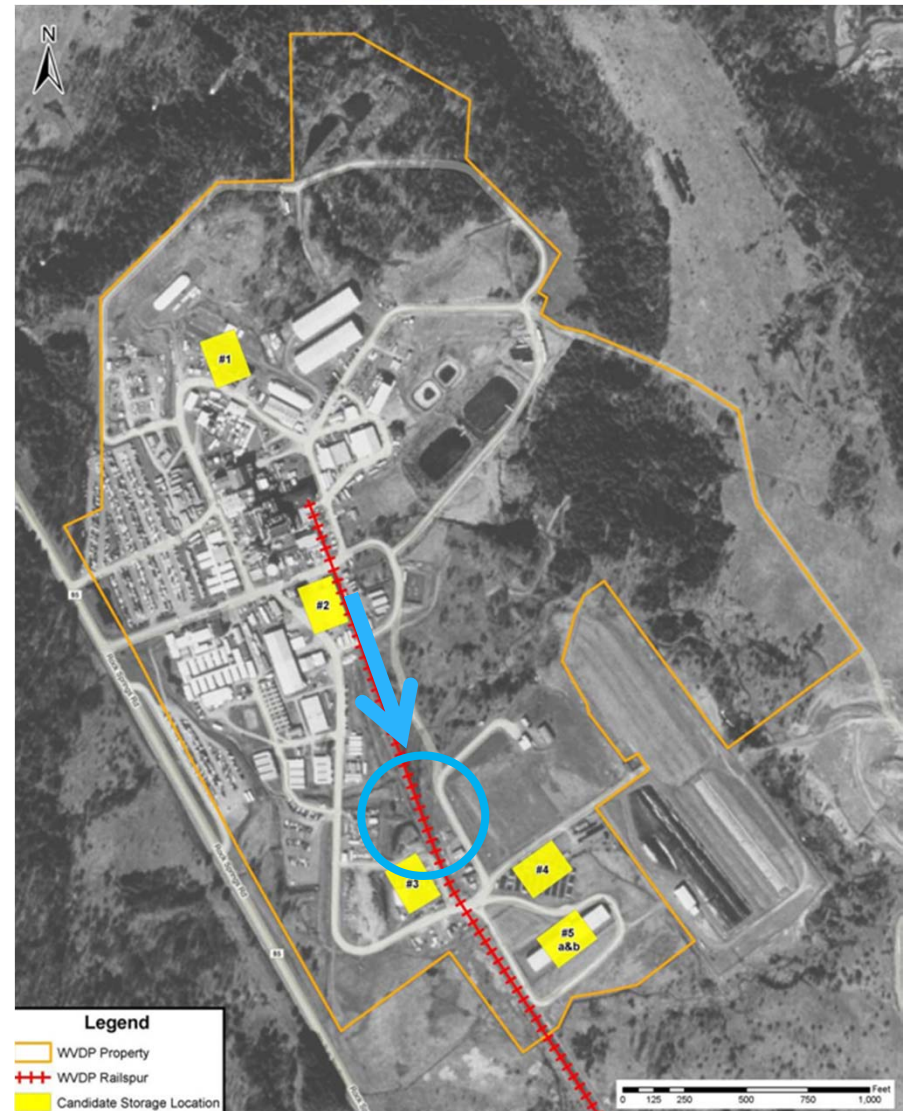
- 48,000 work hours per month
- More than 20 months
- Achieved August 11, 2014



# Milestone 1

## HLW Canister Relocation & Storage Project

- WVDP is relocating high level waste from high level waste (HLW) interim storage in the Main Process Plant Building to a stand-alone dry cask storage system:
  - 275 HLW canisters
  - 2 evacuated canisters
  - 1 non-routine HLW canister
  - 2 miscellaneous debris drums
- Use current licensed spent nuclear fuel (SNF) shipping cask, overpacks and SNF cask designs



# Milestone 1

## HLW Cask Storage Pad

### Main Pad

- 144 feet by 110 feet by 3-feet thick
- 133 tons of reinforcing steel
- 1,800 cubic yards of concrete



