

WEST VALLEY STORAGE

Transfer of high-level waste to storage using NAC International-designed casks was major step forward

NAC PROJECT HIGHLIGHTS

- NAC designed storage/transport casks for the high-level waste (HLW) at West Valley and delivered 56 systems on time; NAC's site construction scope was completed 3 weeks ahead of schedule
- Used a modified version of existing NRC-licensed NAC-MPC cask system, deployed at three U.S. decommissioned sites, a total of 120 casks
- Relocated the HLW canisters to safe storage and enabled demolition of the Main Plant Process Building, a major step forward for decommissioning West Valley site

NAC International designed and delivered 56 storage/transport cask systems to transfer vitrified high-level waste (HLW) to dry storage at the West Valley Demonstration Project, about 35 miles south of Buffalo, New York. This project, led by CH2M HILL B&W West Valley LLC, demonstrates a safe, proven and predictable approach for efficiently packaging and storing radioactive high-level wastes.

NAC modified its NRC-licensed NAC-Multi-Purpose Canister (MPC) design for the West Valley cask systems to safely store 278 canisters of HLW, once stored in the Main Plant Process Building. The liquid HLW was solidified using vitrification between 1996-2002.

Once packaged in the MPC systems, the cask systems were moved to an on-site area that offers safe, secure, long-term waste storage. With the HLW removed, the Main Plant Process Building could be demolished, an important milestone for decommissioning the former nuclear fuel reprocessing facility.

NAC-MPC casks provide a multi-layer barrier of steel and reinforced concrete protection designed for and demonstrated highly resistant to extreme natural events such as tornadoes or earthquakes. The passive nature of NAC's dry cask technology, as well as its massive structural



Top photo: 56 loaded NAC WVDP cask systems on West Valley storage pad. **Right Photo:** NAC WVDP storage cask being moved to storage pad

armoring, protects critical components and HLW content. The casks provide:

- High capacity and safe, low-dose cask operations
- Technology proven at decommissioning sites under similar project conditions
- Minimal footprint with vertical storage
- Obtained NRC license amendment for transport of the HLW canisters in waste overpacks in the NAC-STC transportation cask.

In addition to providing 56 NAC-MPC cask systems, NAC provided equipment for closure welding of the waste overpacks, ancillary equipment for handling waste overpacks within the West Valley buildings, and an on-site cask transporter and vehicle for placing loaded casks in the long-term storage area.

The NAC-MPC design has also been modified for storage of 1,936 radioactive capsules at the DOE Hanford Site.

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