NEWS from
The Savannah River Site

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For Immediate Release

Construction of a Key Radioactive Waste Cleanup Process at SRS Complete, Startup Testing Begins

Testing will confirm effectiveness of the site's ability to remove and process cesium from liquid radioactive waste for safe, long-term storage at a national federal repository

AIKEN, S.C. (Nov. 27) – Construction of a new process designed to remove radioactive cesium from millions of gallons of liquid waste stored in steel tanks at SRS is now complete. Department of Energy (DOE) and Washington Savannah River Company (WSRC) personnel finished the construction phase of the project significantly ahead of schedule.

The new process, known as the Modular Caustic Side-Solvent Extraction Unit (MCU), uses specialized equipment, called centrifugal contactors, to isolate and remove cesium from the salt waste solution stored in waste tanks at SRS.

"This is the first time within the history of the nuclear industry that centrifugal contactor technology has been used for treating salt waste," said Terrel Spears, Assistant Manager for Waste Disposition Project, DOE-Savannah River Operations Office. "Emptying waste tanks, treating and safely disposing of radioactive waste, and meeting tank closure obligations are among DOE's highest priorities. The MCU is a significant step towards implementing DOE plans for cleanup and closure of the SRS Waste Tank System."

According to WSRC Liquid Waste Operations (LWO) Executive Vice President Bill Poulson the MCU process is a key component within an integrated set of processes designed to safely and cost-effectively remove radioactive salt waste from SRS waste tanks and, thereby, reduce risk to employees, surrounding communities and the environment.

Using principles involving centrifugal force and a special engineered solvent, MCU contactors take high activity salt solution and divide it into two waste streams. The radioactive cesium is removed and sent to the Defense Waste Processing Facility to be mixed with molten glass and poured into stainless steel canisters for ultimate disposal at a federal repository. The remaining decontaminated salt waste solution will be transferred to the Saltstone Processing Facility to be mixed with dry cementitious materials to form a concrete-like grout for safe, permanent disposal in engineered vaults.

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"The 18 contactors are the heart of this process. Our testing validates that the MCU process provides a safe and effective means to help clean up much of the radioactive waste at SRS," said Brent Gifford, WSRC MCU project owner, LWO. "The entire effort has been successful so far."

Gifford said the system startup phase will involve carefully operating, examining and testing each of the production components within the MCU process to ensure each will work together as a complete and effective system. The next phase will involve having the employees assigned to this operation participate in a thorough, "hands-on" training program to help them fully understand and effectively operate the equipment.

"Prior to the installation of equipment within the new MCU facility, the equipment received thorough testing by WSRC subcontractors. The results were excellent and provided necessary proof that the entire integrated system would meet our process requirements," said Gifford.

The successful strategy used to the build project, according to Gifford, was based on three primary initiatives: early identification and resolution of emergent issues; rigorous testing of major production components during process construction; and over the last few months, the careful management of simultaneous activities involving construction, testing and operations – all within the same facility.

"The intensity of work exhibited by our dedicated employees has been impressive; however, I believe the most significant accomplishment behind this effort lies in the fact that our team of highly dedicated employees worked over 280,000 man-hours with only one minor injury, which consisted of a small finger cut," said Poulson.

Located within the site's H Tank Farm, the MCU project is scheduled to be operational in 2007 and operate for approximately four years as an interim process until the Salt Waste Processing Facility (SWPF) fulfills this function on a long-term basis, with full scale operation beginning in 2011. Once on-line, lessons learned from the MCU process will be considered and factored into the final design of the future SWPF.

SRS is owned by the U.S. Department of Energy and operated by a team of companies led by the Washington Savannah River Company, a subsidiary of Washington Group International.

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