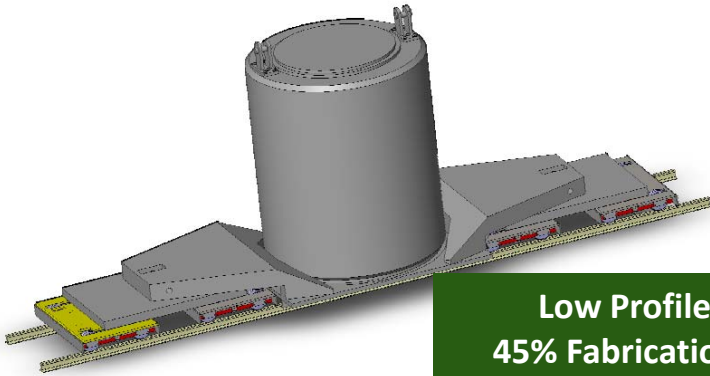
### Approach Apron

- 98 feet by 170 feet by 18-inch thick
- 110 tons of reinforcing steel
- 935 cubic yards of concrete



Excavation and Installation of Security Fence

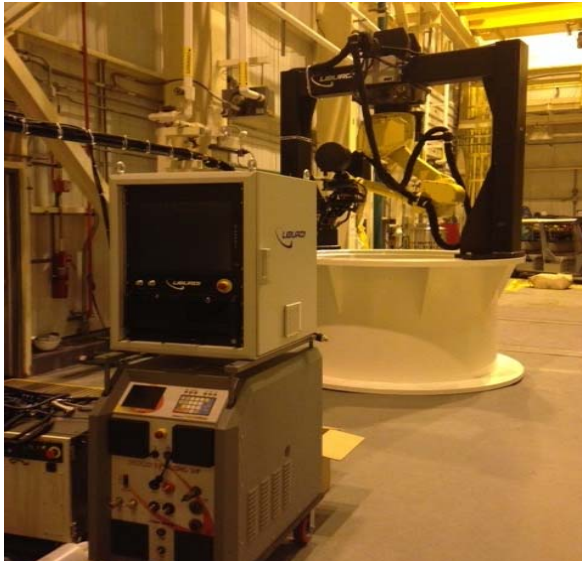
# Milestone 1 HLW Accomplishments



Low Profile Rail Cart  
45% Fabrication Complete  
January Delivery



TL220  
Delivery & Testing Complete



Automatic Welding System  
Delivery & Testing Complete



Vertical Cask Transporter  
Delivery & Testing Complete

# Milestone 1 HLW Accomplishments



Placing Concrete for Casks

## Casks

- Completed fabrication of 8 additional Casks (16 total to date)

## Overpacks

- 8 Overpacks delivered and loaded into casks
- Fabrication for 8 additional Overpacks, in-progress (Delivery Summer 2015)



Overpack Loading

# Milestone 1

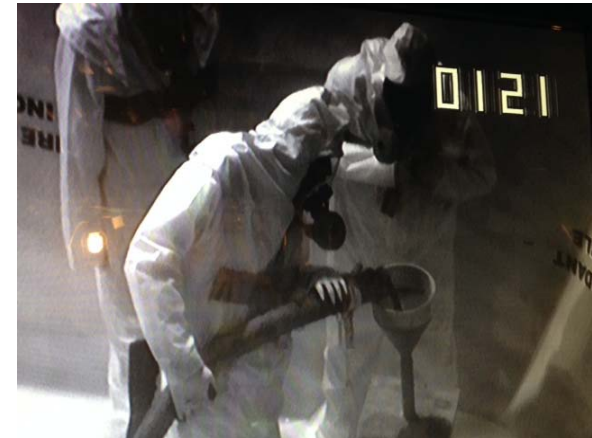
## HLW Accomplishments

### Equipment Decontamination Room

- Grouted Soaking Pit
- Core drilled and grouted subsurface void
- Performed penetrometer tests
- Designed soil strengthening and floor mods

