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**For Immediate Release**

## **H Canyon Reaches New Milestone in Fast Critical Assembly Mission** *Dissolving Dummy Cans Brings SRS One Step Closer to Nonproliferation*

AIKEN, S.C. (December 13, 2023) – Savannah River Site’s ([SRS](#)) [H Canyon Chemical Separations Facility](#) has reached a new milestone in support of the disposal of Fast Critical Assembly ([FCA](#)) nuclear material following years of preparation and collective efforts from multiple Site contractors by dissolving “dummy cans,” non-radioactive stainless steel containers similar to what holds actual FCA plutonium.

“This milestone is pushing H Canyon one step closer to dissolving nuclear material in support of the disposition of FCA fuel and the National Nuclear Security Administration’s ([NNSA](#)) nonproliferation mission,” said Kevin Moeller, deputy facility manager for Savannah River Nuclear Solutions (SRNS), the site’s managing and operating contractor. “The work we accomplish is making the world safer and we are excited to see advancements in this mission.”

Since 2019, the FCA mission has involved extensive planning from employees in SRS’s H Canyon Chemical Separations Facility after NNSA made the decision to send the FCA fuel to H Canyon to be dissolved and discarded as waste at SRS.

“The FCA fuel is different than the other material we have most recently been dissolving in H Canyon because it is coated in stainless steel cladding, rather than aluminum,” Moeller said. “The current dissolvers in the canyon are chemical dissolvers that use nitric acid to process the fuel; however, nitric acid alone doesn’t work on stainless steel. H Canyon had to replace a no-longer-in-service dissolver and install an electrolytic dissolver in its place.”

This is not the first time H Canyon has performed electrolytic dissolution. From 1969 to 1980, H Canyon utilized this method for dissolution of fuel clad in stainless steel and zirconium. The process involves lowering the fuel into a nitric acid solution and, in the case of electrolytic dissolver, using electricity as part of the chemical dissolution process. This produces a liquid that is stored and prepared in H-Canyon to be moved through the Site’s liquid waste facilities for eventual vitrification, or made into glass, and safely stored onsite until a federal repository is identified. Preparations at the canyon began in Jan. 2021 with the excess of unusable equipment and the installation of the [new dissolver](#).

According to Technical Support Engineer and Dissolving Subject Matter Expert Nina Vinci, the team heading the initiative also installed a new rectifier, which directs electrical current to power the dissolver. They also installed a large storage tank in addition to the new dissolver in preparation for the dummy can’s dissolution milestone and future operations.

“Our team is incredibly proud of this achievement that proves the electrolytic dissolver operates smoothly with only minor hiccups detected,” said Vinci. “We plan to continue all start-up-related tasks and implement all new requirements to start dissolving the FCA fuel by Feb. 2024.”

Moeller believes the years of preparation from all key players ensured the success of the dummy can dissolution process and further development of the FCA mission.

“This new milestone could not have been reached without the collaborative effort from organizations across SRS,” said Moeller. “With any new mission, you are bound to run into challenges along the way, but this team determined resolutions quickly and efficiently to remain on-time and delivering top results.”

Japan’s Atomic Energy Agency sent the FCA fuel to SRS in 2016, fulfilling the joint pledge between Japan and the United States to remove all separated plutonium and highly enriched uranium from the FCA Reactor in Japan. The fuel is currently stored on-site and will be transferred to the canyon for processing upon the completion of all preparation tasks. After the FCA campaign, the electrolytic dissolver can be used for dissolution for other non-aluminum based spent fuels, helping advance DOE’s mission of nonproliferation.

*Savannah River Nuclear Solutions, a Fluor and HII partnership company, is responsible for the management and operations of the Department of Energy’s Savannah River Site, located near Aiken, South Carolina.*



**Cutline:** *H Canyon’s electrolytic dissolver was installed in Jan. 2021 to dissolve nuclear material and support the nonproliferation mission. Before installation in the canyon, test runs were done in a clean mock-up facility.*

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