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Hanford Waste Treatment Plant reaches design milestone for largest facility *Total project reaches 60 percent complete*

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Richland, Wash. -- The Hanford Waste Treatment Plant Project, also known as the “Vit Plant,” recently issued the final design for the concrete walls of the Pretreatment Facility—and celebrated reaching 60 percent complete.

“This additional design milestone—for the largest Vit Plant facility—further demonstrates that transition and our commitment to completing Vit Plant design in 2013, construction in 2016 and reaching operations in 2019,” Dale Knutson, federal project director, said. “We appreciate the diligence and dedication of our workforce that have brought us to this point.”

When complete, the Pretreatment Facility will be composed of 113,000 cubic yards of concrete and comprise six concrete wall elevations that reach a total height of 109 feet. A single wall elevation can reach 28 feet tall, 460 feet long and 4 feet thick, depending on its location. Steel columns and roof trusses will extend beyond the walls to an overall height of 120 feet, and the emissions stack will reach nearly 200 feet. The extensive wall design is supported by more than 15,000 pages of calculations and 500 drawings.

“These are no ordinary walls; they are designed to nuclear-quality standards and must meet strict regulations and requirements that will ensure the integrity and safety of the facility and its equipment,” Frank Russo, project director, said. “Literally, each inch of wall is reviewed and checked multiple times by multiple people. This is all consistent with our—the Department of Energy and Bechtel’s—commitment to safety and quality in designing and building the Vit Plant.”

Each wall in the Pretreatment Facility includes a complex rebar grid, composed of a nearly one-and-a-half-inch-thick rebar. The grid, often referred to as a “curtain,” reinforces the strength of the surrounding concrete. Many of the walls also include steel embed plates, which will be used to connect materials and equipment and therefore require precise placement.

Completion of the facility’s wall design is the culmination of more than 500 Vit Plant engineers’ work over several years. Since project inception, more than 16,000 engineers, skilled craft and professionals have contributed to the Vit Plant’s design and construction. Currently, Vit Plant design is nearly 85 percent complete; construction is 56 percent complete.

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Bechtel National, Inc. 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 using a process called “vitrification.”

Vitrification involves blending the waste with molten glass and heating it to high temperatures. The mixture is then poured into stainless steel canisters. In this glass form, the waste is stable and impervious to the environment, and its radioactivity will dissipate over hundreds to thousands of years.

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 and is now 60 percent complete. Construction is scheduled to be complete in 2016 and the plant operational in 2019.



Complex rebar grid “curtain” for the Pretreatment Facility