### Load-In Facility (LIF)

- Designed floor leveling modifications and cask transfer pad



Grouting Subsurface Void Space



Drilling in EDR Rail Area

# Milestone 2

## Waste Shipment Accomplishments

### Legacy Waste Disposition Status through September 2014

Approximately 140,000 ft<sup>3</sup> in storage at start of Contract

- Processed and shipped ~80,000 ft<sup>3</sup> for disposal to date
  - LLW: 56% complete (73,743 ft<sup>3</sup>)
  - MLLW: 79% complete (5,000 ft<sup>3</sup>)
  - Industrial: 100% complete (984 ft<sup>3</sup>)
  - Hazardous: 100% complete (163 ft<sup>3</sup>)
  - 84 shipments to date
- Shipped 56 drums of mineral oil for treatment and disposal to EnergySolutions
- Shipped 8 boxes to NNSS
- Completed Processing 17 legacy LLW containers
- 244 LLW/MLLW containers available for shipment



Loading LLW Shipment to NNSS



Loading Degraded SR Box into a IP-2 Container



# Milestone 2

## Melter and Components Shipment

Shipment of Vitrification Melter, Concentrator Feed Make-up Tank (CFMT) and Makeup Feed Hold Tank (MFHT)

- CHBWV worked with Savannah River Nuclear Solutions, Savannah River National Lab (SRNL) to prepare an NRC application for a special authorization
- Completed and submitted Safety Analysis Report for the Melter to the NRC for review and Special Package Authorization (SPA) approval



Melter Grouting Operations



Melter Grouting Operations

# Milestone 3

## Facility Disposition Accomplishments

### Main Plant Process Building (MPPB) Deactivation

- Liquid Waste Cell (LWC) – Decontaminated two tanks. Cutting concrete for access to Tanks 4D-8 and 7D-8 in progress
- Plant Office – Asbestos-Containing (ACM) Removal – Complete
- Off-Gas Trench – Pipe removal in progress (40% complete)
- Analytical Aisle – Sample Storage Cell (SSC) - Remote decontamination - Complete and in cell decontamination - In progress
- Extraction Cell (XC)-1 – Removed one extraction column, in process of removing two additional columns
- Constructed Head-End Ventilation (HEV) Replacement Ventilation Building



