

The Savannah River Site Environmental Bulletin

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Tank Closure Cesium Removal for Demonstration of Treating Salt Waste from H-Area Tank Farm, Waste Tank 10, Savannah River Site

Savannah River Remediation (SRR), the Savannah River Site (SRS) Liquid Waste System contractor for The U.S. Department of Energy (DOE) recently took receipt of cesium removal process equipment for salt waste treatment at waste Tank 10 in the H-Area Tank Farm (HTF) at SRS.

In accordance with the Federal Facility Agreement (FFA) Appendix L, Statement of Dispute Resolution, item 3, signed on April 27, 2015:

“DOE shall pursue commercial sources for treatment of salt waste in an effort to accelerate and expedite tank closure through the issuance of a request for expressions of interest no later than July 31, 2015. DOE will report progress on the effort to obtain commercial sources for treatment of salt waste at a meeting on October 15, 2015. DOE will provide continual updates on the process during on-going Liquid Waste Program quarterly meetings.”

A request for expression of interest was issued in July 2015, and in January 2016 SRR received commercial supplier proposals for the procurement of the equipment needed for the cesium removal technology demonstration at the Site's Tank 10. In early July 2016, SRR awarded a contract for Tank Closure Cesium Removal (TCCR), which is designed to enhance the removal of bulk waste from underground radioactive high-level waste storage tanks at the SRS. The contract, valued at \$12.4 million, was awarded to Westinghouse Electric Company, LLC headquartered in Cranberry Township, Pennsylvania. Since awarding the contract, SRR has been working closely with Westinghouse Electric Company on the design, fabrication and testing of the processing equipment. In April 2018, SRR took final receipt of the TCCR equipment at SRS and is currently in the process of installing and performing final checkout of the equipment.

The technology selected is an ion exchange process with an “at-tank” deployment. Commercial vendors have demonstrated success with cesium removal, using ion exchange, from similar type wastes. Initial deployment of the technology will be for treating salt solution at waste Tank 10 in the SRS HTF. The use of TCCR during the Bulk Waste Removal Efforts phase at Tank 10 will serve as a demonstration of the technology and determination of its capabilities to potentially support an increase in salt waste processing rates. The TCCR modular treatment capability will operate virtually independent from other Liquid Waste System processes to directly treat salt waste removed from tanks in preparation for final disposal. Use of the technology at this scale and style is new to high-level waste processing in the DOE complex, and successful demonstration of the TCCR technology could be a viable addition for DOE to accelerate the tank closure mission at SRS.

As originally reported to the South Carolina Department of Health and Environmental Control and the U.S. Environmental Protection Agency on October 15, 2015, the plan for obtaining, deploying, and completing the Bulk Waste Removal Efforts phase of Tank 10 was anticipated to be approximately 24 months after award of the TCCR contract. DOE has provided updates to the South Carolina Department of Health and Environmental Control and the U.S. Environmental Protection Agency on the progress of the TCCR equipment during on-going Liquid Waste Program quarterly meetings. Based on current progress, the new process is expected to be operational late January 2019.

The Administrative Record is available in the information repository listed below:

DOE Public Reading Room at the Gregg-Graniteville Library at the University of South Carolina (USC), 171 University Parkway, Aiken, South Carolina 29801.

For additional information, contact Dean Campbell at the address listed below:

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For additional information about the five-year remedy review process at SRS, please contact:

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