

CH2MHILL · B&W West Valley, LLC

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# Project Overview

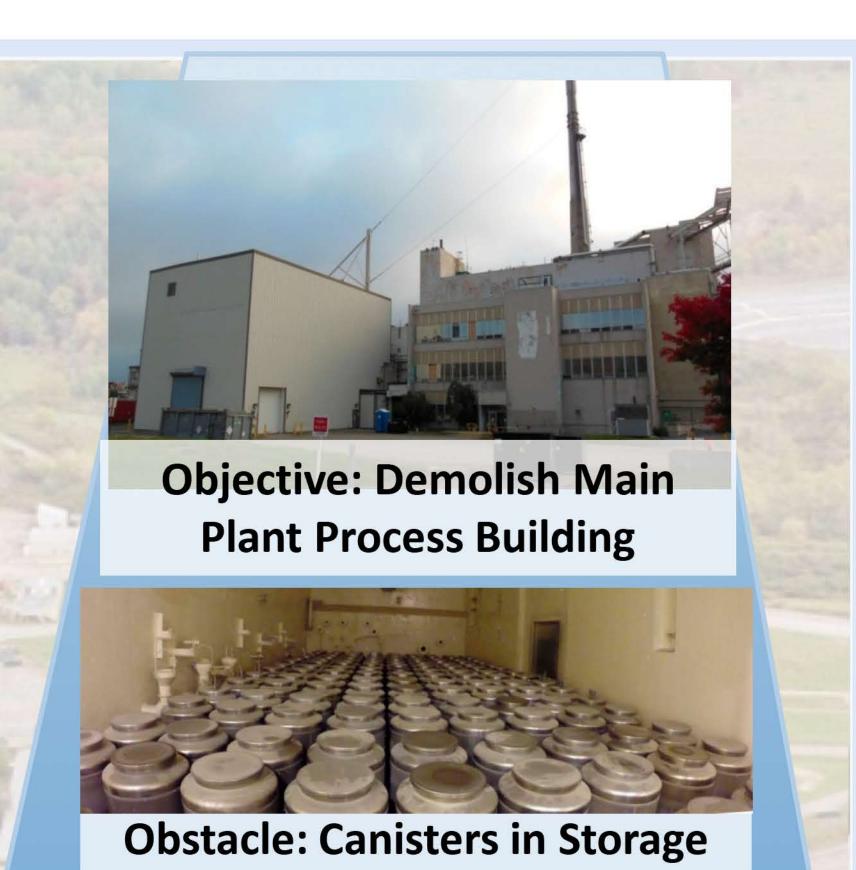
The West Valley Demonstration Project near Buffalo, New York initiated construction of a HLW Storage System in 2013. The objective is to provide passive, long-term outdoor interim storage capacity for 278 canisters of vitrified waste that have been stored on-site in the Main Plant Process Building.

The WVDP's storage system is based on commercial spent fuel dry storage systems. It was designed by NAC International and constructed using specialized vendors and local labor. CH2M HILL Babcock & Wilcox LLC, prime contractor to the U.S. Department of Energy at the site, is managing the project. Canister relocation is scheduled to begin in 2015 and will take three years to complete. Packaging and relocation of the HLW will enable preparations for demolition of the former nuclear fuel reprocessing plant to proceed.

Vitrified HLW at the WVDP

Vitrified waste was produced at the WVDP between 1996-2002

2 evacuated canisters and 1 end-of-process canister



Solution: Package in **Robust Casks and** Relocate

# Storage System Benefits

- Adapted from proven technology
- Robust, secure packaging

Vertical Storage Cask Fabrication/Staging area

275 production canisters

10' tall; 2' diameter

2,665 R/hr average

1,100 - 7,460 R/hr range

- Passive, long-term on-site storage
- Overpacked canisters require no shipping modifications
- Minimum 50-year system life expectancy



