



Environmental Bulletin

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from the Savannah River Site

Action Memorandum and Responsiveness Summary Issued for the In Situ Decommissioning of the 105 C Disassembly Basin at the Savannah River Site

The U. S. Department of Energy (DOE) has selected the preferred alternative for the non-time critical removal action for the Savannah River Site's (SRS) 105 C Disassembly Basin that is part of the C Area Operable Unit (CAOU). A thirty (30) day public comment period for the Removal Site Evaluation Report/Engineering Evaluation/Cost Analysis for the In Situ Decommissioning of the 105 C Disassembly Basin was held from March 23, 2011 to April 22, 2011.

The CAOU is one of the area OUs identified at SRS. The C-Area is located in the central portion of SRS. The C Area Reactor began operating in 1955 and was shut down in 1985 for maintenance. The reactor was placed on cold standby in 1987, followed by shutdown with no possibility of restart. During operation of the Reactor, fuel and targets were activated in the reactor vessel during a production cycle and then transferred to the disassembly basin where they were stored underwater to allow for thermal cooling and high activity radioactive isotopes to decay. All fuel and target elements have been removed from the 105 C Disassembly Basin, with the last element being removed in 2002.

DOE has selected Alternative 2, In Situ Decommissioning with Forced Evaporation of Basin Water. Alternative 2 is comprised of two components: 1) the application of forced evaporation for the dewatering of the disassembly basin, the sand filters, the settler tank, process sewer line structures, and the Emergency Cooling System tank, and 2) the In Situ Decommissioning of the disassembly basin. In Situ Decommissioning will consist of stabilization/isolation of remaining contaminated water, sediment, activated reactor equipment, and scrap metal by filling the DB with underwater nonstructural grout to the appropriate grade-level. Forced evaporation of the water in the 105 C Disassembly Basin will be accomplished by pumping the water to multiple diesel-powered evaporators, where it is heated to the boiling point and vaporized.

The roof over the DB will be preserved for historical significance and will prevent the infiltration of precipitation. Evaporation is a form of treatment that will reduce the volume of contaminated basin water. Irradiated materials and sediment will be treated by solidification/isolation thus reducing their mobility and reducing radiation exposure of future industrial workers, and creating an engineered barrier to prevent access to the contaminants by the future industrial worker and intruders. The grouting in the basin will also provide a low permeability barrier to retard pore-water velocity beneath the basin, thus minimizing any potential transport of contaminants to the aquifer.

This alternative provides overall protection to human health and the environment. It is consistent with the current and future land use and will not preclude any additional remediation of the CAOU. Since this removal action is not a final action for the CAOU, Land Use Controls (LUCs) are not included as part of this Non-Time Critical Removal (NTCR) action, but will be included in the final Record of Decision for the CAOU.

The waste streams generated as part of this alternative will be characterized and transported to the appropriate disposal facilities. Radioactive contaminated waste will be characterized in accordance with DOE requirements for disposal and will be sent to the SRS E Area Low Level Waste Facility, a CERCLA Off-Site Rule approved facility

The selection of the preferred alternative is documented in the Action Memorandum. DOE has worked with the South Carolina Department of Health and Environmental Control and the U. S. Environmental Protection Agency to ensure that the removal action is consistent with all applicable environmental requirements.

A copy of the Action Memorandum and Responsiveness Summary is available in the Administrative Record File. The Administrative Record File is available in the information repositories listed below:

- DOE Public Reading Room at the Gregg-Graniteville Library at the University of South Carolina Aiken campus in Aiken, SC; and
- Thomas Cooper Library Government Documents Department at the University of South Carolina in Columbia, SC.

Hard copies of the Action Memorandum and Responsiveness Summary are available at the following locations:

- Reese Library Government Information Section at Augusta State University in Augusta, GA; and
- Asa H. Gordon Library at Savannah State University in Savannah, GA

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