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**DOE Marks Key Cleanup and Closure Milestones
at its Savannah River Site**

AIKEN, S.C. – U.S. Department of Energy (DOE) Assistant Secretary for Environmental Management (EM) James A. Rispoli today marked the start of normal operations of interim salt waste processing facilities - the Actinide Removal Process (ARP) and the Modular Caustic Side Solvent Extraction Unit (MCU) - and the official closure of the General Separations Area Consolidated Unit (GSACU) at DOE's Savannah River Site (SRS). 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.

“The Savannah River Site has successfully achieved a first-of-a-kind capability to process Cold War era salt waste out of the waste storage tanks,” said DOE Assistant Secretary for Environmental Management James A. Rispoli. “The successful startup and operations of innovative projects such as ARP and MCU demonstrate the real progress SRS is making to safely clean up and protect the environment while clearing the way for future DOE missions.”

ARP and MCU together make up the Interim Salt Disposition Processing system, which decontaminates radioactive salt waste from SRS's waste storage tanks to be safely dispositioned. SRS first received radioactive salt waste solution for processing at the ARP and MCU-facilities in April 2008 and completed a successful shake-down run as the facilities were brought online in a deliberate, sequenced process to ensure safe operations. In combination with the Saltstone Production and Disposal Facilities, this innovative approach can treat, decontaminate, and disposition radioactive salt waste removed from SRS storage tanks.

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Cleanup Milestones
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Washington Savannah River Company (WSRC), the Site's management and operating contractor, 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 until the Salt Waste Processing Facility (SWPF) starts up in 2013. The SWPF will use processes similar to those found within ARP and MCU, but on a larger scale. Lessons learned from the ARP and MCU processing experience will be evaluated and incorporated into the final design and operation of the SWPF.

"Beginning normal operations for the entire ARP/MCU system is a significant accomplishment made possible through the teamwork of the Department, state regulators, and our Site contractor," said DOE-Savannah River Operations Office Manager Jeffrey Allison. "Ushering in a new era of salt waste processing supports DOE's highest priority to close waste tanks and demonstrates that SRS is solving critical cleanup challenges with smart solutions."

Also today, Assistant Secretary Rispoli recognized the official closure of the General Separations Area Consolidated Unit (GSACU), which consisted of four waste units covering 76-acres that contained more than seven million cubic feet of solid low-level radioactive wastes. The GSACU has been safely remediated and contained under a state-of-the-art geosynthetic cap designed to protect the environment for hundreds of years. The remediation work was finished in April 2007, and the unit was declared closed in November 2007. The final paperwork was transferred in June 2008. The project was safely completed eight months ahead of schedule and under budget at a cost of \$56 million - well under the \$75 million estimate.

"The cleanup of the GSACU is the result of the tremendous dedication and innovation of the DOE workforce," said James A Rispoli, DOE Assistant Secretary for Environmental Management. "Through hard work and cooperation with our regulators, smart solutions were put into action to successfully reduce the risk to the community and the environment."

Located near the center of SRS, the Old Radioactive Waste Burial Ground (ORWBG) served as the Site's main burial ground for 22 years. Over 7 million cubic feet of solid low-level radioactive wastes are buried at the ORWBG, including contaminated substances from other DOE and Department of Defense sites. The area was filled in 1974 and in 1996, DOE issued an Interim Record of Decision to place a low-permeability soil cover over the ORWBG, which was complete in 1998.

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Cleanup Milestones
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In 2001, work began on the final remedy. First, 22 underground solvent tanks, each with a capacity of about 25,000 gallons, were filled with grout to stabilize the contamination, eliminate voids, and provide structural stability. Once the tanks were grouted and closed, several buildings, including a Resource Conservation and Recovery Act (RCRA)-permitted building that required a RCRA closure, were removed. These buildings housed employees and were used to ship transuranic waste to DOE's Waste Isolation Pilot Plant facility in New Mexico. Next, about 5,000 to 25,000 cubic yards of waste were removed from waste units that had been used as emergency basins for releases and the units were dug up and transported to the ORWBG. Finally, the final 76-acre cap was installed.

The Savannah River Site is a key DOE industrial complex, focusing on the cleanup of legacy materials and wastes left from the Cold War. It comprises 310 square miles in Aiken, Allendale, and Barnwell Counties, South Carolina. Constructed during the 1950s to produce basic materials used in the fabrication of nuclear weapons in support of our nation's defense programs, SRS is recognized for performance and excellence in support of our national security and as a responsible steward of the environment. For additional information on the Department of Energy's Office of Environmental Management and the Savannah River Site, visit <http://www.em.doe.gov> or <http://www.srs.gov>.

