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## Hanford Vitrification Plant Project begins complicated cooling panel installations

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**Richland, Wash.** -- Earlier this month, crews at the Hanford Vitrification Plant began a series of complicated cooling panel installations in the Low-Activity Waste Vitrification (LAW) Facility. The panels are being installed in the area of the facility where the 2,100-degree-Fahrenheit waste-glass mixture, the final product of the vitrification process, will be poured into stainless steel containers for permanent storage.

The panels will absorb the extreme heat emitted from the mixture, helping to keep the pour area of the facility at approximately 150 degrees Fahrenheit. This temperature allows the containers to cool enough to be transported out of the facility and maintains the integrity of both the equipment and surrounding concrete.

The cooling panels are specially treated to absorb the massive amounts of heat and must be handled with extreme care. The natural oils from human hands, for example, can compromise the special treatment coating. Therefore, the panels are covered in a polyurethane protective layer, which will later be removed, and workers must wear white cotton gloves during the installation process.

The panels are also quite thin, less than three-quarters of an inch thick, and range in sizes, from 4 feet wide and 16 feet long, to the same width and just a few feet long. To keep them from bending or folding and to aid workers in maneuvering, the panels are fitted on custom-built installation frames.

Further adding to the complexity, the area has limited access and already contains equipment that workers must maneuver around. A small temporary bridge crane is used to move the panels around installed equipment and within the tight area, where some clearances, above or below the panels, are less than an inch.

"These installations are very difficult and require extensive planning, collaboration and teamwork across organizations, disciplines and craft," Wes Hoover, assistant area superintendent for the LAW Facility, said. "I'm confident this is the reason the first installation was so successful and that the remaining panels will go just as smoothly."

A total of sixty panels, which cover 2,900 total square feet, will be installed and are expected to be complete early in 2011.

"Once the panels are installed, workers will connect piping that will transport chilled water to the panels (water will move through the panels as part of the cooling process)," Hoover said. "These are the final steps in completing the pour area of the LAW Facility."

(Continued)



*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 55 percent complete. The plant will be operational in 2019.*

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Crews installed the first of the cooling panels last week in the Low-Activity Waste Vitrification Facility. The panels are being installed in the area of the facility where the 2,100-degree-Fahrenheit waste-glass mixture, the final product of the vitrification process, will be poured into stainless steel containers for permanent storage.