Hanford Communities

Winter 2019 Newsletter

Richland • West Richland • Kennewick • Pasco • Franklin County • Benton County • Port of Benton

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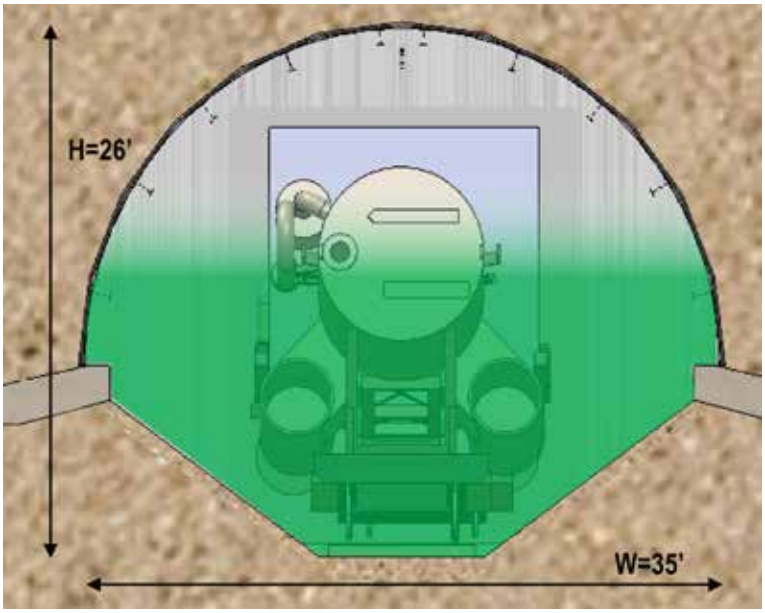
Speakers' Bureau

If you would like to have a member of the Hanford Communities Speakers' Bureau address your organization, please call (509) 942-7348.

Grouting Continues at PUREX Tunnel 2

In September 2018, CH2M HILL Plateau Remediation Company (CHRPC) began grouting Tunnel 2 at what remains of the Plutonium-Uranium Extraction (PUREX) Plant on the Central Plateau of the Hanford Site. The tunnel, which was built in 1964 and last entered by workers in 1996, contains 28 rail cars loaded with radiologically contaminated plutonium processing equipment. Expert evaluations determined that the tunnel had a high risk of collapsing. The placement of engineered grout is the solution alternative recommended by an independent panel of experts that evaluated options for stabilizing Tunnel 2.



At the end of December 2018, Tunnel 2 is nearly 65 percent filled with grout.

"DOE is committed to the safety of its workforce, the public, and the environment," said Doug Shoop, manager of the U.S. Department of Energy (DOE) Richland Operations Office. "Grouting safely and efficiently reduces near-term risk by providing interim stabilization while DOE and the Washington State Department of Ecology evaluate future closure options."

"We received many thoughtful, well-founded criticisms of grouting," said Alexandra Smith, manager of the Washington State Department of Ecology's Nuclear Waste Program. "But, in the end, we must protect Hanford workers, the surrounding communities, and environment. Grout is the best way to ensure that the tunnel and its contents are safe until final decisions are made on how to deal with the waste."

To confirm the condition of the tunnel and prepare for grouting, CHPRC opened 14 of 17 risers along the 1,700-foot tunnel and inserted cameras for a 360-degree inspection. Workers also collected radiological and industrial hygiene data from the risers and the tunnel interior. They then removed six 30-inch concrete plugs, allowing access to pour the grout.

Using mock-ups, workers tested both the grout formulation and the system for conveying it. They also prepared roads to carry the heavy loads as the grout is trucked to the facility.

As many as six trucks per hour carry grout to the tunnel. Workers pour the grout 8 hours a day, 5 days a week. All equipment is kept on the prepared roads on either side of the tunnel, so no weight is placed on the tunnel itself.

More than 2,500 trucks so far have brought over 25,000 cubic yards of grout. At the end of December, grouting was more than 60% complete, with full completion expected in March 2019. Weekly updates can be found at http://www.hanford.gov. ■

Meetings

February 13 and 14
Hanford Advisory Board Meeting
8:30am to 5:30pm
Red Lion Hanford House
Contact Kristen Holmes
(509) 376-5803

April 20, 21
Hanford Advisory Board Meeting
8:30am to 5:30pm
Location TBD
Contact Kristen Holmes
(509) 376-5803

Sludge Moving Away from K West Basin

Workers are using innovative technology to remove sludge from the K West Basin.

In June 2018, CHPRC began removing sludge from the K West Basin, 400 yards away from the Columbia River. Approximately 35 cubic yards of the sludge has been stored underwater since workers vacuumed out the basin between 2006 and 2010.

