SRS Crews Mark Milestone in Double-Stacking Waste Canister Project

AIKEN, S.C. (January 27, 2020) – Department of Energy-Savannah River crews recently reached a significant milestone by modifying the 1,000th storage position for vitrified waste canisters at the Savannah River Site (SRS), a space-saving project that avoids the more than $100 million cost of building an additional storage area.

The canisters contain high-level radioactive sludge transferred from waste storage tanks to the Defense Waste Processing Facility. The waste is mixed with a special glass and heated to more than 2,000 degrees Fahrenheit, turning the mixture into molten glass in a process called vitrification. The molten glass is then slowly poured into a stainless-steel canister that is 10 feet tall and 2 feet in diameter. Once cooled, the mix becomes solidified glass for interim storage inside one of the site’s two glass waste storage buildings.

Workers with Savannah River Remediation (SRR), the liquid waste contractor at SRS, remove the legs of a steel crossbar at the bottom of each canister support. This and other changes provide additional vertical space to stack two filled canisters, one on top of another.

Jim Folk, DOE-Savannah River’s assistant manager for waste disposition, said the modifications allow the liquid waste mission to continue uninterrupted. Past analysis indicated that both storage facilities would be full in the near future without the modifications.

“We’ll need additional storage space for filled canisters inside this facility once operations get underway at the Salt Waste Processing Facility (SWPF),” Folk said. “SWPF will accelerate our liquid waste processing, so we need to prepare in all areas for this increased production.”
Double-stacking saves space until a federal repository for the canisters is established. The initiative creates adequate safe interim canister storage until at least fiscal 2029, postponing the need for a third storage area — a cost avoidance of more than $100 million.

So far, crews have double-stacked 738 canisters in one of the storage buildings. The project will double the building’s capacity from 2,262 to 4,524 positions.

Tom Foster, SRR president and project manager, congratulated his employees for their innovation.

“Building on this success, an analysis is underway to determine the feasibility of performing similar modifications inside Glass Waste Storage Building 2, which could further enhance efforts to improve our temporary storage efficiency,” he said.

The current plan calls for modifications to 300 storage positions each year, Foster said. At that rate, the changes throughout the entire Glass Waste Storage Building 1 should be completed by December 2023.

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