DOE Completes First Tank Closure Phase Using Innovative Technology at SRS

AIKEN, S.C. (December 12, 2019) – The Department of Energy (DOE) recently declared the first phase of closure complete for an underground waste tank central to a pilot project designed to accelerate cleanup at the Savannah River Site (SRS).

The first phase of closure is known as bulk waste removal efforts. The demonstration project, called Tank Closure Cesium Removal (TCCR), was designed to speed removal of radioactive waste from the SRS underground tanks to support tank closures.

DOE-Savannah River Assistant Manager for Waste Disposition Jim Folk oversees the liquid waste program at SRS.

“Every milestone is carefully planned and executed, and this is another example of the great progress being made to ensure the safety of our workers, the environment, and our community,” Folk said. “It is exciting to see the use of innovative technologies leading to tank closure.”

TCCR is a waste treatment technology that uses filters, ion exchange columns, and a specially engineered resin to remove cesium — a radioactive chemical element — from the salt waste.

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DOE and Savannah River Remediation (SRR), the liquid waste contractor at SRS, completed bulk waste removal efforts for Tank 10 on October 31, 2019, about a month ahead of a federal facility agreement milestone.

Tank 10 is one of 43 operational waste tanks that hold radioactive liquid waste at SRS. The bulk waste removal efforts for Tank 10 consisted of four campaigns. In 1967, one campaign removed sludge waste. The remaining campaigns removed salt waste through the addition of water to the tank, also known as salt dissolution, occurring between 1979 and 1982, in 2013, and in 2019. Low-level salt waste accounts for more than 90 percent of waste in the SRS tank farms.

During the 2019 Tank 10 bulk waste removal efforts, over 200,000 gallons of dissolved salt waste was processed and decontaminated through the TCCR unit and subsequently moved to Tank 50. Tank 50 feeds the Saltstone Production Facility, where decontaminated salt solution is to be mixed with a dry mixture that turns it into saltstone for permanent disposal in Saltstone Disposal Units.

“Completing Tank 10 bulk waste removal efforts ahead of the November 30, 2019, schedule date is one of many major steps in readying a waste tank for operational closure,” SRR Tank Closure and Regulatory Director Jhivaun Freeman-Pollard said.