REGION 4
ATLANTA, GA 30303

ENVIRONMENTAL COMPLIANCE &

APR 13 2026

SRNS-OS-2026-00133

AREA COMPLETION PROJECTS

April 13, 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

EPA Comments: SEVENTH FIVE-YEAR REMEDY REVIEW REPORT FOR SAVANNAH RIVER SITE OPERABLE UNITS WITH ENGINEERED COVER SYSTEMS (U) OU 00; SRNS-RP-2025-01064, REVISION 0 JANUARY 2026 SAVANNAH RIVER SITE AIKEN, SOUTH CAROLINA

Dear Mr. Baker,

The U.S. Environmental Protection Agency, Region 4 (EPA), has reviewed the R0 7th 5 Year Review for Engineered Cover Systems OUs, dated Feb 5, 2026. Our comments are attached, except for this additional one: The FYR should not include a signature line for EPA, since it is DOE's document. EPA will from now on send a letter from the Division Director with concurrence (or independent determination, etc.) For consistency with other Federal Facility sites and national consistency, please remove the EPA signature line from the FYR.

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: 2026.04.13 16:04:01 -04'00'

Jon Richards
FFA Remedial Project Manager
Superfund & Emergency Managment Division

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

GENERAL COMMENTS

1. The Operable Units (OUs) that were closed under the Resource Conservation and Recovery Act (RCRA) program (i.e., the Hazardous Waste Management Facilities at F-Area, H-Area, M-Area, the Metallurgical Laboratory, and the Mixed Waste Management Facility; Appendices E, G, I, J, and K, respectively) indicate that groundwater is not discussed because it is addressed under a different FYR; however, it is unclear how it can be verified that the remedial action objective (RAO) of mitigating further migration of contaminants to groundwater has been met without reviewing the groundwater data. The FYR should summarize the groundwater monitoring data for each OU and discuss whether there are any increasing trends in concentrations of the constituents of concern (COCs) at or downgradient from the OUs to support the conclusion that the remedy is functioning as intended. *Please revise the FYR to discuss the results of the groundwater monitoring performed at the OUs as a line of evidence to support the conclusion that the remedies are functioning as intended and COCs are not migrating to groundwater.*

2. The OU-specific Appendices do not always describe the specific components of the remedies as indicated in Appendix E (Five-Year Review Report Template) of the Comprehensive Five-Year Review Guidance, dated June 2001 (FYR Guidance). For example, the Remedy Implementation subsection in Appendix D (D-Area Burning/Rubble Pits (431-D and 431-1D) Operable Unit) Section IV (Remedial Actions) identifies land use controls (LUCs) as the selected remedial action that includes existing access controls to maintain industrial use of the site. Additionally, Section VII (Technical Assessment) states that there are physical access controls to prevent unauthorized contact, removal or excavation of subsurface soils, but it is unclear what specific access controls are used. The Attachment D-1 (Five-Year Review Site Inspection Checklist) notes that OU-specific perimeter fencing is not required for this OU. In addition, the selected remedies at some of the OUs closed under the RCRA program (i.e., the Hazardous Waste Management Facilities at F-Area, H-Area, M-Area, and the Metallurgical Laboratory; Appendices E, G, I, and J, respectively) are indicated to be the RCRA cover with several post-closure requirements, but LUCs are not specified as part of the remedy or post-closure requirements (i.e., in the Remedy Selection subsection), and the implementation of LUCs is not discussed (i.e., in the Remedy Implementation subsection). LUCs to preclude unauthorized access or intrusive activities are identified in the Systems Operations/Operation and Maintenance subsections, and Section VII (Technical Assessment) states that LUCs are part of the RCRA closure/post-closure/permit application process. LUCs are also identified for these OUs in Table 2 (SRS OUs with Engineered Cover Systems) and Table 3 (LUC Summary Table). Section IV in each Appendix should describe all components of the remedy, including how LUCs are incorporated into the remedies and what specific controls are used at the OUs (e.g., if there are fences, security gates, signs, etc.). *Please revise Section IV in each OU-specific Appendix to include the LUCs in the remedies and specify the components of the LUCs utilized at each OU.*

3. The FYR does not discuss all of the activities conducted during the inspections performed at each OU. As indicated in Appendix E (Five-Year Review Report Template) of the FYR Guidance, the summary of the site inspection should include information for the procedures and scope of what was inspected. For example, Appendix C (Central Shops Burning/Rubble Pits (631-1G AND 631-3G) Operable Unit) states that an inspection was performed by Savannah River Nuclear Solutions, LLC (SRNS) Environmental Compliance and Area Completion Projects (EC&ACP) on August 19, 2025, and again on October 29, 2025 with the United States Department of Energy

