ARF-025284

REGION 4
ATLANTA, GA 30303

ENVIRONMENTAL COMPLIANCE &

January 15, 2026

JAN 15 2026

Mr. Matthew Baker, SRS Remedial Project Manager
Remediation and Deactivation & Decommissioning Division
U.S. Department of Energy
Savannah River Operations Office
P.O. Box A
Aiken, South Carolina 29802

AREA COMPLETION PROJECTS

SRNS-OS-2026-00022

2025 PERIODIC REPORT ON THE BIOASSESSMENT OF SAVANNAH RIVER SITE STREAMS, SEMS NUMBERS: 69, 70, 71, 74, 84, SRNS-RP-2025-01200, REVISION 0 SEPT 2025 SAVANNAH RIVER SITE AIKEN, SOUTH CAROLINA

Dear Mr. Baker,

The U.S. Environmental Protection Agency, Region 4 (EPA), has reviewed the 2025 Periodic Report on the Bioassessment of SRS streams, R0, Sept 2025. We would recommend a future walkdown of these areas, as much as can be assessed, in the near future. Attached are our comments:

If you have any questions or require additional information, please contact me at (404) 431-1340.

Sincerely,

JON RICHARDS
Digitally signed by JON RICHARDS
Date: 2026.01.15 12:06:48 -05'00'

Jon Richards
FFA Remedial Project Manager
Superfund & Emergency Management Division

ec: C.L. Bergren, SRNS-ACP
Susan Fulmer, SCDES

GENERAL COMMENTS

1. There are *several additional statistical analyses that could be performed on the data to provide further information on the ecosystem health in the Savannah River Site (SRS) streams. For example*:

    a. A regression of fish data (e.g., species richness, species composition, trophic composition, indicator species, and abundance) with stream characteristics should also be conducted similar to the analyses performed with macroinvertebrate data. Section 6.0, Data Analysis, states, "Prior to averaging the MHSP EPT [multiple habitat sampling protocol Ephemeroptera, Plecoptera, Tricoptera] score, it is adjusted for stream width. This adjustment is made because earlier studies of SRS streams (Paller et al. 2007) revealed a positive linear relationship between stream width and the MHSP EPT metric (Figure 15), thus, the EPT metric is adjusted to remove the effects of stream size;" however, this was not conducted for fish data and may also prove to have a positive correlation;

    b. Seasonality/precipitation differences from year to year may be important when analyzing the ecological community data presented in the Bioassessment Report. Given that the system is sensitive to scouring/iron flocculation, particularly in Tims Branch, it appears that there might be a correlation between the amount of rainfall in any particular year and the macroinvertebrate and fish community dynamics; and

    c. Fish length/weight is correlated with age in many species and can be an indicator of ecosystem health; however, it is unclear whether these measurements were collected.

    Please consider revising the Bioassessment Report to perform additional regressions of fish data based on stream characteristics, seasonality/precipitation, and fish length/weight measurements, if already collected, to enhance an understanding of the ecosystem dynamics in the SRS streams. If these data are not currently available, consider adding their collection to the recommended modifications to the monitoring program discussed in Section 9, Recommendations.

2. The Bioassessment Report does not discuss why the fish and macroinvertebrate habitat assessment studies were performed in different seasons. For example, Section 5.1, Fish Sampling, states that the fish sampling was performed between the end of June and beginning of September (summer), whereas Section 5.3, Habitat and Physicochemical Variables, states that macroinvertebrate sampling was conducted between October 26 and January 30 (winter*). Please revise the Bioassessment Report to discuss the differences in seasons between fish and macroinvertebrate sampling and whether this could impact the results presented in the report.*

SPECIFIC COMMENTS

1. **Executive Summary, Page ES-1 of ES-4:** The first sentence of the second paragraph states, "The biotic integrity of many downgradient streams at the SRS indicates that they now represent levels found in streams upgradient of SRS impacts;" however, it is uncertain what is meant by "levels." *Please revise this section to explain the use of the word "levels" in this sentence*.

2. **Section 5.2, Macroinvertebrate Sampling, Page 13 of 88:** The text in this section states that the MHSP samples were collected between November 02, 2022 and January 20, 2023, however the text in Section 5.3, Habitat and Physicochemical Variables states the MHSP sampling occurred between October 26, 2022 and January 20, 2023. *Please revise this section to reconcile this discrepancy*.

3. **Section 5.3, Habitat and Physicochemical Variables, Pages 14 and 15 of 88:** There are two questions regarding this section. First, it is uncertain whether macroinvertebrate data collected in 2003, 2007, and

2017 were also gathered in winter. Second, the last sentence on Page 15 states that the physicochemical parameters of water temperature, pH, dissolved oxygen, and conductivity, were recorded; however, it does not indicate whether total organic carbon (TOC) samples were collected. *Please revise the section to clarify when the macroinvertebrate samples were collected in previous years, and note if TOC samples were collected.*

4. **Section 8, Discussion, Page 29 of 88:** The use of the qualifier "bad" should be avoided when describing the presence or absence of fish species in the SRS streams. *Please revise this sentence to remove the word "bad" and replace it with a less pejorative statement.*