EM UPDATE
U.S. DEPARTMENT OF ENERGY | OFFICE OF ENVIRONMENTAL MANAGEMENT
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West Valley's 3D Model Becomes Indispensable Tool for Demolition Safety

A 3D model is used at a pre-job briefing at the West Valley Demonstration Project to show employees what to expect during their shift as they continue deconstructing the Main Plant Process Building and removing waste.

WEST VALLEY, N.Y. – The U.S. Department of Energy Office of Environmental Management (EM) and its cleanup contractor at the West Valley Demonstration Project drew from innovation and teamwork to create a 3D model of the Main Plant Process Building currently undergoing demolition.

Created with the help of onsite engineers and a contracted company, the 3D model shows everything from walls and support beams to equipment and piping.

"The West Valley team used collaboration and inclusion to their advantage when developing this innovative tool," EM West Valley Project Management Assistant Director Stephen Bousquet said. "This tool helps our team to be safer as they continue to deconstruct the Main Plant in a methodical and deliberate manner."

The development team realized early on that old drawings either didn't match up or did not reference other drawings due to deactivation work EM crews have undertaken at the facility over the past 30 years. This made it difficult to determine the structural aspects of the building, the method to take it down safely and the right equipment to use.

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The West Valley team provided drawings rendered into the 3D model software. Over 18 months, the model took shape with the capability of showing the structure in 3D.

The 3D model was used to determine the rate and sequence of how crews would deconstruct the Main Plant, which has been successful with no incidents, unplanned radiological releases or injuries.

The model showed the locations of more than 120 items requiring special handling and packaging. It also pinpointed multiple locations of specialty piping with high radiation potential and asbestos-containing material, which is hazardous. Crews applied all required safety measures for that material to the Main Plant demolition.

Engineers used the model to evaluate the plant's walls, components, structural members and obstructions, allowing for an analysis of structural integrity and hazard points as the demolition sequence unfolded.

"We use this model everyday in our pre-job briefings and on both shifts," said Scott Chase, deputy facility disposition manager with CH2M HILL BWXT West Valley, EM's cleanup contractor at the site. "It allows our crews to see through the wall of the building and what to expect once work starts. If they see something that's not right or could impact safety, they have the right to stop work."

The above-grade portion of the Main Plant is one of the last major facilities remaining at West Valley. Its successful demolition will further reduce environmental risks and position the site for the next phase in cleanup. The demolition is expected to be completed in the fiscal year that begins this October.

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