(USDOE), but it is unclear what was included in each of these inspections. *Please revise the FYR to include what activities (i.e., scope and procedures) were performed for each of the site inspections.*

4. Section V (Technical Assessment) in the FYR states that an evaluation of per- and polyfluoroalkyl substances (PFAS) for the OUs with engineered covers indicated no impact to remedy protectiveness, and the Appendices state that PFAS were not identified as applicable based on the OU history of contamination; however, a reference to this evaluation is not provided and it remains unclear whether the disposal units (e.g., seepage basin, settling basins, burning/rubble pits) associated with the OUs received waste contaminated with PFAS. According to EPA guidance (EPA Federal Facilities Superfund Program – RPM Bulletin 2024-01 *Considerations When Reviewing PFAS in Five-Year Reviews* April 3, 2024), the FYR should contain sufficient details to support protectiveness determinations, including a concise summary of the scope of the investigation and results to date. In addition, USDOE guidance and memorandums (*Addressing Per- and Polyfluoroalkyl Substances at the Department of Energy, Memorandum for Heads of Departmental Elements,* September 2021; *PFAS Strategic Roadmap: DOE Commitments to Action 2022-2025,* August 2022; and *Initial Assessment of Per- and Polyfluoroalkyl Substances at Department of Energy Sites,* October 2022) indicate that PFAS have been detected in SRS groundwater, and other uses and incidents of disposal of PFAS associated with research and operational maintenance of equipment is under investigation. Non- aqueous film forming foam (AFFF) sources or processes (e.g., metal plating, Manhattan project liquid discharges, Cold War era liquid waste discharges, wastewater treatment discharges, or landfills) may also be sources of PFAS. Therefore, the undetected presence of PFAS could cause protectiveness statements to be invalid. *Please revise the FYR to include or reference the evaluation to determine whether PFAS sources have caused contamination of environmental media at all OUs and how it is known whether the remedies remain protective*.

SPECIFIC COMMENTS

1. **Appendix C, Section VI, Five-Year Review Process, Pages C-6 to C-7 of C-32:** The Data Review states that water levels in the piezometers have been decreasing despite the fluctuations in rainfall amounts from year to year, but the water levels shown for CSR 14PZ on Figure C-7 (Water Level Measurements from CSR 14PZ and CSR 17PZ [2021-2025]) appear to be steady between 12 to 16 feet below ground surface (ft bgs) over the last five years. In addition, the text states that the water level criterion of three consecutive years of decreasing water levels in Pit 3G below the basin bottom have been met (2021-present), but water levels in CSR 14PZ in 2022 were lower than the water levels measured in 2023-2024 as shown on Figure C-7. Therefore, the criterion of decreasing water levels for three consecutive years has not been met at CSR 14PZ, and the recommendation to discontinue monitoring at this piezometer is not supported. *Please revise Appendix C to discuss the water level elevations for CRS 14PZ as shown on Figure C-7 and remove the recommendation for discontinuing water level monitoring at CRS 14PZ.*

2. **Appendix C, Figure C-6, Current Photograph of CSBRP OU (2025), Page C-18 of C-32:** The LUC boundary is presented on this figure, so the title does not appear to accurately reflect what is depicted on this figure. It is also unclear what is represented by the gray shape that is not defined in the legend. *Please verify the title of Figure C-6 and identify in the legend the gray*

shape shown on this figure.

3. **Appendices E and G, Section III, Background, Page E-3 of E-30 and Page G-3 of G-30:** The Basis for Taking Action section lists the COCs for each OU, but the soil investigations to characterize the three unlined basins at the F-Area and the four unlined basins in the H-Area are not referenced. It is unclear when soil samples were collected and to what depth the contamination has been found within the basins. In addition, the text should indicate what resources or targets could be impacted by the contamination, as indicated in Appendix E (Section 3, Background) of the FYR Guidance. *Please revise Section III to discuss the characterization of the basins at the F-Area and H-Area that was used to determine the COCs for soil, including what resources or targets could be impacted by the contamination in the basins.*

4. **Appendix F, Figure F-6, FBSB OU LUC Boundary, Page F-16 of F-28:** It is unclear where the LUCs boundary shown on this figure is located within the Ford Building Seepage Basin (904-91G) OU as there are no other site features present on the figure. For example, it is unclear where the LUCs boundary is relative to the Ford Building depicted on Figure F-2 (Layout of the FBSB OU) and the road shown on Figure F-5 (Aerial Photograph of the Ford Building Seepage Basin [904-91G][2025]). *Please revise Figure F-6 to include site features to provide a frame of reference for the LUC boundary.*

