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Equipment from WVDP shipped to another facility

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WEST VALLEY—A highly specialized piece of welding equipment from the Department of Energy’s cleanup at the West Valley Demonstration Project was shipped thousands of miles to the government’s Hanford site in Washington state, to assist in proposed packaging and moving highly-radioactive cesium and strontium capsules to dry storage. Sharing the equipment valued at approximately \$2.4 million helps the sites achieve savings.

Prior to the equipment transfer, a team from Hanford contractor CH2M visited counterparts at CH2M BWXT West Valley, LLC to learn about best practices from the WVDP’s successful relocation of 278 canisters of vitrified high-level waste to an onsite interim storage pad. The canisters were packaged in overpacks and welded shut with the specialized welder before being relocated. CHBWV accomplished this task on Nov. 17, 2016, one year ahead of schedule.



“It’s important to share lessons learned and best practices,” CHBWV President Jeff Bradford said. “This helps to prevent potential problems, increase safety and maximize success.”

The robotically-operated Tungsten Inert Gas welder was specially designed and fabricated to seal the WVDP overpacks. During the relocation process, five high-level waste canisters were inserted into a single stainless steel overpack that was preloaded into a steel-lined concrete

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Vertical Storage Cask. The overpack lid was then welded shut using the highly-specialized TIG welder prior to the storage cask assembly being moved to the interim storage pad.

The TIG welder enables repetitive precision welding that produces a high-integrity seal to ensure a safe and secure shipment-ready package. Another benefit is the welder's remote operation capability that prevents radioactive exposure to the operator.

The welder's computer interface is capable of monitoring and controlling welder amperage, voltage, travel speed, wire feed speed and the hot wire current. All of this, combined with a fully integrated robotic arm, further enhances the safety and precision for welding operations.

At Hanford, CH2M is planning to relocate 1,936 cesium and strontium capsules, currently stored underwater at the Waste Encapsulation and Storage Facility to an outside storage area. The planned storage area at Hanford, similar to the one at WVDP, is modeled after dry spent fuel storage systems in use at commercial nuclear power plants in the U.S. It will feature above-ground, shielded cask storage which requires little ongoing maintenance and no supplementary ventilation.

In the summer of 2018, the Hanford team will also receive a large tow tractor and vertical transporter used to move casks to the outdoor storage area at West Valley. These two specialized pieces of equipment were designed and built to move each 87.5-ton, steel-reinforced vertical storage cask to the interim storage pad at the WVDP.