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WEST VALLEY — The timeline for the open-air demolition of the main plant process building at the **West Valley Demonstration Project** has been put off until late this year.

Crews from CHBWV, the contractor hired to carry out the cleanup at the nation's first commercial nuclear fuel reprocessing facility, have been hampered in their deactivation of the building by COVID-19 protocols. The U.S. Department of Energy, **New York State Energy Research and Development Authority (NYSERDA)** and CHBWV plan to hold public meetings next month or in early July to detail safety plans for the upcoming demolition.

The **West Valley Demonstration Project Act** of 1980 authorized the cleanup of the site in the town of Ashford. The first order of business was the solidification in glass of 600,000 gallons of radioactive waste in large underground tanks. That resulted in 275 10-foot-tall radioactive glass logs inside stainless steel containers. Those containers have been placed in special concrete casks and have been moved from inside storage.

The radioactive liquids were wastes from the process of recovering plutonium and other radioactive materials from the spent radioactive rods used to power nuclear power plants — civilian and military. Between the time the Nuclear Fuel Services plant opened in 1966 and when it closed in 1972, it processed 640 tons of spent nuclear fuel rods. Cleanup is expected to continue for another 25-30 years and cost billions of dollars more. The price tag so far exceeds \$3 billion.

News of the anticipated delay in the beginning of demolition until later this year came at Wednesday's quarterly public meeting where questions from members of the West Valley Citizens Task Force are answered in detail.

Joseph Wolniewicz, a physicist and senior project manager, is part of the CHBWV Radiation Protection Group which is siting air monitoring and sampling equipment in the demolition area and at the site perimeter. He has worked at **West Valley** since the mid-1980s.

"I grew up within two miles of the site," Wolniewicz said at the beginning of his presentation. He is still a **West Valley** resident and his son and his family live on the farm he (Wolniewicz) grew up on. "It's in my personal interest to minimize the impact to the environment." His family living nearby, he said, is evidence of his "skin in the game."

Continuous air monitoring stations will be in place prior to demolition activities, Wolniewicz said. Signals from the continuing air monitoring sites will give real-time information on levels of radioactivity. This will allow managers to make changes in the operation — including stopping work or adjusting water spraying — before levels get higher.

Another ring of four monitoring sites about 100 yards from the demolition will focus on low-level radiation that gets past the continuous monitoring sites. Background radioactivity from radon in underground shale rock formations complicates

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the ability to detect very low levels of radioactivity, Wolniewicz said. The filters in the monitors will be removed and analyzed each shift. Hand-held monitors may also be used to check the sites during certain phases of the demolition. “Plates” to pick up samples of dust that settle onto the ground will also be checked.

Another monitoring device, ambient air samplers, which are located closer to public areas, is screened bi-weekly and the filters sent off-site to a lab. It is much more sensitive, but it is not in real-time, Wolniewicz. It is more of a record. Fixed air samples are taken at stations about 1,500 feet from the demolition. Another 16 samplers are positioned near residences in the area.

State-of-the-art technology in areas close to the demolition will allow managers to take quick action if radiation levels begin to rise on real-time monitors. Radiation levels need not rise to alarming levels before action is taken, Wolniewicz said. If a trend line appear on continuous air monitors closest to the demolition, the excavators will back off.

“How confident are you that the open air demolition will not result in ambient air exceedance?” one Citizens Task Force member asked Wolniewicz.

John Rendell, president of CHBWV jumped in to reply: “We are very, very, very, very, very confident the approach we are implementing is safe and compliant.” Rendell said crews have been working for the past 20 years to remove as much contaminated material — from asbestos to radioactive piping and equipment and to remove or fix in place radioactive contaminants — from the massive concrete main process plant building.

He said that 98% of the radioactive contamination has been removed and CHBWV plans to remove about 30% of the remaining 2% of the radioactivity before demolition. A foam fixative is also applied to areas where there are high levels of radioactivity. “When that building comes down, we will have removed the vast, vast majority of the contamination,” Rendell said. “I am very confident.”

Elizabeth Lowes detailed plans for the management of water from the main process plant building’s demolition. To reduce dust that could be contaminated, misting hoses are used as the special excavators bite into the thick concrete. The building will not be tented, so water from rain and snow are also considered. A concrete berm surrounds the building top contain water and direct it toward collection drains.

Samples of water are analyzed to decide if it needs more treatment to remove hazardous radionuclides or needs to be pumped into 20,000 gallon storage containers for off-site shipment for treatment and disposal.

If the water meets discharge standards, it is pumped to a lagoon system before being discharged to an on-site, permitted discharge point.

Lowes said the water management system was built using the experiences from the demolition of the adjacent VIT facility where the radioactive liquids were made into the glass logs. One important finding was that the debris pile must be kept to a minimal size. There was some spread of contamination when crews raced to remove debris piles, stirring up dust. Also, additional storage tanks were brought in for stormwater.

Crews will be actively sampling area waterways that drain the site looking for key radioactive elements including strontium 90, cesium 137 and plutonium isotopes — similar to the elements being sampled for in the water management system.

The control systems are robust, Lowes said, but there is the potential for migration of contaminated groundwater if the controls fail.

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Officials from DOE and NYSERDA are working toward a draft supplemental environmental impact statement for work that remains to be done at the site after the main plant process building is demolished to ground level.

The DOE plan calls for the main plant process building to be completely leveled in 2023. The decommissioning of lower levels of the building and the adjacent VIT plant foundation would be completed in 2024. Once the lower levels of the main plant process building are removed, the source of a strontium 90 leak in the 1960s is expected to be located. That leak produced an underground plume of contamination that was intercepted and is being treated in place.

Members of the Citizens Task Force have been very vocal that they want all the radioactive material removed — including the twin 600,000-gallon underground steel storage tanks and the state and Nuclear Regulatory Commission (NRC) low-level storage areas adjacent to the West Valley Demonstration Project site. The DOE and NYSERDA are working toward that end-game in the form of a draft Supplemental Environmental Impact Statement that should be ready for public comment in 2023.

For more information on the West Valley Demonstration Project go online to: wv.doe.gov, chbwv.com or westvalleyctf.org