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For Immediate Release

SRS BEGINS NEW ERA OF SALT PROCESSING

AIKEN, S.C. (April 22) – The Department of Energy’s (DOE) Savannah River Site (SRS) began to accept radioactive salt waste solution at the Actinide Removal Process (ARP) and Modular Caustic Side Solvent Extraction Unit (MCU) facilities, where the salt waste will be decontaminated, ushering in a new era of salt waste processing.

Removing the salt waste, which fills approximately 90 percent of the tank space in the SRS tank farms, is a major step toward closing the Site’s 49 high-level waste tanks that currently contain about 36 million gallons of waste.

“Today’s startup demonstrates SRS is solving critical cleanup challenges with smart solutions,” said Terrel Spears, Assistant Manager for Waste Disposition Project, DOE-Savannah River Operations Office. “These interim salt processing facilities will provide operating experience for the larger-scale Salt Waste Processing Facility (SWPF), free up tank space, keep DOE on schedule for closing SRS tanks, and reduce risk—areas of critical importance to DOE, regulators and the public.”

Subsequent to DOE’s authorization of the start-up of these operations at the end of March 2008, the ARP/MCU have been brought online in a deliberate, sequenced process to ensure safe operations. The ARP and MCU comprise the Interim Salt Disposition Processing system. Combined with the Saltstone Production and Disposal Facilities, this innovative approach will treat, decontaminate and disposition radioactive salt waste removed from SRS storage tanks. Monday marked the transfer of actual waste from Tank 49 into ARP, which begins the process of decontaminating the waste.

Washington Savannah River Company (WSRC), DOE’s managing contractor for SRS, developed this integrated set of salt-decontamination processes that will eliminate nearly all of the radioactive isotopes from about 2 million gallons of salt solution in the interim until SWPF startup in 2013.

(more)

The WSRC Team:

Washington Savannah River Company LLC • Bechtel Savannah River, Inc. • BNG America Savannah River Corporation
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ARP will remove long-lived radioactive particles, such as plutonium and americium, as well as strontium, by adding monosodium titanate (MST) to radioactive salt solutions stored at SRS and then filtering out the MST that has attached itself to the radioactive particles. The radioactive filtrate will then be transferred to the site's Defense Waste Processing Facility (DWPF) where it will be mixed with molten glass and poured into 10-foot tall stainless steel canisters, which will be welded shut to be shipped later to an off-site federal repository. The remaining filtered salt solution will then be sent to MCU.

Using principles involving centrifugal force and a special engineered solvent, MCU takes the high activity salt solution and divides it into two waste streams. The cesium is removed and is also sent to DWPF. The remaining decontaminated salt waste solution will be transferred to the Saltstone Production Facility to be mixed with dry cement-like materials to form a grout for safe, permanent disposal in engineered vaults.

SWPF will use processes similar to those found within ARP and MCU, but on a larger scale. Lessons learned from ARP and MCU processing experience will be evaluated and factored into the final design and operation of the SWPF.

A second type of radioactive waste at SRS, sludge, which makes up about 10 percent of the total waste within the storage tanks, has been and will continue to be mixed with molten glass and safely stored within steel canisters as well. The sludge contains approximately 50 percent of the total radioactivity being stored in SRS tanks, including nearly all of the long-lived isotopes and strontium.

Nearly all of the radioactive curies contained within the Site's waste tanks will be safely stabilized in glass for long-term storage at a federal repository. Only a tiny fraction of the radioactivity now stored within tanks at SRS will be destined for permanent disposition onsite at the Saltstone Disposal Facility. And of these, virtually all will be cesium-137, which has a half-life of approximately 30 years.

"The Interim Salt Disposition Process holds great promise as a highly effective tool that can be used to safely reduce risk and enhance our efforts to close tanks," said Dave Olson, WSRC's LWO Executive Vice President. "It represents a new and vital component within our comprehensive waste removal and disposition plan."

SRS is owned by DOE and operated by a team of companies led by WSRC, a subsidiary of URS Corporation, Washington Division.

