



U.S. DEPARTMENT OF
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Vit Plant celebrates surpassing 50 percent complete

Richland, Washington – This month, the Hanford Waste Treatment and Immobilization Plant (WTP) Project celebrated surpassing the 50-percent-complete mark.

“Over the years, nearly 10,000 people have touched this historic project,” WTP Project Director Ted Feigenbaum said. “Each of these people, whether a skilled craft, engineer or other professional, has contributed to the project meeting this milestone. It is their pride and commitment to safety and quality that will continue to make this project a success and enable us to reach operations in 2019.”

The Vit Plant will use the vitrification process to treat the 53 million gallons of radioactive and chemical wastes now stored in underground tanks at the Hanford Site. The wastes will be blended with glass-forming materials, heated to high temperatures and poured into stainless steel canisters for permanent storage. In this form, the wastes will be stable and impervious to the environment, and the radioactivity will dissipate over time.

“The tank waste mission is critical to Hanford cleanup, and is the most complex and challenging environmental cleanup project in the nation,” said ORP Manager Shirley Olinger. “The vitrification plant provides the cornerstone to accomplish this mission. Today, we are better aligned than ever, having reached a tentative agreement with the state and EPA on more realistic cleanup schedules, completed significant testing resolving nearly all of our technical design concerns, and we’re 90% complete with our design.”

The wastes in the 177 Hanford tanks are unique, complex in nature and vary per tank. To address the challenges this presents, the project has engaged recognized experts, external review teams and regulatory agencies. An external review team was brought in to look closely at the fundamental waste treatment processes.

As a result of this review, the Vit Plant confirmed the efficiency and throughput of key waste separation processes and is now confirming key mixing technologies. Using the Pretreatment Engineering Platform (PEP), one of the world’s largest test platforms, DOE and Bechtel verified the separations processes on a larger scale than ever before. A similar platform, the M3 Mixing Test Platform, was recently used to test pulse-jet mixers, which keep the waste suspended throughout the treatment process.

“We are confirming these processes and technologies now, which will provide additional confidence in commissioning and operations,” Olinger said. “We are optimistic about our future, proud of our workforce and privileged to be part of such an important mission. Being a part of cleaning up the legacy of the cold war and doing our part to protect the Columbia River is what motivates us.”

Since construction began in 2001, nearly 200,000 cubic yards of concrete, 14,000 tons of steel and 340,000 feet of piping have been installed. Two of the major four facilities -- the LAW Facility and Lab -- are completely enclosed, and work is progressing on their interiors and equipment. The more complex HLW and PT facilities are steadily rising, reaching 37 feet and 77 feet, respectively.

In addition, the Vit Plant has installed key equipment. The massive environmental emission stacks are mounted on top of the LAW Facility and the Lab. The last of 13 glass-former silos, which will hold the glass-forming materials, are in place. And more than 70 vessels are installed, including four 275-ton waste feed receipt vessels in the PT Facility.

The Vit Plant construction site remains active and fast paced, making it essential to maintain a safe workplace. This year, the construction site earned the DOE's Voluntary Protection Program's Merit Status, which is awarded to highly effective worker-safety and -health programs.

Within the next few years, several more milestones will be met. The two 90-ton LAW and two 300-ton HLW melters, the hearts of the vitrification process, will be installed, as well as the 50-ton shield doors in the PT Facility.

"We are making very good progress," Feigenbaum said. "Reaching the midpoint in the project is encouraging. Most of the tough technical issues are behind us and, while there will be challenges ahead, our progress to date gives us confidence in a successful completion. Fifty percent is another important step closer to commissioning and operations."

Bechtel National, Inc., along with principal subcontractor Washington Group International, a subsidiary of URS - Washington Division, is designing and building the world's largest radioactive waste treatment plant for the U.S. Department of Energy at the Hanford Site in southeastern Washington state. The \$12.2 billion Waste Treatment and Immobilization Plant (WTP), also known as the Vit Plant, will immobilize the radioactive liquid waste currently stored in 177 underground tanks.

The WTP will cover 65 acres with four nuclear facilities -- Pretreatment, Low-Activity Waste Vitrification, High-Level Waste Vitrification and Analytical Laboratory-- as well as operations and maintenance buildings, utilities and office space.

Construction of the WTP began in 2001. The plant will be operational in 2019.

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