View into LWC through Hatch #2



LWC Concrete Hatch #2 Removal

# Milestone 3

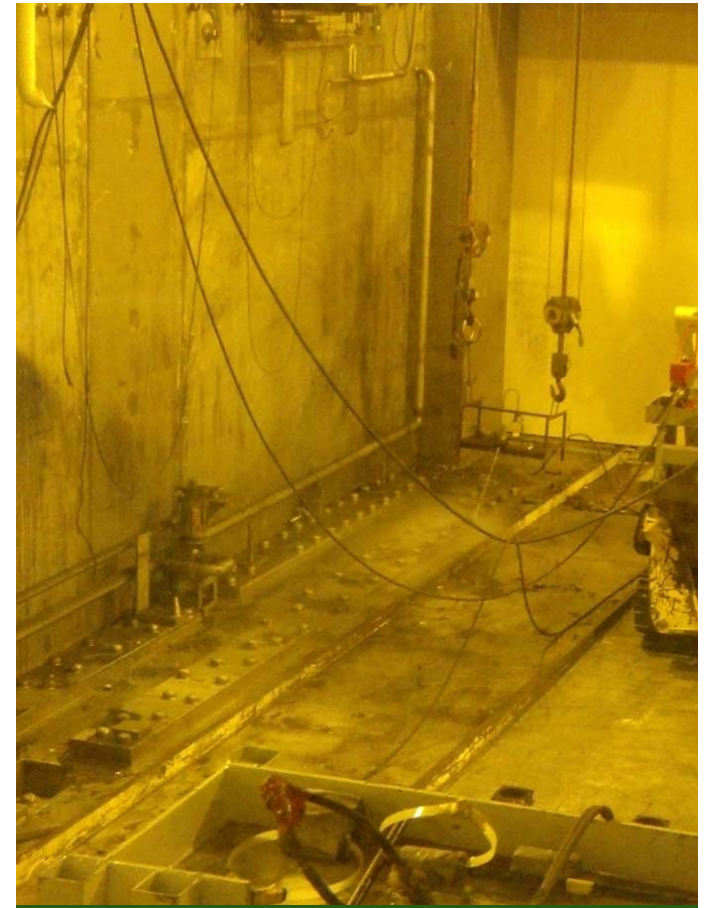
## Facility Disposition Accomplishments

### Vitrification Facility Deactivation

- Completed decontamination wash down of Cell
- Completed Radiological surveys of Cell and penetrations
- Commenced sealing penetrations



Vit Cell Floor before Decon



Vit Cell Floor after Decon

# Milestone 4

## Waste Operations Accomplishments

### Newly Generated Waste Disposition Status through September 2014

- Contract-to-date shipping status through September 2014
  - Industrial Waste: 150,546 ft<sup>3</sup>
  - Hazardous/Universal Waste: 758 ft<sup>3</sup>
  - LLW: 127,547 ft<sup>3</sup>
  - MLLW: 991 ft<sup>3</sup>
  - 195 Balance of Site Facilities (BOSF) Shipments
- Completed one hazardous waste shipment in to Chemical Waste Management in Model City, NY
- Completed one hazardous waste shipment to Heritage Environmental Services in Indiana
- Transported 14 containers of soil and debris from HLW Pad construction to Alaron in Pennsylvania
  - At Alaron the soil was dumped into gondolas and rail shipped to EnergySolutions in Utah for disposal



Dispositioning Waste Containers of Soil and Debris  
from the HLW Pad

# Milestone 4 Accomplishments

## Lake 1 Spillway Repairs

- Completed all physical work on the Lake 1 Spillway Repair



Lake 1 Spillway Erosion Before Repairs



Lake 1 Spillway After Repairs



Lake 1 Spillway and Borrow Area  
after Repairs

# Milestone 4 - Nuclear Operations and Storage, cont.

- Completed Lake 2 Dam repairs
- Completed Buttermilk Creek slope repairs



Starting Repairs at Base of Lake 2 Dam



Completed Repairs to the Buttermilk Creek 90-Foot Slope



Placing Topsoil on the Lake 2 Overflow Plume and Installation of Enkamat Matting

# Milestone 4 Accomplishments

## Well Installation

- Received approval from Cattaraugus County Health Department to place into operation two new wells



Completed Wells 1 and 2



Completed Well 1 Showing Electrical and Wireless Panel



Water Wells 1 and 2 Tie-in in the Utility Room

# Regulatory and Environmental Highlights

- Completed 2013 Annual Site Environmental Report
- Received EPA approval of the replacement ventilation system for the Main Plant Processing Building (MPPB)
- Maintained ISO 14001 Environmental Management System Certification
- Permeable Treatment Wall (PTW) continues to meet Remedial Action Objectives

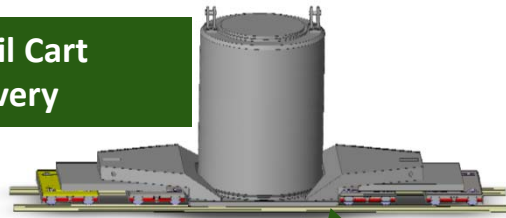


QUESTIONS?

