



November 5, 2010

First giant melter assembly arrives at Hanford Waste Treatment Plant

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Richland, Wash. -- Today, the first 125-ton melter assembly that will be staged in the Low-Activity Waste Vitrification (LAW) Facility completed its nearly 800-mile journey from Ogden, Utah. The assembly was carried on a specially configured heavy-haul transporter that was restricted to driving no more than 45 miles per hour. In just four days, it traveled through four states -- Utah, Idaho, Oregon and Washington -- and arrived at the Hanford Waste Treatment Plant (WTP) construction site.

"The melters are central to the vitrification process and receiving them is a huge milestone towards treating Hanford's radioactive tank waste," Dale Knutson, WTP federal project director, said. "This receipt brings us one step closer to achieving operations in 2019."

The melter assembly is the first of two, both which measure 30 feet long, 21 feet wide and 13 feet tall. To accommodate their size and weight, the transporter carrying them spans 190 feet and includes a tractor in front, a 13-axle trailer and a tractor in back. Its size and special configuration make it necessary to deliver the assemblies via two trips. When this delivery is complete, the transporter will essentially turn immediately around and return to Ogden to load and transport the second melter assembly.

"The arrival of this melter assembly is the culmination of a tremendous amount of collaboration and teamwork and a significant achievement for the WTP Project," Frank Russo, WTP project director, said.

The assemblies will be delivered to the construction site, offloaded at the LAW Facility and rolled into the building using a rail system. The refractory interiors will be constructed on site within the next year.

The assemblies are the primary components--base and walls--of the LAW melters. A single melter is composed of a melter assembly (melter base and walls); a gas barrier lid; a shield lid; a refractory brick interior; and other components that will feed, stir, and monitor the glass mixture. When complete, the LAW melters will each weigh 300 tons. They will be the world's largest waste-processing melters in operation.

The melters will be used to heat the waste and glass-forming materials to 2,100 degrees Fahrenheit before the mixture is poured into stainless steel containers for permanent storage. The WTP will use a total of four melters: two in the LAW Facility and two 90-ton melters in the High-Level Waste Vitrification Facility.

For more information on the LAW melter deliveries, see www.hanfordvitplant.com/lawmelterblog.

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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 56 percent complete. The plant will be operational in 2019.

NR 10-13



The melter assembly enters the WTP construction site. (Photo 1 of 2)



The melter assembly (foreground) will be staged in the Low-Activity Waste Vitrification Facility (background). (Photo 2 of 2)