SAVANNAH RIVER SITE FACT SHEET
SEVENTH FIVE-YEAR REMEDY REVIEW REPORT FOR SRS OPERABLE UNITS WITH NATIVE SOIL COVERS AND/OR LAND USE CONTROLS

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Savannah River Site, Aiken, SC
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The United States Department of Energy (USDOE), the United States Environmental Protection Agency (USEPA), and the South Carolina Department of Health and Environmental Control (SCDHEC) have prepared the Seventh Five-Year Remedy Review Report for Savannah River Site (SRS) Operable Units (OUs) with Native Soil Covers and/or Land Use Controls (LUCs) as the selected remedy. This report documents the methods, findings, and conclusions for remedy decision document reviews for the SRS OUs that selected native soil covers and/or LUCs as the final remedy.

What is a Five-Year Remedy Review?

The Comprehensive Environmental Response, Compensation, and Liability Act requires that a remedy review is conducted every five years for sites where residual hazardous substances, pollutants, or contaminants remain following a remedial or cleanup action. The remedies are evaluated to determine whether they are functioning as designed and whether they are protective of human health and the environment. The methods, findings, and conclusions of remedy reviews are documented in a five-year remedy review report.

Three Major Questions:

1) Is the remedy functioning as intended by the decision documents?
2) Are the exposure assumptions, toxicity data, cleanup levels, and remedial action objectives used at the time of remedy selection still valid?
3) Has any other information come to light that could call into question the protectiveness of the remedy?

The SRS Seventh Five-Year Remedy Review report will be conducted in five phases with OUs 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 (S/S); and (5) operating equipment.

This report documents the Seventh Five-Year Remedy review for SRS OUs that selected native soil covers and/or LUCs as the final remedy.

Figure 1. SRS General

SRS History

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 (Figure 1). Approximately 90 percent of SRS land consists of natural and managed forests.

The SRS was constructed during the 1950s to produce the basic materials used in the fabrication of nuclear weapons, primarily tritium and plutonium, in support of our nation's defense programs. Production of nuclear materials for the defense program was discontinued in 1988. SRS has provided nuclear materials for the space program, as well as for medical, industrial, and research efforts. Chemical and radioactive wastes are by-products of nuclear material production processes. These wastes have been treated, stored, and in some cases, disposed of at SRS. Past disposal practices (e.g., seepage basins, pits and piles, landfills, etc.) have resulted in soil and groundwater contamination.

Site Chronology	
1989	*SRS included on the National Priorities List as needing a long-term cleanup plan.*
1993	*Federal Facility Agreement established with the USDOE, USEPA – Region 4, and the SCDHEC to coordinate remedial actions at SRS into one comprehensive regulatory program.*
1997	*First SRS Five-Year Remedy Review is issued.*
2004	*Second SRS Five-Year Remedy Review is issued.*
2009	*Third SRS Five-Year Remedy Review is issued.*
2014	*Fourth SRS Five-Year Remedy Review is issued.*
2015	*Fifth Five-Year Remedy Review for SRS OUs with Native Soils Covers and/or LUCs (Phase 1) is issued.*
2017	*Fifth Five-Year Remedy Review for SRS OUs with Groundwater Remedies (Phase 2) is issued.*
2018	*Fifth Five-Year Remedy Review for SRS OUs with Engineered Cover Systems (Phase 3) is issued.*
2018	*Fifth Five-Year Remedy Review for SRS OUs with Geosynthetic or S/S Cover Systems (Phase 4) is issued.*
2018	*Fifth Five-Year Remedy Review for SRS OUs with Operating Equipment (Phase 5) is issued.*
2019	*Sixth Five-Year Remedy Review for SRS OUs with Native Soil Covers and/or LUCs (Phase 1) is issued.*
2020	*Sixth Five-Year Remedy Review for SRS OUs with Groundwater Remedies (Phase 2) is issued.*
2021	*Sixth Five-Year Remedy Review for SRS OUs with Engineered Cover Systems(Phase 3) is issued.*
2022	*Sixth Five-Year Remedy Review for SRS OUs with Geosynthetic or Stabilization/Solidification Cover Systems (Phase 4) is issued.*
2023	*Sixth Five-Year Remedy Review for SRS OUs with Operating Equipment (Phase 5) is issued.*

What are the Cleanup Objectives?

