DOE Authorizes Use of Second Saltstone Disposal Unit at Savannah River Site

AIKEN, S.C. (November 5, 2021) – The Department of Energy’s (DOE) Office of Environmental Management (EM) has authorized the use of a second mega-volume saltstone disposal unit (SDU) at Savannah River Site (SRS) after the project was completed ahead of schedule and under cost.

Savannah River Remediation (SRR), EM’s liquid waste contractor at SRS, received Critical Decision-4 for Saltstone Disposal Unit (SDU) 7, marking the final step in the approval process before beginning operations. SDU 7 will receive decontaminated salt solution (DSS) treated at the Salt Waste Processing Facility (SWPF) and Saltstone Production Facility (SPF). SDU 7 is scheduled to receive its first grout in this fiscal year, which began Oct. 1.

Salt waste at SRS is decontaminated at SWPF through processes that remove radioactive isotopes, including cesium, strontium, and actinides. The treated solution is then sent to the SPF, where it is mixed with dry materials known as slag and fly ash to form a grout. The grout is pumped to the above-ground SDUs, where it hardens to form saltstone.

Mega-volume SDU design and construction is based on the first successful mega-volume SDU, SDU 6, which began operating in August 2017. SDUs 6 and 7 each have a 32-million-gallon capacity.

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SRR is also making progress on the next mega-sized SDUs. Construction is ongoing at SDU 8 and 9. EM authorized construction of SDUs 10, 11, and 12 to begin last month.

“The safe completion of the SDU 7 project ahead of schedule and under cost, combined with the approval to construct the last three SDUs, facilitates completion of the mission to remove and treat all remaining high-level waste stored in South Carolina,” SDU Federal Project Director Shayne Farrell said.

Building the SDUs at an accelerated rate benefits the liquid waste program at SRS, according to SRR Chief Operating Officer and Deputy Project Manager Mark Schmitz.

“Constructing saltstone disposal units concurrently optimizes crews and resources used on the adjacent structures, ultimately cutting costs for the program,” Schmitz said. “Saving money on such a large and critical component of the liquid waste system is a win for Savannah River Remediation, DOE, and especially for the taxpayers.”