



Environmental Bulletin

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from the Savannah River Site

NOTICE OF AVAILABILITY - EXPLANATION OF SIGNIFICANT DIFFERENCE ISSUED FOR THE EARLY ACTION RECORD OF DECISION FOR THE P AREA OPERABLE UNIT

The Explanation of Significant Difference (ESD) for the Early Action Record of Decision (EAROD) for the P Area Operable Unit (PAOU) is being issued by the U.S. Department of Energy (DOE), the lead agency for the Savannah River Site (SRS), with concurrence by the U.S. Environmental Protection Agency – Region 4 (EPA), and South Carolina Department of Health and Environmental Control (SCDHEC). The three-Party signed PAOU EAROD was previously issued to the public on January 29, 2009. The PAOU EAROD selected *in situ* decommissioning (ISD) as the alternative for the P-Reactor Building (105-P) Complex. The ESD documents the specific ISD alternative selected for the P-Reactor Building (105-P) Complex.

The ESD was completed to meet the terms of the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA), a law governing the investigation and cleanup of waste units. The DOE has worked with EPA and SCDHEC to ensure that this remedial approach is consistent with all applicable environmental requirements.

The PAOU is located approximately 2.5 miles east-southeast of the geographical center of the SRS and about 4 miles west of the nearest Site boundary. In February 1954, P Reactor began operations. It was taken off-line in 1987, placed in “warm standby” in 1988, and placed in “cold standby” in 1991. In 1993, the P Reactor was put into “cold standby with no capability of restart” status. All fuel and target assemblies have been removed from the reactor vessel. All fluids have been drained from the process systems.

The ESD selected ISD with the Reactor Vessel grouted in place as the remedial alternative for the P-Reactor Building (105-P) Complex. The selected alternative is protective of human health and the environment and involves the following:

- The Process, the Purification, and the Assembly Areas of the P-Reactor Building (105-P) Complex, as well as the actuator tower would be sealed from the environment and left in place;
- The above-grade structure of the Disassembly Area would be demolished to grade level;
- After removal of disassembly basin water, the residual contents of the Disassembly Basin would be grouted to stabilize the contaminants;
- A sloped concrete cover would then be placed over the grouted Disassembly Basin;
- The remaining contaminated equipment in the above-grade structure of the P-Reactor Building (105-P) Complex will be left in place. Any remaining residual contamination in the sealed above-ground structure would remain;
- The P-Reactor Building (105-P) will be sealed to prevent human/animal access to the above-grade portions;

- The stack would be removed above the 55 ft. elevation and a new partial roof would be placed over the exposed opening to prevent water intrusion;
- The holes in the five foot thick floor of the plus 66 ft. elevation of the actuator tower would be grouted;
- The shield door gantry system would be removed from the roof of the building and a new partial roof would be constructed and sloped over the shield door slots to prevent rainwater intrusion;
- The Reactor Vessel would be grouted in place with a constructed concrete cover placed at ground-level. The cap would be sloped to allow water runoff;
- The Process Room would remain in its current state;
- Vacant spaces from the 0 ft. level (grade) down to the minus 49.5 ft. level would be grouted in place;
- The Purification Area will be grouted to the top of the cell wall at the plus 20 ft. level. The below-grade portions of the Purification Area will be grouted to the plus 5 ft. finished floor level;
- The Purification Areas roofs will be designed, and maintained to last for 300 years;
- The Process Areas roofs will be designed, and maintained to last for 1350 years;
- Continuation of ongoing inspections, monitoring programs, and maintenance as needed to ensure the integrity of the remedial action; and
- Institutional Controls.

Copies of the PAOU ESD are available in the Administrative Record. The Administrative Record is available in the information repositories listed below:

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

Hard copies of the PAOU ESD are available at the following locations:

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

For additional information, contact Paul Sauerborn at the address listed below:

Paul Sauerborn
Savannah River Nuclear Solutions, LLC
Savannah River Site
Building 730-1B
Aiken, SC 29808
1-803-952-6658
paul.sauerborn@srs.gov

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**For more information on this or
other environmental and compli-
ance activities at SRS, please con-
tact:**

Paul Sauerborn

Savannah River Nuclear Solutions, LLC

Aiken, S.C. 29808

Public Involvement

(803) 952-6658

e-mail: paul.sauerborn@srs.gov
