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RICHLAND
OPERATIONS OFFICE
United States Department of Energy

ch2m

Crews Begin Injecting Engineered Grout into Hanford Site Waste Storage Tunnel

Efforts will Stabilize PUREX Tunnel 1

RICHLAND, Wash. – Hanford workers have begun injecting engineered grout into a waste storage tunnel near the Hanford Site's Plutonium Uranium Extraction, or PUREX, Facility, that partially collapsed earlier this year.

The grout is intended to improve the stability of PUREX Tunnel 1 and provide additional radiological protection, while not precluding future cleanup actions or final closure decisions. An estimated 6,000 cubic yards of grout are needed to fill Tunnel 1, requiring about 650 truckloads to fill the nearly 360-foot long tunnel. The grout will be injected into the tunnel primarily during the night to help supply trucks avoid daytime traffic and ensure a steady supply of grout. The work is expected to be completed by the end of this calendar year.

To place the grout, workers removed some of the soil and sand placed into a 20-foot by 20-foot area of the tunnel on May 10, a day after a hole was discovered in the roof of the tunnel. Workers left about four feet of soil still covering the collapsed portion of the tunnel and installed pipes for grout, ventilation and visual verification.

The grout is engineered to flow easily, allowing it to encapsulate the materials and rail cars inside Tunnel 1, providing shielding to workers and the environment. The grout has characteristics that will allow it to flow the length of the tunnel and fill in the areas around the equipment inside the tunnel.

Grout will be placed in lifts, or layers. Each lift will be allowed to set up before the next layer of grout is placed in the tunnel. Workers will use video cameras to monitor the grouting to confirm the tunnel is filled. As the injected grout displaces air inside the tunnel, that air will be filtered as it exits the tunnel, as a precaution. To ensure worker safety, air monitoring stations have been set up around the tunnel to notify workers of any change in conditions.

During the evening of Oct. 3, after 15 truckloads of grout were injected into the tunnel, workers noticed some subsidence, or dirt settling, around the trench box at the injection location. Workers then stopped the grouting activity. No radiological readings above those anticipated were detected, and none of the workers were at risk. This type of an event has been planned for, and soil/sand and equipment previously staged at the work site will be used to fill the subsidence. The Department of Energy anticipates grouting to recommence soon.

"The workers are highly skilled and prepared for situations like the subsidence encountered when injecting grout to stabilize the tunnel," said Doug Shoop, Manager of the DOE Richland Operations Office. "There is no question about the difficulty of the work, but we will work safely and methodically to fill up the tunnel."

"Our focus remains on safety," said Ty Blackford, President and Chief Executive Officer, CH2M HILL Plateau Remediation Company. "The entire team from planning, engineering, procurement to the workforce has done a great job getting us to this point in helping to stabilize the tunnel."

For more information:

- [Video of PUREX Tunnel 1 grout placement](#)
- [PUREX Tunnels continuing response information webpage](#)
- Engineering evaluations for [PUREX Tunnel 1](#) and [Tunnel 2](#) submitted to Ecology as part of Administrative Order corrective action 1
- [PUREX Tunnels draft report on corrective actions to ensure safe storage of waste in PUREX Tunnels 1 and 2](#) submitted to Ecology as part of Administrative Order corrective action 2

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. Except for a tank waste mission managed by the DOE Office of River Protection, the DOE Richland Operations Office is responsible for all remaining Hanford cleanup and is currently focused on cleaning out and 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. The office oversees Hanford Site work that is conducted by a federal and contractor workforce of approximately 4,000 personnel. Visit www.hanford.gov.

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