**Future Interim Storage Area** 

Loading Preparation and Overpack Welding

Cask Transport and Haul Path

### Main Plant Process Building and Overpack welding occur inside Main Plant **HLW Cask Storage Pad and Process Cell** Load-In Facility . Haul Path ~ 2,600 feet Air Pallets used to move Load-In Facility Relocation TL220 operates along "runway" in Load-In Facility **Project** and Equipment **Decontamination Room** Impacted Areas and Flow Path North Parking Lot **HLW Storage System**

## Planned Work





**Construct and Maintain Cask Fabrication and Transfer Pad** 





\*Pad Apron Soil Subsidence \*\* Drainage Added

# Obstacles\* and Improvements\*\*



\* Abandoned Oil Lines and Contamination **Encountered During Pad Excavation** 



\*\* Overpack Quality and Fit-up Testing

## **Loading Preparation** and Overpack Welding

New Technology

**HLW Storage System** 

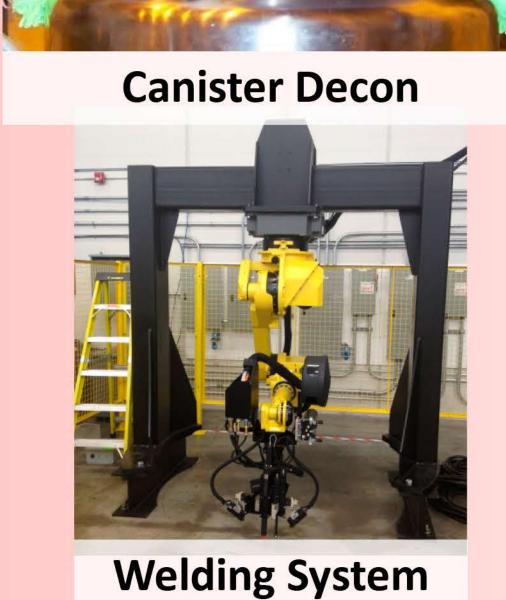
**Cask Fabrication Area** 

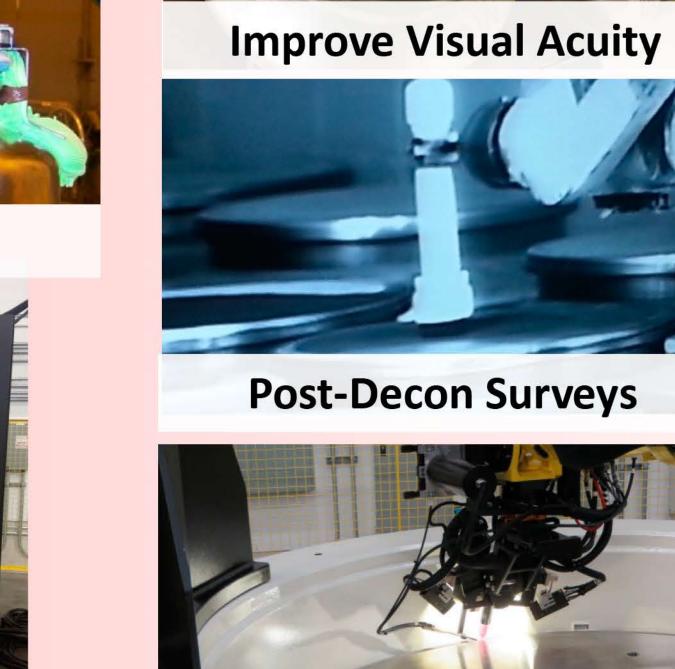
