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FOR IMMEDIATE RELEASE

SRS Employees Extend Life of Spent Nuclear Fuel Storage Basin

AIKEN, S.C. (May 26, 2021) – A team at the Savannah River Site (SRS) has finished safely removing sediment from a tank for a basin used to store spent nuclear fuel from former production reactors, and from foreign and domestic research reactor programs.

The underwater storage facility, known as the L Disassembly Basin, holds approximately 3.4 million gallons of water, with pool depths of 17 to 50 feet. The basin water provides shielding to protect workers from radiation. The settler tank is part of a sand filter filtration system used to remove sediment from the basin to ensure water clarity.

“It’s important that the water in L Basin remains clear, so operators can see what they are doing when they handle fuel under water,” said Neil McIntosh, L Basin Deputy Facility Manager for Savannah River Nuclear Solutions (SRNS), the SRS management and operations contractor. “Over time, the settler tank becomes full, and we have to remove and safely dispose the contaminated sediment.”

The last time sediment needed to be pumped from the tank nearly 20 years ago, L Basin personnel used equipment known as a sludge processing unit, which would require expensive modernization work to use again.

L Area waste management personnel worked with the Savannah River National Laboratory to obtain commercially available products to safely perform the sediment removal, a less expensive alternative.



Workers prepare for sediment removal activities for the L Basin settler tank, an activity that hasn't been completed in almost two decades.

“After a pump removed the water and sediment from the tank, a cloth-like membrane retained the sediment,” McIntosh said of the new, innovative system. “This material was then placed into a waste container that will be shipped to the SRS Solid Waste Management Facility and the water was returned to L Basin.”

The project created a mock-up of the new removal process, including replicated sediment material, to ensure the safety and proper training of employees, and the viability of the removal equipment. Individuals tasked with performing hands-on work participated in several test runs to help develop procedures and ensure they are implemented correctly. Team members applied several lessons learned from those activities in final planning for the sediment removal.

“The work to remove the sediment from the settler tank will ensure the life of L Basin will be extended for as long as it is needed,” DOE Program Manager Michele O’Shaughnessy said. “The collaboration, teamwork and careful planning by SRNS helped ensure successful sediment removal in a safe and cost-effective manner.”

Savannah River Nuclear Solutions, a Fluor-led company with Newport News Nuclear and Honeywell, is responsible for the management and operations of the Department of Energy’s Savannah River Site, including the Savannah River National Laboratory, located near Aiken, South Carolina.

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SRNS-2021-1039