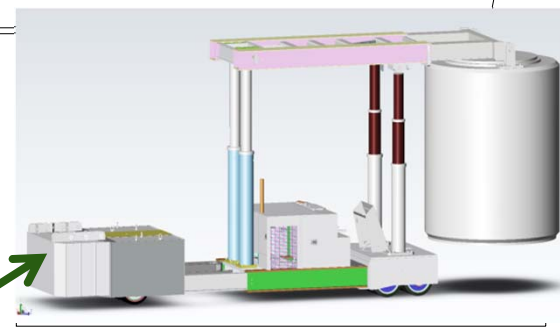
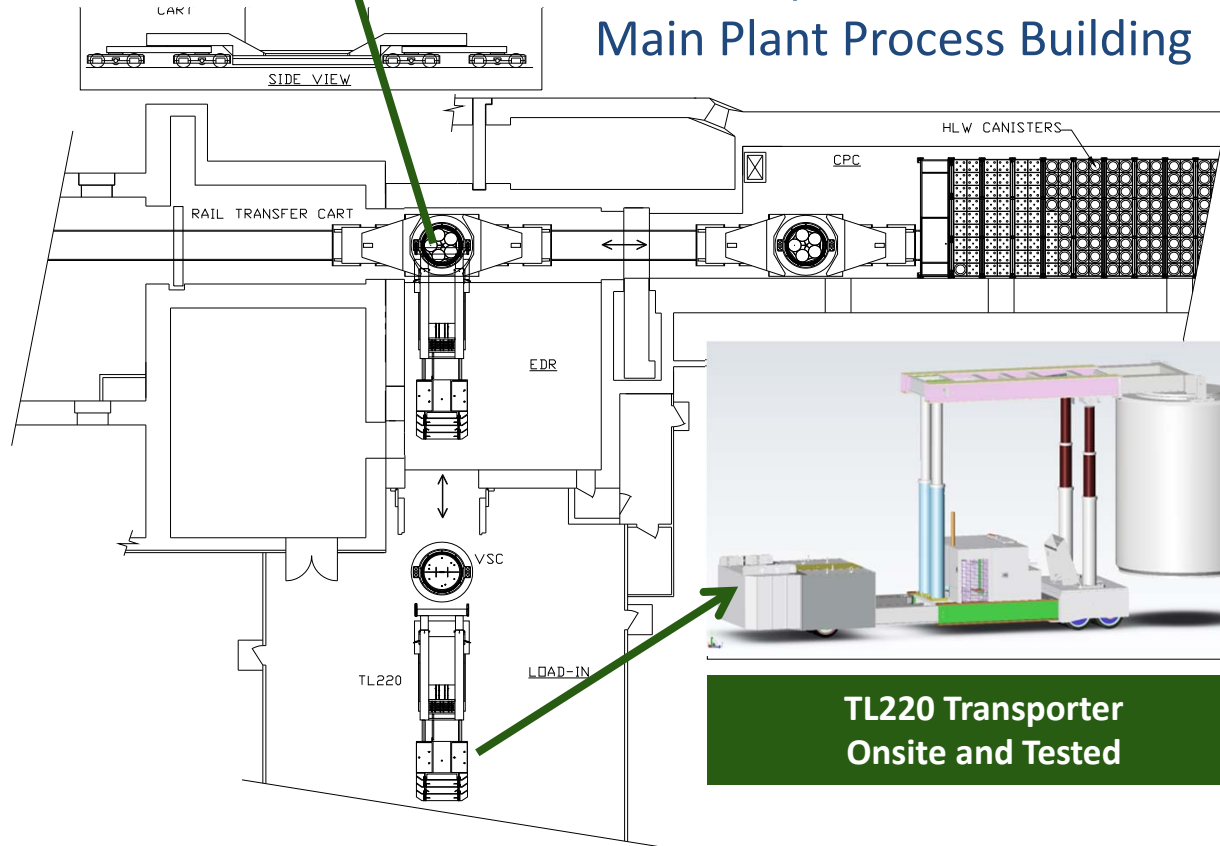
## Backup Slides