Cask Storage Pad



Cask/Overpack

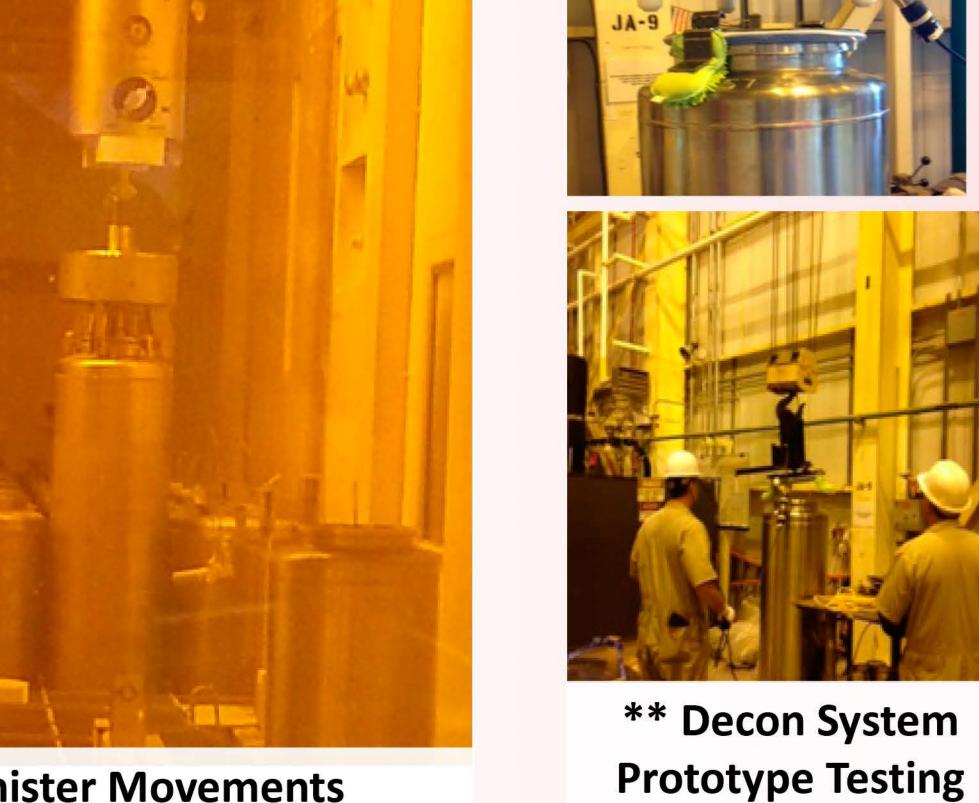
Assembly





Welding



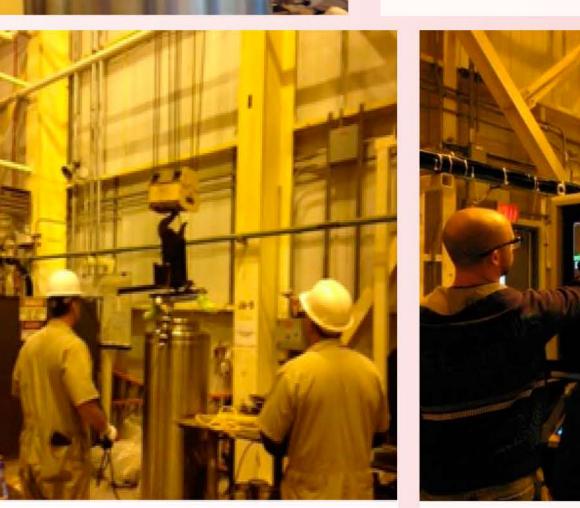








\*\* Cask Prep Platform





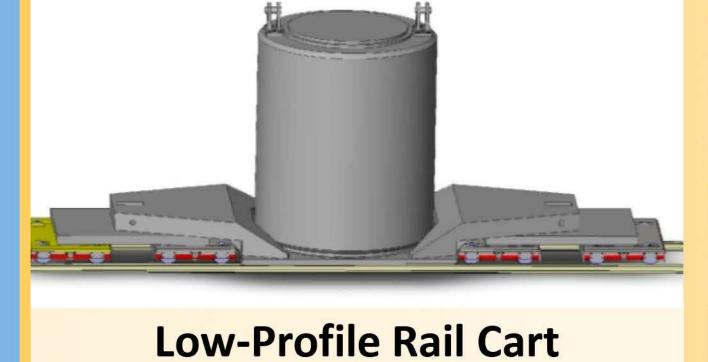


\*\* Welder Mockup and **Proficiency Training** 

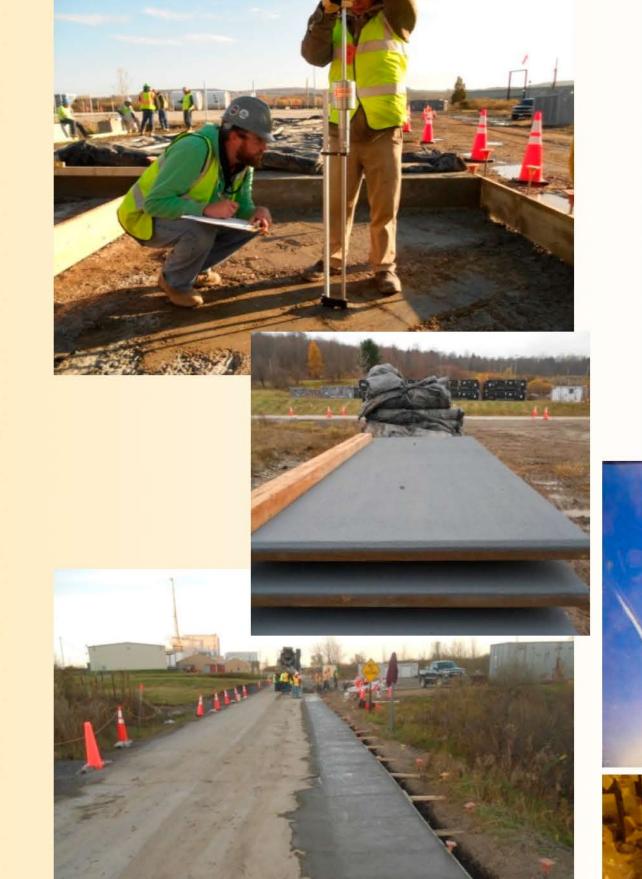
\*\* Canister Wrap Mockup

## Cask Transport and Haul Path



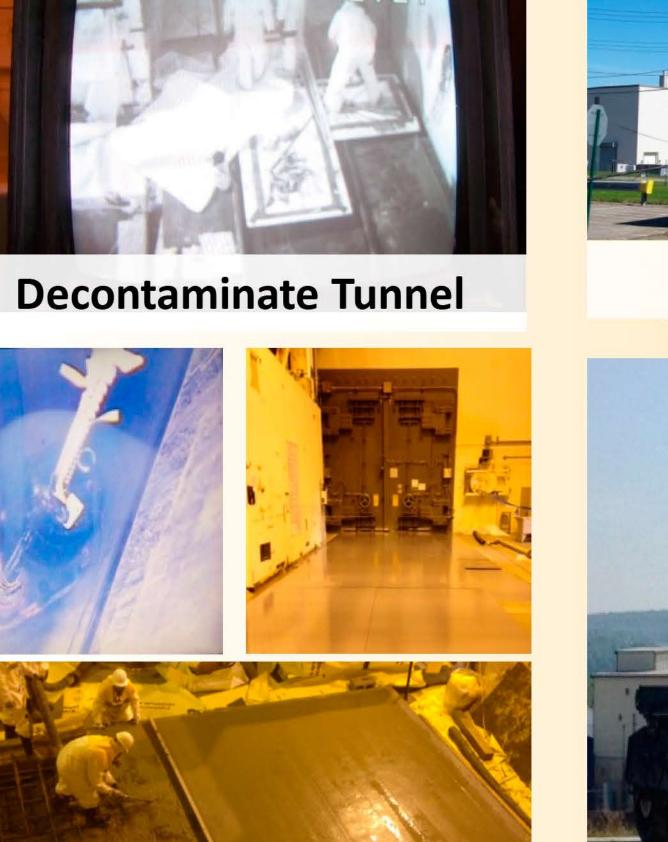
















Testing





\*\* Grout Mockups

\*\*Sub-floor Grouting