

News from the Savannah River Site

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SRS H Canyon facility completes cost-saving system inactivation

AIKEN, S.C. (June 5, 2023) - Employees at the H Canyon Chemical Separations Facility at the Savannah River Site (SRS) recently completed the inactivation of equipment related to a process system used in previous missions.

The First Uranium Cycle, or First Cycle, was used as part of the highly enriched uranium blend down process in H Canyon, which resulted in low-enriched uranium (LEU) that could be used to make commercial nuclear power. The fourth of five unit operations, First Cycle separated uranium in dissolved spent nuclear fuel from aluminum, fission products and other impurities. Producing LEU had been H Canyon's primary mission from 1995 until 2022, when a new mission was approved by the Department of Energy to accelerate the de-inventory of material stored in L Area.

Called Accelerated Basin De-inventory (ABD), this new mission will continue to use H Canyon to dissolve the spent nuclear fuel, and then, instead of processing the fuel, it will be sent through the Site's liquid waste facilities to safely be stored onsite until a federal repository is identified.

"ABD allows certain H Canyon systems, like the First Uranium Cycle, to be made inactive, saving processing and associated upkeep and maintenance costs," said Janice Lawson, Senior Vice President of Environmental Management Operations for the SRS managing and operating contractor, Savannah River Nuclear Solutions.



H Canyon Control Room operators Tyler Sullivan and Paul Gettle check First Uranium Cycle readings during its recent inactivation activities.

The First Uranium Cycle inactivation follows the 2022 inactivation of the Second Uranium Cycle, the fifth unit operation in the LEU blend down process, which occurred in preparation for the new mission. Both cycles were used to extract and purify the uranium from dissolving spent nuclear fuel bundles.

"It took a lot of coordination and effort from many different departments to execute this inactivation," said H Canyon Deputy Operations Manager Sunny Somers. "It was important that we inactivated the system while we still had personnel experienced in operating it; many of the employees familiar with First Cycle have retired or moved on to other positions. Applying lessons learned from the inactivation of the Second Uranium Cycle helped prepare us to tackle the even larger scope of First Cycle."

"ABD is a better approach to spent fuel management that will allow SRS to disposition the more than 3,000 spent nuclear fuel bundles in L Basin by 2033, when the previous operating approach would have taken until the year 2060," said Lawson.

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 located near Aiken, South Carolina.

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