Remedial goals are defined for individual OUs, but generally support the following cleanup objectives:

- To prevent unacceptable exposure of human receptors to contaminants in soils, surface water, and groundwater containing unacceptable levels of contaminants.
- To prevent unacceptable exposure ecological receptors to contaminants in soils, surface water, and groundwater containing unacceptable levels of contaminants.

- To prevent or minimize the migration of contaminants from soils to groundwater at levels that exceed groundwater maximum contaminant levels/cleanup goals.
- To prevent or minimize the discharge of contaminated groundwater to surface water.

Remedial Actions

Primary soil contaminants at SRS are cesium-137 and other radionuclides, organic chemicals, metals, polychlorinated biphenyls, and pesticides. The primary contaminants in groundwater are volatile organic compounds, tritium, strontium-90, iodine-129, and metals to a lesser extent. Surface water has been impacted by the discharge of contaminated groundwater to site streams.

Native soil covers are often implemented at SRS to protect against human and/or ecosystem exposure to waste or contaminated material left in place. Native soil covers are appropriate when water infiltration and leaching of contaminants to groundwater is not a concern. A typical soil cover is 12 to 24 inches thick and is usually vegetated to minimize erosion. Native soil covers may be combined with other remedial actions but require LUCs as a component of the remedy. For the SRS OUs discussed in this report, native soil covers were already in place prior to selection of the remedial action and only LUCs were required as the final remedial action.

Table 1 identifies the SRS OUs and associated remedial actions included in the Seventh Five-Year Remedy Review Report for SRS OUs with Native Soil Covers and/or LUCs. Figure 2 shows the location of the OUs that correspond with Table 1.

Table 1. SRS OUs with Native Soil Covers and/or LUCs

#	SEMS No.	Operable Unit	Remedial Action[a]
1	79	C-Area Operable Unit	LUCs
2	79, 90, 91	C-, K-, and L-Reactor Complexes	In situ Decommissioning (ISD), LUCs
3	22	Early Construction and Operational Disposal Site (ECODS) L-1, N-2, P-2, and R-1A, -1B, -1C	LUCs
4	14	F-Area Burning/Rubble Pits (231-F, 231-1F, and 231-2F)	LUCs
5	78	Gunsite 012 (including ECODS G-3)	LUCs
6	53	Heavy Equipment Wash Basin and Central Shops Burning/Rubble Pit (631-5G)	LUCs
7	20	K-Area Bingham Pump Outage Pit (643-1G)	LUCs
8	26, 39	L-Area and P-Area Bingham Pump Outage Pits (643-2G, 643-3G, and 643-4G)	LUCs
9	35	Lower Three Runs Integrator Operable Unit (IOU) (NBN)	LUCs
	35	PAR Pond (685-G) (Including the Pre-Cooler Ponds and Canals) and Lower Three Runs IOU Tail Portion (Middle and Lower Subunits)	Repair Dam and Maintain the Level at 195 feet Elevation Minimum for PAR Pond, LUCs for Lower Three Runs IOU
10	38	R-Area Bingham Pump Outage Pits (643-8G, 643-9G and 643-10G) and R-Area Unknown Pits #1, #2, and #3	LUCs
11	13	Silverton Road Waste Unit (731-3A)	LUCs
12	71	Wetland Area at Dunbarton Bay in Support of Steel Creek Integrator Operable Unit	LUCs

a LUCs are identified as the remedial action for SRS OUs with native soil covers in place prior to selection of the final remedy. Maintenance of the native soil covers is a component of remedy implementation.