5. **Appendix F, Attachment F-1, Five-Year Review Site Inspection Checklist – Ford Building Seepage Basin (904-91G) OU, Page F-21 of F-28:** The checklist notes that groundwater monitoring records were readily available and up to date, but Appendix F does not discuss any groundwater monitoring data and the text indicates that groundwater was not impacted. *Please revise the checklist to note what groundwater monitoring records were available during the site inspection and include any relevant groundwater data in Appendix F, as necessary.*

6. **Appendix H, Section III, Background, and Figure H-2, Site Layout of KBRP/KRP and Well Locations, Pages H-1 to H-2 and H-18 of H-36:** The groundwater flow direction is not discussed in the text or shown on Figure H-2. It is unclear whether water levels are currently monitored or if groundwater flow has been shown to be consistent. Information about the groundwater flow should be discussed since concentrations of COCs at well KRP 9 have fluctuated around the respective Maximum Contaminant Levels (MCLs). *Please revise Figure H-2 to indicate the direction of groundwater flow in the vicinity of the KBRP/KRP, and revise Section III to discuss the groundwater flow direction, including the most recent water level data*.

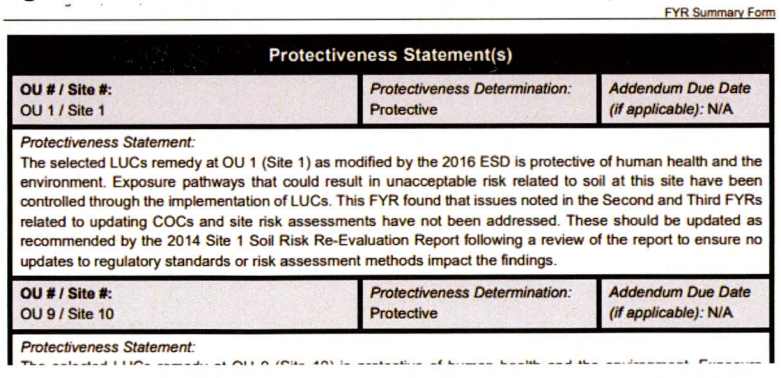
7. **Appendix K, Section III, Background, Page K-3 of K-30:** The Basis for Taking Action section lists nineteen COCs for the Mixed Waste Management Facility (MWMF) OU, but the soil investigation that characterized the 118 slit trenches, engineered low-level trench, and naval core barrel mound is not referenced. In addition, it is unclear why the History of Contamination section lists four primary COCs and how these relate to the 19 COCs. Also, this section should indicate what resources or targets could be impacted by the contamination, as indicated in Appendix E (Section 3, Background) of the FYR Guidance. *Please revise Section III to discuss the characterization of the trenches and mound at the MWMF OU that determined the COCs and the primary COCs for soil, including what resources or targets could be impacted by this contamination.*

8. **Appendix K, Section VI, Five-Year Review Process, Page K-7 of K-30:** The Data Review section discusses 1,4-dioxane and tritium in the Southwest Plume, but it is unclear if only 1,4-dioxane is attributed to the MWMF as the text discusses the reduction of tritium by the Old Radiological Waste Burial Ground (ORWBG) low permeability cap. The text states that it appears the 1,4-dioxane plume is not expanding, but data to support this statement are not provided. Figure K-5 (MWMF Southwest Plume 1,4-Dioxane Concentrations in the Upper Aquifer Zone) shows only a small portion of the MWMF adjacent to the ORWBG, and the full extent of the 1,4-dioxane plume at the MWMF is not depicted. The plume appears to extend to the north, but the 1,4-dioxane result for the well to the northwest of well BGO16 is not provided. Therefore, it is unclear how it is determined whether the MWMF cap is functioning to mitigate further migration of contaminants to groundwater, as groundwater results at the MWMF are not discussed. Please revise the data review in Section VI to clarify the constituents in groundwater (i.e., tritium and/or 1,4-dioxane) that are attributed to the contamination in MWMF soil, and provide the complete results for the MWMF groundwater monitoring (i.e., on a figure and in a table). *Please also discuss any trends in the groundwater results that show whether the plume is expanding to support the conclusion that the MWMF cap is functioning as intended.*

