Hanford Readies to Treat Tank Waste

RICHLAND, Wash. – The Department of Energy's Office of River Protection (ORP) and its tank operations contractor Washington River Protection Solutions (WRPS) are an important step closer to treating tank waste at the Hanford Site after the recent installation of two critical pumps and the completion of equipment and worker testing.

In early May, crews installed a pair of pumps in tank AP-106, the tank that will feed waste treated by a Tank-Side Cesium Removal (TSCR) system to the Waste Treatment and Immobilization Plant where it will be vitrified, or immobilized in glass. Completion of construction of the TSCR system at Hanford is an EM 2021 priority.

“This is an exciting and historic time for Hanford,” said Janet Diediker, federal project director at ORP. “We’re just months away from being able to operate our cesium removal system. As we make progress installing equipment and training employees, we get closer to vitrification and reducing the risk this waste poses to the environment.”

TSCR is nearly ready for operation. Workers spent the last month running water through the system to simulate tank waste, giving crews some hands-on training and the opportunity to validate operational procedures.
“With each week, we were able to process more simulated waste as we improved efficiency,” said Matt Cuttlers, TSCR operations manager for WRPS. “This provided experience for our operators, and we received great support from commissioning, engineering, and maintenance.”

Crews with Washington River Protection Solutions place a mock-up ion-exchange column onto a storage pad during column replacement testing at the Hanford Site.

Washington River Protection Solutions employees install a pair of pumps into tank AP-106, which will feed waste treated by a Tank-Side Cesium Removal system to the Waste Treatment and Immobilization Plant.
Workers also practiced changing out the TSCR ion-exchange columns, which will remove cesium from tank waste. During waste treatment, workers will change out the columns approximately once a month.

“This was a big team effort,” said Mario Servin with WRPS tank farms projects engineering. “It gives us a lot of confidence when field workers have the opportunity to practice the procedures. They give us feedback so we can make improvements with each practice run.”

Several members of the team that will operate TSCR are second-generation Hanford workers who take pride in knowing they will be part of treating millions of gallons of radioactive and chemical waste stored in underground tanks at Hanford.

“It’s been a long time coming, but it’s exciting to know that we’re on the cusp of treating the waste,” said nuclear chemical operator Darin Wood, a 20-year Hanford veteran whose father worked at the site for nearly 40 years.

“I’m happy to be a part of the process of immobilizing waste in glass,” said James York, another second-generation Hanford worker. “I love what I do. It’s very satisfying knowing that I get to help protect the environment for my kids.”

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The Department of Energy (DOE) is engaged in one of the great public works of this century at the Hanford Site near Richland, Washington. Responsible for the federal government’s cleanup of the legacy of more than 40 years of producing plutonium through the 1980s, DOE is transforming the site back into a 24/7 operations mode to treat tank waste from the production era. 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 mission includes building and commissioning 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 stabilizing and demolishing former plutonium production structures, excavating and disposing of contaminated soil and waste, treating contaminated groundwater, and configuring Hanford Site infrastructure for the future, with an emphasis on supporting the tank waste mission. Hanford Site work is conducted by a federal and contractor workforce of approximately 11,000 personnel. Visit [www.hanford.gov](http://www.hanford.gov) for more information about the Hanford Site.