

SAVANNAH RIVER SITE (SRS)

“From tackling one of the largest environmental cleanup efforts in the world to stepping up clean energy goals with our zero-emissions vehicles, the work accomplished at the Savannah River Site has been impressive. We started construction of the Advanced Manufacturing Collaborative facility and continue to make progress on the disposal of legacy liquid waste with the construction of SDU 8. It’s truly taken a team effort from multiple individuals and organizations to realize our progress and successes. Protecting and improving the environment as well as building collaborations to advance DOE missions are top priorities for us.”

– Mike Budney, Manager, Savannah River Operations Office

HIGHLIGHTS

- Transported first shipment of downblended plutonium from K Area for offsite disposal.
- **Crews placed the last piece of structural steel on the 60,000-square foot Advanced Manufacturing Collaborative being constructed on the University of South Carolina Aiken campus—an EM 2023 priority.**
- Converted 18.5% of the site’s gasoline powered light duty fleet to electric vehicles.
- **Completed construction of Saltstone Disposal Unit 8—an EM 2023 priority.**
- Began acceptance of highly enriched uranium-235 from L Basin as part of the Accelerated Basin De-Inventory campaign.
- Achieved record production at the Salt Waste Processing Facility treating nearly 3.2 million gallons in 2023 and more than 7 million gallons of salt waste in just over three years of operations.
- The Savannah River National Laboratory completed the installation of a long-term monitoring system designed to move from reactive to proactive monitoring at SRS.

CATALYZING CLEAN ENERGY INDUSTRIES THROUGH FEDERAL SUSTAINABILITY

SRS supported the Administration’s Executive Order, “Strengthening American Leadership in Clean Cars and Trucks,” by committing to utilizing electricity to power a fleet of nearly 1,000 vehicles at the site and converting over 18.5%, or 115, of the site’s approximately 600 light duty vehicles.

INNOVATING CLEANUP WITH ADVANCED MATERIALS MANAGEMENT

SRS safely executed and delivered on its 2023 operational commitments to package, ship, store, and process and disposition nuclear materials.

H Canyon discarded 400 kg of uranium to the high-level waste tanks, 50 kg above goal, as part of the new Accelerated Basin De-Inventory mission and progress was made in planning for the production



The first shipment of downblended surplus plutonium from K Area leaves SRS.

of High Assay Low Enriched Uranium (HALEU). The canyon also achieved fiscal year goals for dissolution of High Flux Isotope Reactor (HFIR) and Material Test Reactor fuel.

HFIR core resin removal was completed via a uniquely designed vacuuming system at the L Area Disassembly Basin.

Workers at the K Area completed 111 downblends of surplus plutonium, exceeding expectations by 10%, and making an initial 13 shipments of transuranic waste to the Waste Isolation Pilot Plant for disposal.

All federal facility agreement and Resource Conservation Recovery Act permit commitments and milestones were achieved on or ahead of schedule, marking the 30th consecutive year of meeting all milestones and commitments. The Lower Three Runs Remediation project completed with the removal of contaminated sediments from the stream bed and implementation of Land Use Controls with the installation of 53 signs along 24 square miles.

COMPLETING CONSTRUCTION OF DISPOSAL UNIT

Construction was completed on the newest mega-size Saltstone Disposal Unit (SDU) 8 at SRS meeting an EM priority. SDU 8 was authorized to begin operations, marking the last step before it begins receiving decontaminated material for disposal, three years

ahead of schedule. Mega-sized SDUs can hold up to 33 million gallons of saltstone, achieving \$500 million in cost savings over the life of the SRS liquid waste program.

OPTIMIZING SALT PROCESSING

Several process optimizations were implemented to improve the efficiency and resiliency of equipment inside the Salt Waste Processing Facility, such as more effective flushing of key equipment and reducing the amount of titanium buildup.

SAVANNAH RIVER NATIONAL LABORATORY ADVANCES ENVIRONMENTAL MONITORING & MISSIONS

SRNL completed installation of the Advanced Long-Term Environmental Monitoring System (ALTEMIS) sensor network in the SRS F-Area Seepage Basin for long-term monitoring and data collection.

Using artificial intelligence and machine learning, ALTEMIS will provide monitoring capability for use throughout the DOE complex to predict future contaminant flow by tracking and predicting contaminant migration.

Continued construction of the Advanced Manufacturing Collaborative and completed installation of the structural steel in November to meet EM's calendar year 2023 priority.



SDU 8 project team members stand in front of the newest mega-size disposal unit completed at SRS.