



# Environmental Bulletin

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*from the Savannah River Site*

## **Early Action Record of Decision Available for the C, K, L and R Reactor Complexes at the Savannah River Site**

The Early Action Record of Decision (EAROD) for the C, K, L and R Reactor Complexes 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 C, K, L and R Reactor Complexes EAROD selected In-Situ Decommissioning (ISD) end state with Land Use Controls (LUCs) to maintain industrial land use as the selected remedy for each of the Reactor Building Complexes.

The EAROD 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 primary missions of these four reactor complexes were to produce tritium, plutonium and other special nuclear materials for our nation's defense programs. Nuclear material is no longer being produced at any of these reactor facilities; all four were shut down by 1993. C, K, and L Reactor Complexes do continue to serve other DOE missions not associated with the production of nuclear material. The C Reactor Complex is used for cask car refurbishment; the K Reactor Complex is used for nuclear material disposition activities; and L Reactor Complex is used for nuclear materials storage. These missions will cease prior to the implementation of the ISD end state. The R Reactor Complex status is currently undergoing deactivation as part of R Area closure.

Radioactive and hazardous contamination in the Reactor Complexes poses an unacceptable cancer risk to future industrial workers and a potential risk of impact to groundwater. In order to mitigate these risks, remedial alternatives were developed and evaluated.

The EAROD selected ISD with LUCs as the remedial alternative for the four Reactor Building Complexes to meet the Remedial Action Objections (RAOs). The selected alternative effectively balances the short-term effectiveness, implementation, and cost criteria with a remedy that provides a high-level of long-term protection for unacceptable risks to human health and the environment. For the ISD alternative, the specific end-state configuration will be determined at the time of each Reactor Complex closure. It is likely that a majority of the Reactor Building would remain, with the below-grade equipment, open spaces, and the Reactor Vessel being grouted in place. The Disassembly Basin water would be removed. It is also likely that the Disassembly Basin above grade structure along with the stack would be removed due to the safety and structural integrity concerns. After grouting, the Disassembly Basin would be capped. Consistent with the Cold War Built Environment Cultural Resources Management Plan, special considerations will be made for the historic preservation and interpretation of C Reactor to the extent practicable but not to impact human health and the environment.

For each Reactor Complex, ISD would consist of:

- Maintaining the structural integrity of the above-grade portions of each facility for a period of at least 200 years, preventing exposure to receptors from residual contamination and preventing water infiltration;
- Stabilizing contaminants in place as necessary to prevent unacceptable release to the environment;
- Sealing the building to eliminate routes of human and animal intruder access and to eliminate unacceptable exposure to the contaminants; and
- Ensuring the roofs over portions of the Process Area would be designed and maintained for 1350 years to shed water and prevent vegetative growth.

LUCs will be implemented by:

- Access controls to prevent exposure to on-site workers via programs such as the Site Use Program, Site Clearance Program, work control practices, worker training, worker briefing of health and safety requirements; and
- Access controls to prevent exposure to trespassers using a combination of security procedures and equipment, surveillance systems, artificial or natural barriers, control entry systems, and SRS boundary warning signs.

Copies of the C, K, L, and R Reactor Complex EAROD 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 C, K, L, and R Reactor Complex EAROD 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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## **The SRS Environmental Bulletin**

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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**

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