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Walls Going Up for Newest Saltstone Disposal Unit at Savannah River Site

AIKEN, S.C. (March 16, 2021) – The first wall section is now rising from the ground on the newest mega-sized disposal unit being constructed at the Department of Energy (DOE) Environmental Management (EM)’s Savannah River Site (SRS).

Savannah River Remediation (SRR), EM’s liquid waste contractor at SRS, continues to make progress on Saltstone Disposal Unit (SDU) 8 with the recent wall and flooring installation. SDU 8 will stand at 43 feet tall and 375 feet in diameter, and have a 33-million-gallon capacity, just like two mega-sized SDUs built at SRS before it. The disposal units are built to safely and permanently contain decontaminated salt solution processed at SRS.

The 25 wall sections of SDU 8 will be constructed using high-strength, reinforced concrete and will be wrapped with seven layers of more than 300 miles of steel cable for added strength. The flooring of SDU 8 is more than halfway complete. The concrete floor sits on top of a multilayer foundation: a geosynthetic clay liner and high-density plastic liner sandwiched between two concrete layers called “mud mats.” The floor is being completed in 14 sections.

SRR is building SDU 9 in parallel with SDU 8. At SDU 9, the lower mud mat is complete with the liner now being installed on top of it. Site prep design is ongoing for SDUs 10-12, the final three units to be built. The site prep design and excavation work for SDUs 7-12 were completed safely by BK All American Company, a locally owned small business.

DOE-Savannah River SDU Federal Project Director Shayne Farrell said waste tank cleanup is a priority for EM, and the SDUs play a key role in that mission, along with the Salt Waste Processing Facility (SWPF) that is now operational and processing waste.

“The Salt Waste Processing Facility will greatly increase waste tank cleanup at the Savannah River Site,” Farrell said. “The liquid waste system relies on the capability to safely dispose of the saltstone onsite, and the Saltstone Disposal Units are required to fulfill this mission need.”
SRR President and Project Manager Phil Breidenbach said the SDU program is quite a phenomenal construction project, and it is easy to feel awe by the size, the materials, and the magnitude.

“However, it is important to remember that these structures, the Saltstone Disposal Units, are engineered and constructed by people,” Breidenbach said. “It takes construction workers, subcontractors, engineers, safety professionals, planners, and more to get the job done. We have a great team at Savannah River Remediation getting this work done the right way — safely.”

SRR is building the SDUs to support the increased decontaminated salt solution from the SWPF. Salt waste at SRS is decontaminated through processes that remove radioactive isotopes, such as cesium, at SWPF.

The treated solution is then sent to the Saltstone Production Facility, where it is mixed with dry materials to form a grout. The grout is pumped to the above-ground SDUs where it hardens to a form called saltstone. The first mega-volume unit, SDU 6, is already operational and receiving treated waste. SDU 7 is nearing completion and undergoing testing.
Savannah River Remediation, EM’s liquid waste contractor at the Savannah River Site, continues to make progress on the next Saltstone Disposal Units being constructed to support the Salt Waste Processing Facility.