The Savannah River Site
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U. S. Department of Energy Conducts Phased Submittals of the Sixth Five Year Remedy Review at Savannah River Site

First Phase: Savannah River Site Operable Units with Native Soil Covers and/or Land Use Controls

The U. S. Department of Energy (DOE) has begun conducting the Sixth Five-Year Remedy Review for remedial actions implemented at the Savannah River Site (SRS). The Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) requires that remedial actions that result in hazardous substances, pollutants, or contaminants remaining at an operable unit (OU) at levels unsuitable for unrestricted exposure be subject to a five-year remedy review. The purpose of this review is to determine whether the remedies remain protective of human health and the environment and to evaluate the implementation and performance of the selected remedies. The U. S. Environmental Protection Agency (EPA) and South Carolina Department of Health and Environmental Control (SCDHEC) will review and approve whether the five-year remedy review adequately addresses the protectiveness of each remedy. The methods, findings, and conclusions of the five-year remedy review will be documented in a report that will be made available to the public.

SRS occupies approximately 310 square miles of land adjacent to the Savannah River, principally in Aiken and Barnwell counties of South Carolina. SRS is located approximately 25 miles southeast of Augusta, Georgia, and 20 miles south of Aiken, South Carolina. During the early 1950s, SRS began to produce materials used in nuclear weapons. Chemical and radioactive wastes are by-products of nuclear material production processes. These wastes have been treated, sorted, and in some cases disposed of at SRS. Hazardous substances, as defined by CERCLA, are currently present in the environment at SRS, with past disposal practices resulting in soil and groundwater contamination.

Each SRS OU is unique in size, location, environmental factors, and contaminant type. Contaminants may include chemicals (e.g., trichloroethylene (TCE), tetrachloroethylene (PCE), etc.), metals, pesticides, polychlorinated biphenyls (PCBs), and radionuclides (e.g., tritium, cesium-137, etc.). Contaminants may be found in surface soils, subsurface soils, and/or groundwater. Operable unit-specific remedial actions are designed to address the contaminants for the protection of human health and the environment. In general, contaminated media are either covered, stabilized in place, treated, removed, or managed with land use controls (LUCs) to limit exposure. Common remedies implemented at SRS include LUCs, cover systems (i.e., soil covers, geosynthetic covers), excavation and disposal actions, removal systems (i.e., soil vapor extraction, electrical resistance heating, dynamic underground stripping), treatment systems (i.e., enhanced bioremediation, chemical oxidation), stabilization (i.e., in situ grouting), groundwater mixing zones, and monitored natural attenuation.

DOE, EPA, and SCDHEC previously agreed to conduct phased remedy reviews for OU groupings based on remedy similarity rather than combining all OU reviews in a single report. The OUs are grouped by the following remedy types: (1) native soil covers and/or LUCs, (2) groundwater, (3) engineered cover systems, (4) geosynthetic or stabilization/solidification cover systems, and (5) operating equipment. These groupings were chosen to provide the opportunity to effectively identify and resolve issues for similar remedies simultaneously and efficiently implement optimization initiatives for similar projects.

The five-year remedy review will address three major questions:

- Are the remedies functioning as intended by the decision document?
- Are the exposure assumptions, toxicity data, cleanup levels, and remedial action objectives used at the time of remedy selection still valid?
- Has any other information emerged that could call into question the protectiveness of the remedy?

The first phased submittal of the Sixth Five-Year Remedy Review Report will focus on OUs with native soil covers and/or LUCs. Native soil covers are often implemented at SRS to protect against human and/or ecological exposure to contaminated material left in place. Native soil covers are appropriate when water infiltration and leaching of contaminants to groundwater is not a concern. Native soil covers may be combined with other remedial actions but require LUCs as a component of the remedy.

LUCs are maintained for all OUs where hazardous substances, pollutants, or contaminants remain on-site or have been left in place above levels that are acceptable for unlimited use and unrestricted exposure. LUCs may be implemented as a stand-alone remedy or combined with other remedial actions. LUCs involve institutional controls (i.e., administrative controls) and engineering controls and can include monitoring, maintenance, reporting, access restrictions, signage, fencing, and land use restrictions.

DOE will notify the public when the Sixth Five-Year Remedy Review Report for OUs with Native Soil Covers and/or LUCs is complete and is available to the public. The report is currently planned to be available to the public in February 2020.

The Sixth Five-Year Remedy Review Report for SRS OUs with Native Soil Covers and/or LUCs includes a review of the following operable units:

- C-Area Operable Unit
- C-, K-, and L-Reactor Complexes
- Early Construction and Operational Disposal Site L-1, N-2, P-2, and R-1A, -1B, -1C
- F-Area Burning/Rubble Pits (231-F, 231-1F, and 231-2F)
- Gunsite 012
- Heavy Equipment Wash Basin (NBN)
- K-Area Bingham Pump Outage Pit (643-1G)
- L-Area and P-Area Bingham Pump Outage Pits (643-2G, 643-3G, and 643-4G)
- PAR Pond (685-G) (Including the Pre-Cooler Ponds and Canals) and Lower Three Runs Integrator Operable Unit Tail Portion (Middle and Lower Subunits)
- R-Area Bingham Pump Outage Pits (643-8G, 643-9G and 643-10G) and R-Area Unknown Pits #1, #2, and #3
- Silverton Road Waste Unit (731-3A)

The SRS Environmental Bulletin

For additional information about the five-year remedy review process at SRS, please contact:

Janet Griffin
Savannah River Nuclear Solutions
Aiken, S.C. 29808

(803) 952-8467

email: janet.griffin@srs.gov

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