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Recovery Act Funding Improves Stormwater Drainage at the Largest Closed Seepage Basins on SRS

Aiken, S.C. - Preventing the migration of contamination from rainwater runoff at a closed seepage basin at the Department of Energy's (DOE) Savannah River Site (SRS) can be as simple as a new concrete ditch and as complicated as making sure the runoff flows correctly.

The American Recovery and Reinvestment Act is funding a \$1.8-million project that is paving the way to prevent rainwater intrusion at the SRS H-Area Seepage Basins (H-4 Basin), the Site's largest closed basin.

The task is focused on one of four unlined basins that were constructed in the mid-1950s. For 33 years, the basins received wastewater containing low-level radioactive and hazardous constituents that originated from the Site's Separations Area. A large percentage of the radiological releases to the basins also included relatively high concentrations of tritium. (Tritium is a radioactive isotope with a half-life of only 12.5 years.)

Basins resemble a small pond of water and are typically located near SRS production facilities.

The basins were designed to allow the wastewater to percolate through the underlying soil, filtering and containing a majority of the contamination. Once the basins were closed in 1988, a multilayer clay cap was installed over each basin. Today, the post-closure care of the closed H-4 Basins is maintained in accordance with a Resource Conservation and Recovery Act (RCRA) Permit. The H-4 Basin is also bordered with an underground barrier wall as part of the ongoing groundwater corrective action.

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“This project addresses a RCRA permit condition and will help SRS in meeting its groundwater corrective action objectives for the permit,” said Philip Prater, the DOE Deputy Federal Project Director for the project.

Recovery Act workers are pouring concrete in a 3,800-linear-foot ditch at the closed H-4 Basin and tying in the ditch surrounding the basin with the its existing geosynthetic cover to further prevent leaching of contaminants into the groundwater.

“The scope of the project is to put a concrete ditch around the H-4 basin,” said Ben Hardaway, of the SRNS Recovery Act team. “We intend to improve the drainage of water from the top of the basin so it has less chance of migrating into the groundwater.”

The paved ditch replaces an earlier drainage path that was not conducive to flow, Hardaway explained. It was not level and contained pockets where water would accumulate.

“The primary challenge to this project is to make sure there is proper grade to the ditch’s pathway to assure proper runoff,” Hardaway explained. “It is very important to get our surveyors in to make sure we have the proper grades to eliminate any standing water.”

About 15 Recovery Act employees, including Hardaway, work on the project as laborers, equipment operators, safety and health, radiation contamination technicians and project managers.

“The H-4 concrete pour is securing a basin that has long been an integral partner to the separations facilities,” said Dennis Carr, Savannah River Nuclear Solutions’ vice president, Recovery Act Portfolio. “Improving the drainage flow ultimately is the wise choice to continue to safeguard the environment and community.”

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 for more information about awarded contracts, please see www.srs.gov/recovery/procurement-contracts.

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