

WVDP grouts general purpose cell



Photo provided

A pumper truck is used to place grout into the general purpose cell of the main plant process building at the West Valley Demonstration Project. The grout will provide structural stability to allow heavy demolition equipment to drive over the below grade rooms, while the main plant process building is being demolished.

EM and its prime contractor CH2M HILL BWXT West Valley recently grouted the general purpose cell. The GPC is a large cell that is nearly 30 feet below grade and will remain until the below grade portion of the main plant process building is removed in the future. The grout was placed in the GPC to provide structural stability to allow heavy demolition equipment to drive over the below grade rooms, while the main plant process building is being demolished. Work was performed by the Facility Disposition team, which is responsible for deactivation and demolition activities.

“The **WVDP** team’s work was well-planned and executed in an effort to maintain safety, including the addition of COVID-19 protocols,” Department of Energy WVDP Safety and Site Programs Team Leader Jennifer Dundas said. “This

work is part of DOE's efforts to reduce legacy risks in preparation for the future demolition of the Main Plant Process Building, an EM Priority for 2020."

Current onsite work activities are focused on a handful of large and high contamination areas, as efforts continue to prepare the main plant process building for demolition. One of those areas of focus is the general purpose cell. The GPC measures approximately 46 feet long x 11 feet wide x 19'6" tall and is constructed of reinforced concrete with wall thickness ranging from 3'6" to 5'2" thick. The ceiling is 5'6" thick. The cell is lined with stainless steel to a height of 16'. The floor of the cell is approximately 25' below grade.

During fuel reprocessing operations in the late 1960s and early 1970s, the GPC was used as an intermediate cell between the processes of mechanical separation conducted in the process mechanical cell and the chemical dissolution of spent nuclear fuel performed in the chemical process cell. The GPC was used for storing unleached fuel hulls, tracking (accountability) of the spent fuel and preparing the leached fuel hulls for disposal after the chemical separation was completed.

From Oct. 12 through Oct. 16, a total of 44 trucks supported the initial grouting of the GPC main cell, GPC mini cell and a portion of the general purpose crane room. A red dye was used in the initial batches to depict high-contamination areas for when these areas are excavated in future cleanup contracts.

Prior to deactivation, the cell, which contained radiological and hazardous contaminants as a result of spent nuclear fuel reprocessing activities, had the highest dose rate of any area on the site. Prior to grouting, all major process equipment was removed, interior surfaces were decontaminated and sealed, all utilities and connections with adjoining structures were disconnected and characterization data was obtained to plan for future waste disposal.

"This work activity was successful because it was a group effort," Scott Chase, Facility Disposition Operations Manager, said. "Our crew worked with Engineering on the overall plan and we had good support from Radiation Control and Security as well."