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For Immediate Release**Not your average vacuum; SRS employees use unique underwater cleaner to ensure continued spent nuclear fuel processing**

AIKEN, S.C. (November 27, 2023) - Contractor employees at the Savannah River Site (SRS) recently used innovative techniques to complete the vacuuming of spent nuclear fuel (SNF) stored in the L Area Disassembly Basin to ensure continued processing of the fuel, while working toward de-inventory of the basin.

SNF from foreign and domestic research reactors is safely stored in an underwater basin inside of a former production reactor in the Site's L Area. The SNF are then dissolved in H Canyon at SRS and sent through the Site's liquid waste facilities to be vitrified, or made into glass, and safely stored on-site until a federal repository is identified.

"In the early '90s, resin was deposited on a number of [High Flux Isotope Reactor](#) (HFIR) cores and the racks that held them during L Area Basin operations," said L Area Operations Specialist Steve Osteen of Savannah River Nuclear Solutions (SRNS), the Site's managing and operating contractor. "The resin is made up of tiny beads that trap radionuclides and help to remove radioactive ions from the basin water.

The H Canyon dissolver is not able to process the resin, and the HFIR racks will be needed for future SNF receipts, so, in 2020, SRS employees developed a plan to remove the resin from the cores and racks."

A team made up of SRNS engineering, operations and construction partnered with scientists and engineers from the Savannah River National Laboratory to develop a methodology for removing the resin. The team designed and installed a HFIR cleaning station and vacuum tooling to be used in conjunction with an existing basin vacuum system. HFIR cores were placed in the HFIR cleaning station vacuumed and relocated, which allowed operators to vacuum the HFIR racks. By using this new process and associated tools, SRNS was able to recover 30 racks and add an additional 60 clean storage positions.

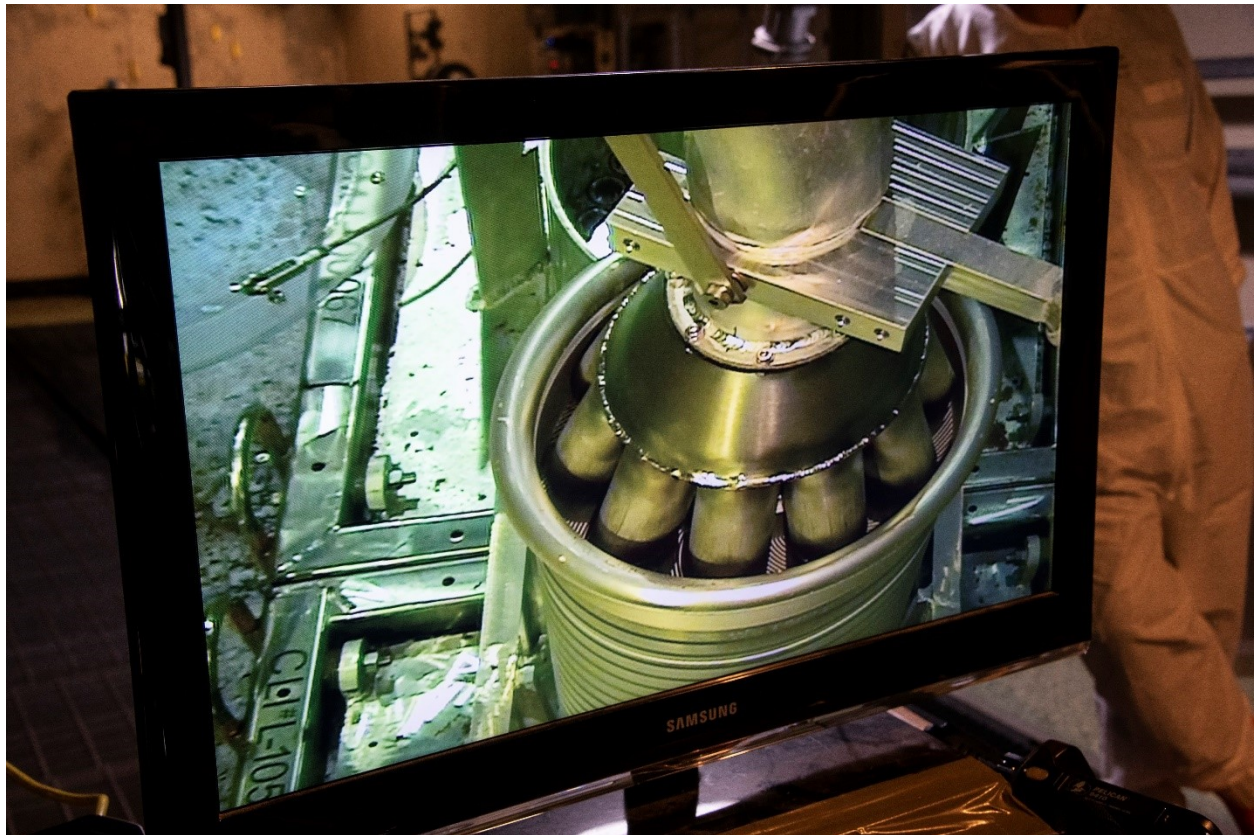
"The ingenuity of this team in planning, designing and implementing new tools to allow for the vacuuming of the cores is commendable," said L Area Facility Manager Neil McIntosh of SRNS. "The nearly three-year effort not only allows transfer to H Canyon of all HFIR cores currently

stored in the basin but also allowed reclamation of all storage racks for future receipts. The ability of the SRNS team to always find a way to get the job done safely and efficiently is why they make a great workforce. Now, the HFIR cores can be scheduled for dissolution and the basin can receive more cores without causing any interruption to other operations.”

HFIR is the highest flux reactor-based source of neutrons for research in the U.S. using highly enriched uranium. The fuel elements, an inner and an outer element, together form a reactor “core.” The reactor is located at Oak Ridge National Laboratory in Tennessee.



Operators in SRS' L Area Disassembly Basin vacuum spent nuclear fuel cores in to ensure continued processing of the fuel, while working toward de-inventory of the basin.



A team of SRS employees designed and installed a High Flux Isotope Reactor core cleaning station and vacuum tooling to ensure continued processing of spent nuclear fuel stored in the Site's L Basin.