

Primary Media Contact: Lindsey MonBarren
Savannah River Nuclear Solutions
(803) 952-8053, lindsey.monbarren@srs.gov

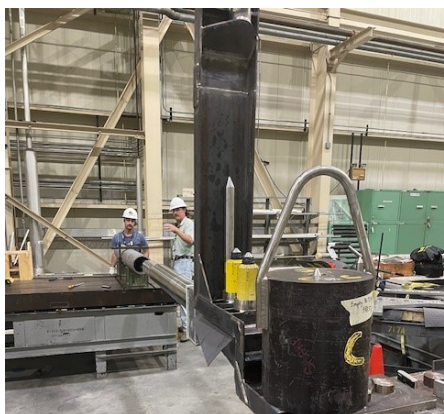
NNSA Media Contact: Bryan Cox
NNSA – Savannah River Field Office
(803) 989-9050, bryan.cox@nnsa.srs.gov

DOE Media Contact: Julie Petersen
U.S. Department of Energy
(803) 952-7690, julie.petersen@srs.gov

For Immediate Release

SRS employees apply unique skills to replace mission essential equipment

AIKEN, S.C., (November 22, 2024) – Department of Energy (DOE) contractor employees at the Savannah River Site once again proved their unique capabilities by using ingenuity, teamwork and decades of experience to replace damaged equipment essential to the Site's spent nuclear fuel dissolution and de-inventory mission.



A mock-up of a custom-made thru-wall connector was fabricated on-site and used to practice the operation before it took place inside the canyon.

While performing startup of the electrolytic dissolver for the Fast Critical Assembly (FCA) mission at the H Canyon chemical separations facility, employees discovered some damaged electrical components and thru-wall connectors, which serve to bring electricity to the dissolver.

“The thru-wall connectors, which were installed in the 60s, are housed inside metallic sleeves that were then grouted into the canyon wall,” Lead Project Engineer Chas Shields of Savannah River Nuclear Solutions (SRNS), the site's managing and operating contractor said. “To replace them, we had to look at hand drawn blueprints and diagrams and come up with a plan for their removal and replacement.”

Added to the difficulty of interpreting 60-year-old drawings, was working within the facility itself. Due to the high radiation of the canyon, all work is done either using remote cranes

or, in some areas, with employees dressed in personal protective equipment, including plastic suits and hoods, and using external breathing air apparatus. The canyon is also filled with equipment, like dissolvers, jumpers and piping, which makes for tight working conditions.

To ensure the success of the fabrication and replacement of the components, multiple mock-ups were fabricated in another area on Site. Employees from various SRNS departments worked together to fabricate custom tooling, practice removing and installing the thru-wall connectors, and working through any challenges encountered along the way.

Pre-planning was essential to the successful execution of the replacement, explained SRNS Maintenance Lead John Charles Lollar. “Personnel protection during the work in the hot areas of the canyon was our highest concern. Pre-planning helped us implement controls, like distance and shielding, for these hazards.”

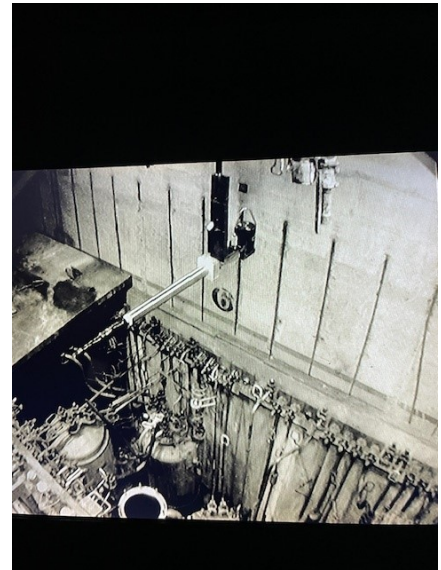
Lollar also applauded the team for keeping positive and embracing teamwork.

“I can’t say enough about the teamwork involved in achieving this monumental task,” he said. “The dedication and hard work of our craft employees to ensure this job was accomplished and performed safely was instrumental to the successful completion of the job. Along with operations, the machine shop did a jam up job of creating our custom tooling and helping with mockups. We also had the support of procurement, shipping, radiation controls, rigging, and more.”

Project Operations Lead Mike Baynham explained that SRNS employees are always willing to go the extra mile to support the mission.

“We appreciated the support of SRNS and DOE executive leadership,” he said. “We basically refurbished a dissolver and its electrical components in three months. Many of our employees have spent all day every day working this project since April, and we are excited to see the project completed safely and successfully.”

The Japan Atomic Energy Agency sent the FCA fuel to SRS in 2016, fulfilling a pledge by Japan and the United States to remove all separated plutonium and highly enriched uranium fuel from the FCA reactor in Japan. The fuel is non-aluminum clad, and requires an electrolytic dissolver to process, which adds electricity to the traditional chemical dissolution method, since chemical dissolution does not work on non-aluminum cladding. After FCA is complete, the electrolytic dissolver will be used to dissolve other non-aluminum spent nuclear fuel currently in L Basin while chemical dissolvers will work to disposition aluminum clad spent nuclear fuel.



A view of the thru-wall connector from the remote crane control room in H Canyon.

SRNS-2024-1555