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FOR IMMEDIATE RELEASE

H Canyon does the Electric Slide *Sliding in new dissolver allows for new dissolution campaign*

AIKEN, S.C. (April 14, 2022) - A recent upgrade at H Canyon at the Savannah River Site will now make it possible to process plutonium fuel removed from a Japanese research reactor, aiding NNSA's nonproliferation mission and making the world safer.

The Fast Critical Assembly (FCA) mission has been a years-long undertaking involving extensive preparations at the Savannah River Site's H Canyon chemical separations facility.

"The FCA spent nuclear fuel (SNF) is different than the SNF we have most recently been dissolving in H Canyon because it is coated in stainless steel cladding, rather than aluminum," Nick Miller, H Canyon Facility Manager for SRS managing and operating contractor Savannah River Nuclear Solutions, said. "The current dissolvers in the canyon are chemical dissolvers that use nitric acid to process the fuel; however, nitric acid 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. The electrolytic dissolver uses electricity as part of the chemical dissolution process to remove the stainless-steel cladding."



A transuranic waste drum is loaded into the RTR. The new Electrolytic Dissolver arrives at H Canyon by on-site rail.



H Canyon removes an old transformer to make room for the new equipment needed for the electrolytic dissolver.

This is not the first time H Canyon has performed electrolytic dissolution. From 1969-1980, H Canyon used this type of dissolver for dissolution of fuel clad in stainless steel or zirconium. After the FCA campaign, the electrolytic dissolver can be used for dissolution for other non-aluminum based spent fuels, helping advance the Department of Energy's mission of nonproliferation by allowing for the disposition and safe storage of nuclear materials.

Preparations to install the new Electrolytic Dissolver were completed in December. Employees removed abandoned equipment and control instrumentation and paneling from the Control Room, making way for the new operating system to be installed later in 2022. The transformer and switchgear previously used to power the old dissolver has been removed. And recently, a significant milestone was completed by installing

the new Electrolytic Dissolver into H Canyon.

The FCA fuel is currently stored on-site and will be transferred to the canyon for processing. Once the fuel is dissolved in the electrolytic dissolver, the resulting solution will be transferred to the liquid waste tank farms. The material will then be transferred to the Defense Waste Processing Facility where it will be made into glass and placed in an SRS storage facility for interim storage. This will not significantly increase DWPF operations.

Japan's Atomic Energy Agency sent the FCA SNF to SRS in 2016. This fulfilled the joint pledge by Japan and the United States made at the 2014 Nuclear Security Summit to remove all separated plutonium and highly enriched uranium from the FCA. Initially, the material was to be sent to the Waste Isolation Pilot Plant for permanent geological disposal. In 2019, NNSA made the decision to instead dissolve the SNF in H Canyon.

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