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WVDP successfully removes main plant ventilation stack

The ventilation stack, weighing more than 20,000 pounds, was successfully removed from the Main Plant Process Building at the West Valley Demonstration Project, utilizing extensive planning, engineering controls and historical best practices.

“Developing a comprehensive plan and using it with a deliberate approach is a combination for safety and success,” CHBWV President Scott Anderson said. “Our team continues to complete demolition work at the site in a safe and compliant manner.”

Photo provided

Cranes safely lower the stack into staged stanchions on the ground.

Workers at the WVDP removed the ventilation stack as efforts to dismantle and remove peripheral structures and associated facilities of the Main Plant continue. Other demolition work will include manipulator repair shop, contact size reduction facility, utility room, utility room extension, load-In facility, laundry room and main plant office building.

“Once again the CHBWV Team did an excellent job in their pre-planning and execution of this challenging work,” WVDP Director Bryan Bower, said. “This work evolution will forever change the landscape of the WVDP site, and will become a reminder of the ongoing progress here.”

On Sept. 11, crews used a 400-ton crane to lift a man-basket so that workers could begin the removal and packaging of the stack’s six, 7/8-inch steel cable guy wires. Once that was completed, workers were lifted to the 184-feet elevation to cut the steel platform into pieces and lower it to the ground.

The workers finished removing the stack’s guy wires and welded lift trunnions onto the stack for its removal. All materials removed and packaged during this project will be shipped offsite for disposal.

On Sept. 15, crews cut the stack at approximately the 198-feet site elevation leaving approximately 110 feet of stack to be lifted. A cutting technique was used to lessen the movement of the stack once the cut was completed. The 400-ton crane was attached to the lift trunnions at the top of the stack, while a 150-ton support crane was attached to the bottom.

With both cranes synchronizing their motions, the stack was slowly moved to a horizontal position and safely placed into pre-positioned stanchions on the ground.

The stack will be size-reduced using a specialized cutting torch, packaged and shipped offsite for disposal.

The 160-foot-tall cement-reinforced stainless-steel stack, positioned on top of the 5-story MPPB, was part of the Main Plant's ventilation exhaust system.

The MPPB is a reinforced concrete structure that is 130-feet-wide, 270-feetlong and 79-feet-tall at its highest point.

It was constructed between 1963-1966 as a commercial reprocessing facility to recover reusable plutonium and uranium from spent nuclear reactor fuel. It operated from 1966 to 1972, during which approximately 640 metric tons of irradiated nuclear fuel was processed.