



U.S. DEPARTMENT OF **ENERGY**

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DOE Designs New Mixer to Process Salt Waste, Accelerate Clean Up

Aiken, SC -- Buying a new mixer is a simple shopping task for most, unless you're the Department of Energy's Savannah River Site (SRS). But then, a new mixer at SRS isn't for use in the kitchen. Its job is much larger – to mix highly-radioactive salt waste stored in underground tanks.

A joint project team of Savannah River Remediation LLC (SRR) and Savannah River National Laboratory (SRNL) research scientists and engineers is currently confirming performance specifications for four first-of-a-kind mixer pumps that will accelerate the processing of radioactive salt waste at SRS. The \$5.2 million initiative, funded by the American Recovery and Reinvestment Act, supports a major Salt Disposition Integration project being undertaken by SRR.

The mixer pumps are necessary to prepare salt feed for the \$1.3 billion Salt Waste Processing Facility (SWPF) currently being constructed by Parsons Infrastructure and Technology Company at the SRS. The SWPF is scheduled to become operational in 2013 and will be capable of processing six million gallons of salt waste annually from the more than 36 million gallons of radioactive waste currently held at SRS.

“Thanks to Recovery Act funding, adding the capabilities of the new mixer pumps and the SWPF to current liquid waste operations at SRS will sharply accelerate cleanup activities at this DOE site and help us meet our goals more quickly,” said Jean Ridley, the DOE Liquid Waste Recovery Act Federal Project Director.

“SRR’s goal to be ready to feed when SWPF comes on line is crucial to meeting DOE’s expectation of closing waste tanks,” said Keith Harp, project manager for the initiative.

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“ARRA funding is critical to ensure we have the necessary infrastructure in place to accelerate our commitment to environmental cleanup at SRS.”

The mixer pump procurement initiative announced by SRR will ensure the salt waste material pumped from the liquid waste tanks to SWPF is of the consistency to be processed in the facility.

To validate their work, the SRR-SRNL team has developed a prototypical, scaled-down version of the proposed mixer pump. The one-tenth scale pump, about four and a half feet in length, was placed in a similarly-sized waste tank to help develop pump procurement specifications and to ensure the pump will operate as expected. When development of the design specifications is completed, the pumps will be procured in a competitive process with the contract scheduled to be awarded by May 2010.

Materials processed through SWPF will be separated into a high activity waste stream and a low activity waste stream. The high activity waste stream will be converted into a glass form at the Defense Waste Processing Facility (DWPF) while the lower activity waste will be mixed with a concrete-like substance in the Saltstone Processing Facility (SPF) and stored in nearby vaults.

Additional information on the Department of Energy’s Office of Environmental Management and the Savannah River Site can be found at <http://www.em.doe.gov> or <http://www.srs.gov>. For more information about the SRS Recovery Act Project, please visit www.srs.gov/recovery.

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SRR and SRNL employees use one-tenth scaled tank to support unique mixer pump design.