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Interim Salt Waste Fact Sheet

The Actinide Removal Process (ARP) and Modular Caustic Side Solvent Extraction Unit (MCU) make up the Interim Salt Disposition Processing system. Combined with the Saltstone Production and Disposal Facilities, this innovative approach treats, decontaminates and disposes radioactive salt waste removed from SRS storage tanks.

Since 2004, when DOE directed WSRC to begin work on ARP/MCU, WSRC developed this integrated set of salt-decontamination processes. ARP/MCU will eliminate nearly all of the radioactive isotopes from about 2 million gallons of salt solution in the interim until the Salt Waste Processing Facility startup in 2013.

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

DOE authorized the start-up of these facilities in March 2008. Since then, ARP/MCU have been brought online in a deliberate, sequenced process to ensure safe operations. ARP/MCU first received radioactive salt waste solution on April 21.

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.

ARP removes the most harmful radionuclides in the salt waste. The radioactive filtrate is sent to the Site's Defense Waste Processing Facility (DWPF), where it is immobilized in glass. The remaining filtered salt solution will then be sent to MCU.

MCU is the heart of the process, removing the most curies. So far, it has removed approximately 7,000 curies and over 25,000 gallons from the waste tanks.

MCU takes the high-activity salt solution and divides it into two waste streams. The higher-curie material is removed and is also sent to DWPF. The remaining decontaminated salt waste solution is transferred to Saltstone Production Facility to be mixed with dry cement-like materials to form a grout for safe, permanent disposal in engineered vaults.

Other facts:

- No safety issues, radiological issues or recordable injuries during building, testing or operating.
- Regulator comments quoted in Weapons Complex Monitor: "The South Carolina Department of Health and Environmental Control is 'very, very pleased, with an underscore,' said DHEC Federal Facilities Liaison Shelly Sherritt. 'It's a big step towards getting waste out of the tanks and the tanks closed.'" Good partner involvement.
- ISDP project came in under budget and ahead of schedule.

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General Separations Area Consolidated Unit Fact Sheet

The General Separations Area Consolidated Unit (GSACU) consists of four SRS waste units:

- The Old Radioactive Waste Burial Ground (ORWBG), a 76-acre area that served as the Site's main burial ground for 22 years
- Warner's Pond, which was an emergency holding pool for H Canyon, one of SRS's two chemical separations facilities
- H Area Retention Basin, which received contaminated wastewater from the chemical separations facilities and H Tank Farm
- HP-52 ponds, which were built in 1967 to contain material that escaped from H Tank Farm during a transfer.

Over 7 million cubic feet of solid low-level radioactive wastes are buried at the ORWBG, including contaminated substances from other DOE and Department of Defense sites. The area was filled in 1974. In 1996, DOE issued an Interim Record of Decision to place a low-permeability soil cover over the ORWBG, and this action was completed in 1998. In 2001, work began on the final remedy.

First, 22 underground solvent tanks, each with a capacity of about 25,000 gallons, and each with a waste heel in the bottom, had to be grouted and closed so they would not collapse under the weight of the permanent cap. Over a period of two years, these tanks were filled with grout to stabilize the contamination, eliminate voids, and provide structural stability.

Then, three buildings covering 11,500 square feet were removed. These buildings were being used to house employees and ship transuranic waste to the Waste Isolation Pilot Plant in New Mexico. Included in the decommissioning phase was the closure and removal of a RCRA-permitted building, which required a RCRA closure. The deactivation and decommissioning effort began in 2003 and was completed in 2004.

Three waste units located nearby (Warner's Pond, H Area Retention Basin, and HP-52 Ponds) had soils containing low levels of strontium and cesium, which meant they were regulated under the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA). At the beginning of the project SRS had no place to dispose of these materials. So, 45,000 cubic yards of soils would have had to be dug up and shipped to a disposal facility in Utah – at a total cost of approximately \$32 million.

WSRC and DOE, working closely with SCDHEC and USEPA, found a way to safely dispose of these soils at SRS. Those soils – about 5,000 to 25,000 cubic yards from each waste unit – were dug up and transported to the ORWBG, where they were placed under the permanent cap. Vegetation that was in contact with radiological contamination also had to be removed and transported to the ORWBG.

Then, the final 76-acre cap was installed. Constructing a cap system involves installing a geogrid for structural stability, followed by about one foot of soil, a geosynthetic clay liner, a flexible membrane liner, a drainage liner, more soil, and sod and/or seed.

Remediation work was finished in April 2007, and the unit was declared closed in November 2007, eight months ahead of schedule. Final paperwork was transferred in June 2008. The project was completed for \$56 million, well under the \$75 million estimate.

Other facts:

- The GSACU project saved over \$50 million in taxpayer dollars, in saved and avoided costs
- Throughout the successful execution of the project, WSRC Soil and Groundwater Closure Projects personnel sustained a safe work performance that now extends for more than 10 years.

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