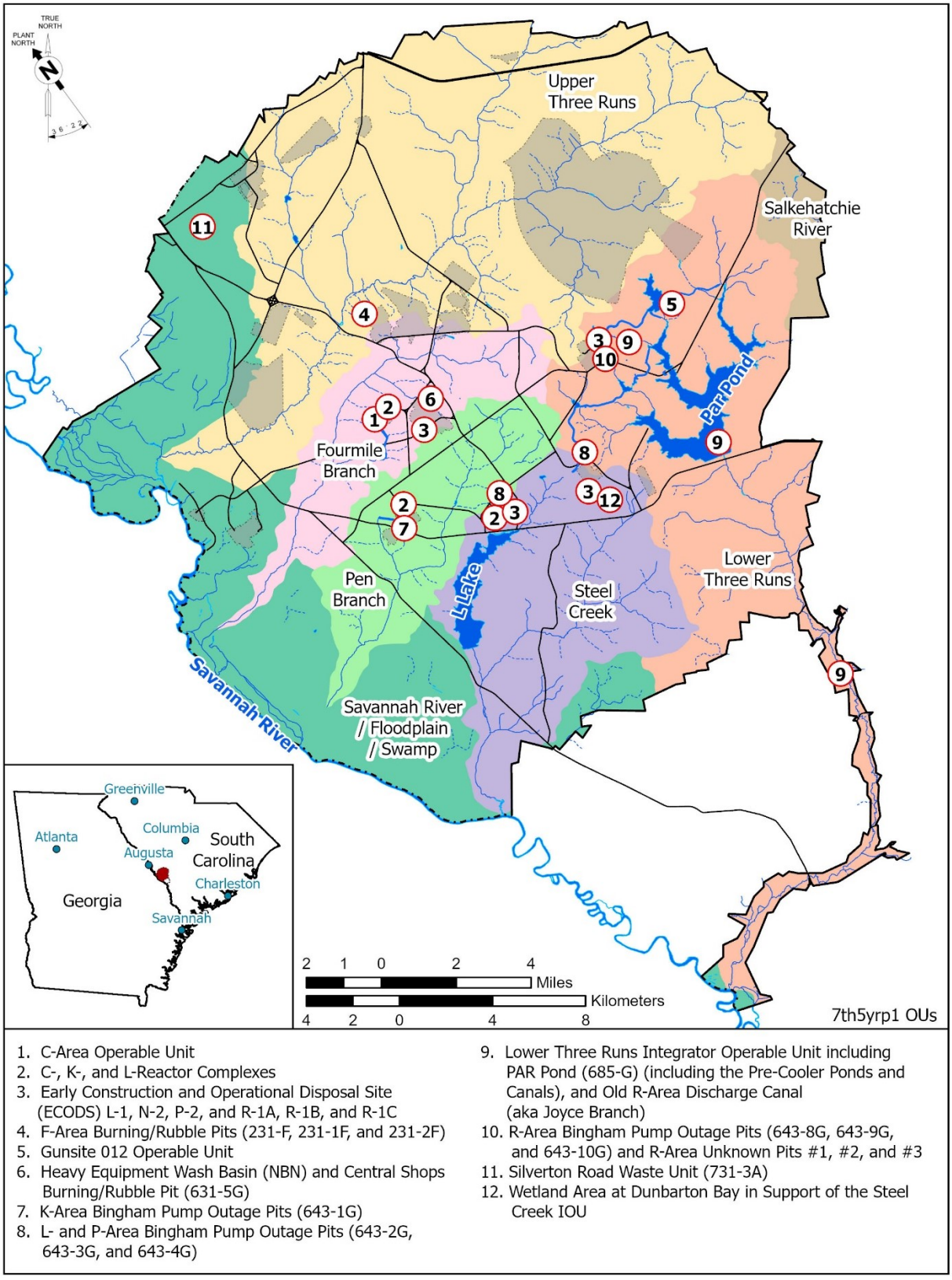

Figure 2. Location Map for SRS OUs with Native Soil Covers and/or LUCs

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Major Developments Since Last Five-Year Remedy Review

This is the first five-year remedy review for the Lower Three Runs Integrator Operable Unit (NBN) and the Wetland Area at Dunbarton Bay in Support of Steel Creek Integrator Operable Unit. Five-year remedy reviews have been previously conducted for all other OUs listed in Table 1.

Protectiveness Summary

- All remedies were determined to be protective of human health and the environment.
- The ISD with LUC remedy for the C-, K-, and L-Reactor Complexes was determined to be protective in the short-term by implementing LUCs to prevent exposure. In order to be protective in the long-term, the remainder of the remedy to implement ISD for the C-, K-, and L-Reactor Complexes must be completed.

Next Five-Year Remedy Review

The Eight Five-Year Remedy Review Report for SRS OUs with Native Soil Covers and/or LUCs is due in January 2030.

Issues and Recommendations

- No issues or recommendations

For More Information

For more information regarding the complete SRS Seventh Five-Year Remedy Report for SRS OUs with Native Soil Covers and/or LUCs, please contact:

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