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First massive melter assembly begins nearly 800-mile route to Hanford Waste Treatment Plant

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Richland, Wash. -- Yesterday, the first 125-ton melter assembly that will be installed in the Low-Activity Waste Vitrification (LAW) Facility began its nearly 800-mile route to the Hanford Waste Treatment Plant, also known as the Vit Plant. The assembly, which is the first of two, measures 30 feet long, 21 feet wide and 13 feet tall.

Because of their size, the melter assemblies will be delivered using a specially configured 190-foot heavy-haul transporter and require two separate trips. The transporter will be preceded by at least two lead cars that verify clearances and one or two follow cars. The melter caravan's maximum speed is 45 miles per hour.

The melters are being shipped from the manufacturer Petersen, Inc., in Ogden, Utah, and are due to arrive at the Vit Plant construction site, just north of Richland, Wash., within the next week. To follow the melters' journeys to the Vit Plant, including interesting facts, photos and daily updates, view the LAW melter blog at www.hanfordvitplant.com/lawmelterblog/.

When operational, the melters, which are often considered the core of the vitrification process, will be used to heat the waste and glass-forming materials to 2,100 degrees Fahrenheit before the mixture is poured into stainless steel canisters for permanent storage. The Vit Plant will use four melters in total: two melters in the LAW Facility and two in the High-Level Waste Vitrification Facility.

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.

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."

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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.



The transporter carrying the first of two LAW melter assemblies pulls out of the parking lot at Petersen, Inc., in Ogden, Utah.



An aerial view of the transporter that uses a tractor in front, a 13-axle trailer and a tractor in back, totaling nearly 190 feet in length.