# Milestone 1 - In-Facility Canister Removal Pathway

Low-Profile Rail Cart  
January Delivery

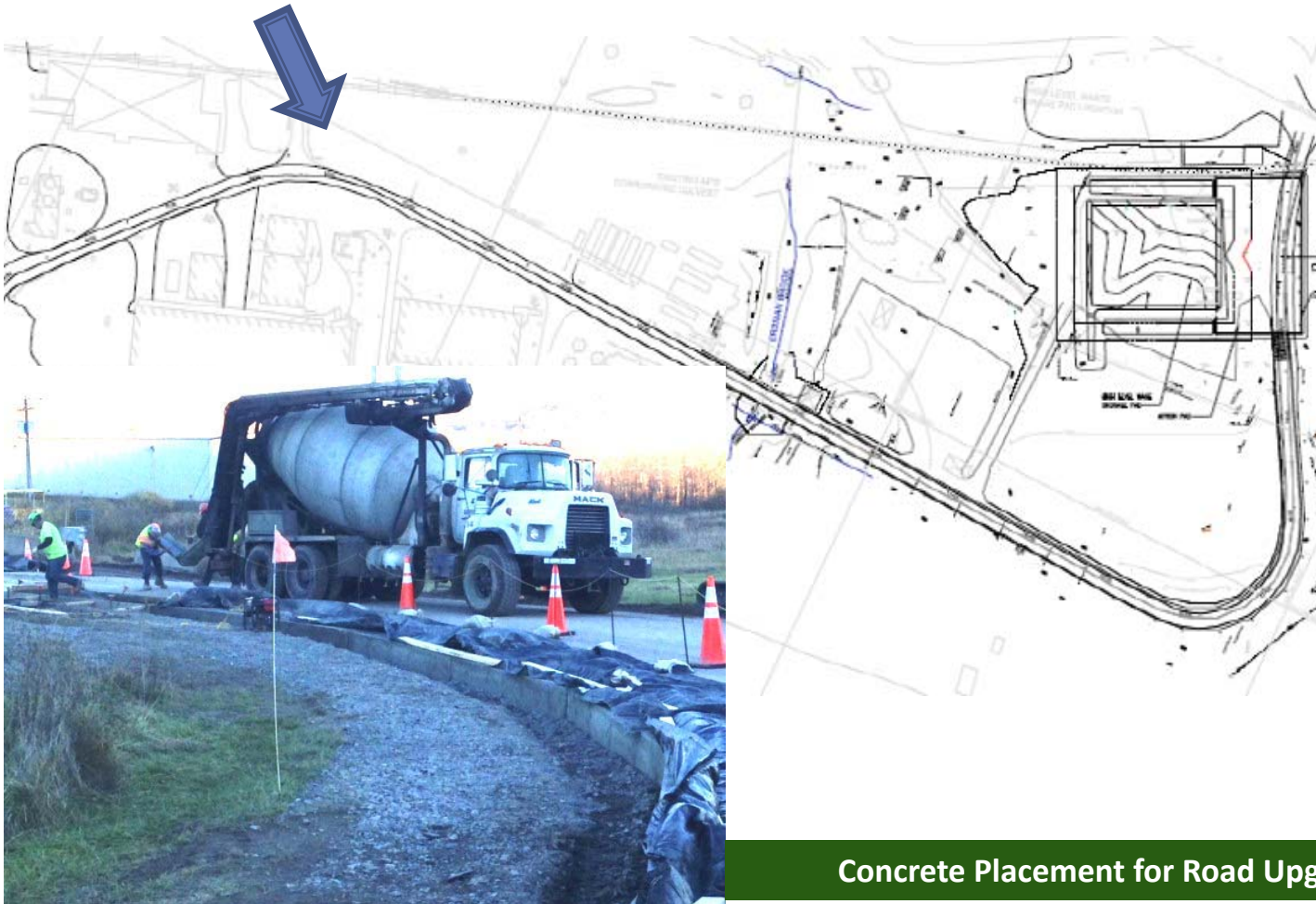


Modifications continue in the Equipment Decontamination Room, Chemical Process Cell, and Load-In Facility to accommodate the transport of the canisters from the Main Plant Process Building



TL220 Transporter  
Onsite and Tested

# Haul Road Upgrades



Concrete Placement for Road Upgrades

- Complete upgrades to 1,400 feet of site roadway