

News from the Savannah River Site

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For Immediate Release

No longer under pressure

SRS employees devise new way to ensure safe storage of radioactive material storage containers

AIKEN, S.C. (**December 11, 2023**) – Contractor employees at the Savannah River Site (SRS) recently used an innovative method to ensure the integrity of radioactive material storage containers currently in long-term dry storage in SRS's L Disassembly Basin.

"Two 30-gallon drums currently stored in the Dry Fuel Storage Area in L Basin contain radioactive materials that were shipped from the Idaho Chemical Processing Plant in 2007 and 2008 respectively," said Operations Specialist Steve Osteen of the Site's managing and operating contractor, Savannah River Nuclear Solutions. "The material inside the drums is stored in plastic bags/plastic bottles and placed in sealed cans, which is a typical storage configuration for this type of material. It is also typical for hydrogen gasses, which are flammable, to be generated by decomposition of plastics inside the sealed cans, which is why drums of this nature are assigned a year to be dispositioned before the Lower Flammability Limit is met. One of the drums was due to reach its limit in 2025, so we started working on a way to ensure both drums would remain safe for longer."

The original disposition path involved sending the material through the Site's HB Line facility, however changes in mission prevented it from being processed before HB Line went into safe shutdown status in 2020. The drums are now awaiting a final on-site disposition path.

A team consisting of Engineering, Criticality Engineering, Operations, Radiological Control and Savannah River National Laboratory evaluated the issue. The team concluded that venting the cans by piercing the top would relieve the pressure caused by the buildup of gasses.

To accomplish venting, the team designed and fabricated a can piercer and a safe process to perform the task, including the use of a containment hut and protective plastic suits for operators.

"The container piercing was executed safely and then the containers were returned to storage," L Area Facility Manager Neil McIntosh said. "The safe execution of this process was a result of extensive planning, dry runs and mockups conducted by the team. The team used clean conditions to practice venting dummy containers, while simulating the confines of the containment hut and donning of plastic suits. The evolution was practiced until proficiency was achieved and the team was ready to safely execute the work."

The drums can now continue to be safely stored in the Dry Fuel Storage Area for an estimated additional 100 years, if needed.



Cutline: Operators in plastic suits prepare for the drum venting operations.

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