Hanford Workers Complete Stabilization of Waste Storage Tunnel

Completion Safeguards Public from Potential Tunnel Collapse Contamination

RICHLAND, Wash. – Workers at the Hanford Site in southeast Washington have finished filling a second waste storage tunnel with engineered grout, significantly reducing the risk of a collapse and possible release of radioactive materials. Department of Energy (DOE) contractor CH2M HILL Plateau Remediation Company (CHPRC) began grouting Tunnel 2 next to the Plutonium Uranium Extraction (PUREX) Facility in October 2018. Crews placed the last truckload of grout on April 26.

"The tunnel has been filled with grout, and we’ve significantly reduced the risk of contaminating Hanford workers, the public, or the environment," said Brian Vance, DOE’s Manager for the Hanford Site. "The team did an excellent job performing this work safely, reducing a potential risk on the Site.”

Tunnel 2 contains 28 raicars with contaminated processing equipment and materials generated during Hanford’s weapons production era. Grouting was determined to be the best choice for stabilizing this tunnel by the Department’s independent panel of experts because it proves to the highest level of stability and protection and does not preclude future remedial actions.

"Even though the tunnel is full of grout, this does not preclude future remedial actions or limit final closure decisions," said Joe Franco, DOE Deputy Manager for the Richland Operations Office. “It just means the risk to people and the environment is significantly reduced while those decisions are made.”

Approximately 4,000 truckloads (40,000 cubic yards) of grout were placed in the tunnel. Cameras in the tunnel ensured the grout flowed the length of the tunnel and around the contaminated equipment inside. The grout was injected in several lifts, or layers, and each lift was allowed to set before the next began.

“I couldn’t be more proud of the workers in the field, support staff across our company, and cooperation of all the site contractors which led to this important work being completed safely,” said Ty Blackford, president and chief executive officer, CHPRC. “It took a lot of preparation and day-to-day attention to ensure we could make, move and place thousands of trucks of grout safely while assuring the potential for a radiological release was minimized.”

The decision to grout Tunnel 2 was made after the partial collapse of an adjacent waste storage tunnel, known as Tunnel 1, in May 2017 caused an emergency response and shut down work at the Hanford Site for two days. An engineering evaluation of Tunnel 2 showed it also was at high risk of collapse.

CHPRC and subcontractor InterMech, Inc., developed mock-ups of grout placement to enhance lessons learned from successfully stabilizing Tunnel 1 and to train the workforce to ensure a safe, deliberate approach to reducing this significant risk in Tunnel 2.

A number of safety controls ensured employee and environmental safety during grout placement, including continuous monitoring and detection systems to alert workers to potential chemical or radiological exposure conditions; lights and cameras installed in the tunnel to remotely monitor grout placement and progress; and on-site batching of the grout to ensure reliable delivery of grout while decreasing traffic impacts.

Hanford crews will continue to monitor the tunnel until the full mission is complete. For more information:

- PUREX Stabilization Overview video
- PUREX “Stabilization by the Numbers” video
- PUREX Tunnels continuing response information webpage

The Department of Energy (DOE) is responsible for the federal government’s cleanup of the legacy of more than 40 years of plutonium production at the Hanford Site near Richland, Wash. The DOE Office of River Protection (ORP) is responsible for the safe and efficient retrieval, treatment and disposal of the 56 million gallons of chemical and radioactive waste stored in Hanford’s 177 underground tanks. The River Protection Project is the largest and most complex environmental remediation project in the nation. ORP oversees the tank waste management mission and the building of the world’s largest radioactive waste treatment plant, which will immobilize the legacy tank waste through vitrification. The DOE Richland Operations Office is responsible for all remaining Hanford cleanup and is currently focused on demolishing the high-hazard Plutonium Finishing Plant, excavating and disposing of contaminated soil and waste, treating contaminated groundwater, moving radioactive sludge out of the K West Basin and away from the Columbia River, and configuring Hanford Site infrastructure for the future. With an emphasis on supporting the tank waste mission, the two offices oversee Hanford Site work that is conducted by a federal and contractor workforce of approximately 9,000 personnel. Visit www.hanford.gov for more information about Hanford Site.

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