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For Immediate Release

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Next Mega-Volume Saltstone Disposal Unit Taking Shape at SRS

AIKEN, S.C. (July 22, 2020) – The Savannah River Site (SRS) landscape is changing again as Saltstone Disposal Unit (SDU) 8 cell construction work is underway.

“SDUs are a visual reminder of the progress being made toward the Department’s goal to safely and efficiently dispose of waste at SRS, making the community and environment safer,” Department of Energy (DOE) Savannah River SDU Federal Project Director Shayne Farrell said.

SDU 8 is the third 32-million-gallon capacity, mega-volume SDU to be built by liquid waste contractor Savannah River Remediation (SRR) at SRS. Mega-volume SDUs stand 43 feet high and 375 feet in diameter.

SDU 8 work has moved past preparing the site and installing a mudmat. SRR is now setting rebar in preparation for placing the two-foot-thick foundation slab, the step that moves the work on the cell to the construction phase.

Mega-volume SDU design and construction is based on the first successful mega-volume SDU, SDU 6, which entered into operation in August 2017. Construction of the SDU 7 cell is complete, and it is currently being internally lined to protect the concrete and provide a robust leak tightness barrier.

All SDU work is being executed safely with detailed plans and protocols in place to meet all federal and South Carolina state requirements for COVID-19 controls. Worker participation and management review of ongoing safety practices and protocols is keeping workers safe.

SDUs are the safe and permanent destination for decontaminated salt solution (DSS) at SRS. Salt waste is decontaminated through processes that remove radioactive isotopes, such as cesium. The Salt Waste Processing Facility (SWPF) is scheduled to begin hot commissioning in 2020 — a DOE Office of Environmental Management priority for 2020 — and will process up to 9 million gallons of waste per year after.

DSS is transferred to the Saltstone Production Facility and combined with materials to form saltstone, which is pumped into SDUs while it is still liquid and then hardens for permanent disposal. SRR’s mission is to safely store, treat, and dispose of radioactive liquid waste and operationally close SRS waste tanks.

Work leading up to cell construction included a large excavation and the installation of a lower mud mat on SDU 8, followed by installation of the high-density polyethylene liner and then an upper mud mat. SDU 8 will be pieced together by placing 25 walls around 208 columns that support the one-foot-thick roof, then wrapped with nearly 350 miles of reinforcing cable.

“This SDU program team, including our DOE counterparts and subcontractors, are a very talented group of dedicated professionals,” said SRR SDU Project Manager Jon Lunn. “They continue to work safely to help execute the SRS liquid waste mission.”

As a strategic approach to maximize resources, SRR is building SDU 9 in parallel with SDU 8. SDU 9 cell construction preparation work is in progress. SDU 8 construction is expected to be complete by February 2023.

Cutline:

Savannah River Remediation subcontractor employees set rebar in preparation for the foundation slab at Saltstone Disposal Unit 8.

