

### **Basemat completed for Waste Treatment Plant Low-Activity Waste Vitrification facility**

The team that is building the Waste Treatment Plant Project's Low-Activity Waste Vitrification facility placed the final three concrete basemats (similar to building foundations) last month. On Jan. 14, construction crews placed two basemats containing a total of 330 cubic yards of concrete, and the final 155-cubic-yard placement took place Jan. 16. In all, the crews have placed 8,330 cubic yards of concrete into the facility's foundation.

The work was originally planned as part of the first scheduled concrete basemat placement last July. But record summer temperatures, equipment problems and safety concerns led to suspension of work, leaving a section of the 5-foot-thick concrete basemat unfinished.



**Crews complete the last placement of concrete for the Waste Treatment Plant Low-Activity Waste Vitrification facility basemat. A heated tent is used to enclose the placement area, keeping the temperature of the concrete at appropriate levels for curing.**

"Even though we had plans to finish before the extreme heat, it became nearly 110 degrees outside," said Bill Clements, area project manager for the WTP Low-Activity Waste Vitrification facility. "We couldn't keep the concrete placement temperatures at the specified 70 degrees, and the Creter crane carrying the concrete from the trucks to the placement area broke down. But we did the right thing. We followed our procedures, halted the concrete placement, and kept the safety of our workers and quality the top priorities."

The basemat section where the concrete placement was stopped hardened to form a visible stair-step-like surface. The method used to repair and join the uneven concrete sections is known as a "cold-joint" pourback placement.

The construction team immediately initiated a root-cause analysis and has since implemented a lessons-learned corrective action plan to improve concrete-placement procedures. A detailed procedure was also developed, and cold-joint placements were completed to assure that the structural requirements were maintained. The procedure was reviewed and approved by the Department of Energy before the final placements were made.

"We were confident heading into the cold-joint placements," said WTP Project manager Jim Betts. "We identified the problem early, implemented a path to correct the quality issue and completed the placements to meet all nuclear, regulatory and project standards. It was a good measurement of engineering and construction teamwork and resolve to get the job done right."

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## **Basemat completed for Waste Treatment Plant Low-Activity Waste Vitrification facility, cont.**

“To ensure a quality, seamless concrete placement, we drilled and grouted approximately 3,200 rebar dowels to prepare for the cold-joint placements,” Clements explained.

Construction of the Low-Activity Waste Vitrification facility now focuses on completing walls-to-grade work by installing reinforcing steel on the northern side of the building. So far, crews have placed more than 430 tons of reinforcing steel and more than 9,300 pounds of embeds into the facility’s walls. ■