The sludge, which is considered transuranic waste, is a complex mixture of radionuclides from corroded N Reactor fuel; corrosion products such as iron, aluminum, and uranium; environmental particulates like sand and rocks; and basin operations debris including concrete and paint flakes. CHPRC developed the Engineered Container Retrieval and Transfer System to remove and transport the material. A tractor trailer brings an empty Sludge Transport and Storage Container into the K Annex next to the basin. A mine slurry pump adapted to underwater work pumps sludge from the basin to the annex through shielded lines to protect workers and the environment. When the container is filled, a truck transports it 12 miles to T Plant on the Central Plateau. The T Plant canyon has been modified to store the containers in specially built cells.

As of the end of December, workers had transferred seven containers to T Plant. Approximately 24 shipments are planned to remove all the sludge. CHPRC is planning to have the work completed in September 2019, ahead of the Tri-Party Agreement (TPA) milestone of December 31, 2019. Storage in T Plant is considered an interim measure. The TPA requires that DOE have a plan for removal to permanent storage by 2022.

For more information on the process, see the Hanford Communities issue briefing at https://youtu.be/rKer2EP3URU. DOE and CHPRC also have a video showing how the work is being conducted. See https://youtu.be/-Y_CO3vukd8. ■

Members of the Hanford Communities Board recently toured the 324 Building mockup, where workers are preparing to remediate the high-contamination area.

PFP Prepares to Resume Higher-Risk Work

Workers at the Plutonium Finishing Plant (PFP) are preparing to resume higher-risk demolition work following a December 2017 event that spread contamination and led to a shutdown of demolition work.

Monitoring resulted in a detection of plutonium and americium contamination at PFP in the summer of 2017. Work resumed when no further contamination was detected. However, the December 2017 demolition of the Plutonium Reclamation Facility, part of the PFP complex, resulted in a widespread release of plutonium and americium, some of which was found outside posted boundaries for radioactivity. The discovery and potential spread of the contamination caused the U.S. Department of Energy Richland Operations Office (DOE-RL) to issue a stop work order. After a review, the Washington State Department of Ecology and U.S. Environmental Protection Agency issued an order to prevent work from resuming until DOE-RL could demonstrate improved safety protocols.

More than 200 workers requested bioassays. Most had zero dose detected. A total of 42 recorded some radiation dose. State experts considered the amounts found to be too small to pose a health risk.

Work analysis identified several root causes. One was over-reliance on certain types of data gathered during and after demolition, which was used in making decisions on the rate and methods of demolition. Another was that risks and consequences associated with emerging and changing conditions were not adequately reviewed and evaluated. DOE, the regulators, an expert panel, and workers identified 131 corrective actions. These included revising air dispersion/ground deposition models, analyzing options for engineering with input from workers and a DOE expert panel, developing enhanced controls, and planning to resume work.

Based on further analysis, DOE and the regulators determined that lower-risk demolition work could resume after an independent review of readiness by a team of experts in conduct of operations and radiological control, a week of documentation review, and a week of field work. This field work included mock-up demonstrations and emergency drills.

Workers started in June by reducing the amount of demolition debris left from the Main Processing Facility. A Hazard Review Board evaluated the plans for the next steps: demolishing the two former processing lines inside the Main Processing Facility. No further radiological issues have been raised, nor has any contamination been found outside the radiological buffer area.

Recent progress was highlighted in a video, which can be found at https://youtu.be/f9RQPqL9_KI. Weekly updates on cleanup progress can be found at http://www.hanford.gov. When the picture for PFP Updates appears, click on the words "Learn More." ■

Higher-risk demolition work will start up again at the PFP shortly.

Hanford to Improve Water Infrastructure

Hanford needs reliable water, nearly 400 million gallons a year, for operations, dust management during construction, waste processing, fire protection, and employee health and safety. DOE-RL and contractor Mission Support Alliance (MSA) recently began work on a $7.8 million project to improve the water system.

The largest portion of the work involves installing a new pipeline to connect the separate water grids in the 200-East and 200-West areas in the center of the Hanford Site. This 4-mile section of 30-inch pipe is planned to be completed in spring 2019.

"With about 9,000 workers, many near the center of the Site, where this project takes place, ensuring the dependability of the water system is key," said Jeff Frey, DOE-RL Assistant Manager for Mission Support.

Another upgrade will install a backup water supply to the 200-West Water Treatment Facility.

"This is a large-scale and critical project for Hanford's water needs, which will last for many years. We're excited to see this project through to completion," said Dan Parr, MSA project manager.

Once construction of the water line is complete, workers will revegetate disturbed areas with native grasses and shrubs to restore the environment close to its original state. They will also install wild bee habitats to encourage pollination of revegetated areas. ■

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