9. **Appendix L, Section III, Background, Page L-4 of L-30, and Table L-2, COCs for SRLSB OU, Page L-19 of L-30:** The Basis for Taking Action subsection states that the final list of human health COCs has 18 radionuclides, but only 17 radionuclides are listed in Table L-2. *Please revise the text and Table L-2 to present consistent information for the radionuclide COCs.*

EPA HQ Comments

1. *Consider putting the Summary Table up front in the FYR*. Also, as part of the Summary Table, there is typically a table that describes the protectiveness statement for each OU with detail. Consider adding this level of detail to the next FYR. For example:



FYR Summary Form

Protectiveness Statement(s)		
OU # / Site #: OU 1 / Site 1	*Protectiveness Determination:* Protective	*Addendum Due Date (if applicable):* N/A
Protectiveness Statement: The selected LUCs remedy at OU 1 (Site 1) as modified by the 2016 ESD is protective of human health and the environment. Exposure pathways that could result in unacceptable risk related to soil at this site have been controlled through the implementation of LUCs. This FYR found that issues noted in the Second and Third FYRs related to updating COCs and site risk assessments have not been addressed. These should be updated as recommended by the 2014 Site 1 Soil Risk Re-Evaluation Report following a review of the report to ensure no updates to regulatory standards or risk assessment methods impact the findings.		
OU # / Site #: OU 9 / Site 10	*Protectiveness Determination:* Protective	*Addendum Due Date (if applicable):* N/A
Protectiveness Statement:		

2. Page 16, last sentence states that the trigger date is the last date of signature, however the trigger date does not change:

   Trigger date:

   It is Federal Facility Superfund policy (see memos) that the statutory due date does not change. Program Priorities for Federal Facility Five-Year Review - August 2011.

   This policy memorandum describes management controls that will be implemented to ensure that the recommendations in the Five-Year Review reports are tracked, monitored and implemented; provides guidance to remedial project managers to ensure that the reviews are completed on time; outlines how EPA makes an independent decision on protectiveness; and confirms that Five-Year Reviews are generally enforceable under federal facility agreements.

- Correction to the Memorandum "Program Priorities for Federal Facility Five-Year Reviews" - February 2012.
  This memorandum corrects the August 1, 2011 policy memorandum (see above) by clarifying the CERCLIS language on page 4.
  Excerpt from August 2011 memo:

Changes to CERCLIS to Reflect Due Dates:

In fiscal year (FY) 2011, FFRRO has made a CERCLIS change such that the future date will be based on the planned completion date. What this means is that starting this fiscal year, if the date the five-year review report is concurred on by EPA is July 30, 2011, then the due dates of the subsequent five-year reviews are July 30, 2016 and July 30, 2021. This will assure that due dates will not change if the reports are late or early. These changes supersede section 1.3.3 of the 2001 Comprehensive Five-Year Review Guidance for federal facilities.

3. **EXPECTATIONS FOR PFAS AND EMERGING CONTAMINANTS IN FIVE-YEAR REVIEWS:**
   Consider revising for this one and future 5Yrs:
   After reviewing numerous five-year reviews, the Federal Facility Superfund Program has observed the following best practices in addressing PFAS and other emerging contaminants of potential concern in Five-Year reviews:
   QUESTIONS FOR FYRS: There are four issues considered in the PFAS and Emerging Contaminants Review, which guide our recommendations:
   1. Scope and Documentation: **Where was sampling and evaluation for PFAS and/or other emerging contaminants summarized?** Is the scope appropriate and were current guidance referenced and followed? **I didn't see PFAS sampling and evaluation summarized in Question B or referenced Appendix B.**
   2. Technical Assessment: Were emerging contaminants included in Question B?
   3. Issues and Recommendations: Were issues pertaining to the emerging contaminants identified? How were they addressed via recommendations?
   4. Protectiveness: Does the presence of emerging contaminants affect protectiveness?
      Note that in either (a) or (b), the description of PFAS should include a concise summary of the scope of the investigation to date, and the results should be screened as set forth in the latest EPA and DOD guidance (e.g. DOD 2019, EPA 2019, DOD 2020, etc.)

Attorney Comments

General Comment #1: ORC recommends that institutional controls (ICs) that are part of the remedies at several OUs examined in the Seventh Five-Year Remedy Review Report for Savannah River Site Operable Units with Engineered Cover Systems (U) be reviewed to ensure the ICs are functioning as intended per EPA's guidance, Recommended Evaluation of Institutional Controls: Supplement to the Comprehensive Five-Year Review Guidance, OSWER 9355.7-18, dated September 13, 2011, at page 2 (https://semspub.epa.gov/work/HQ/175441.pdf last accessed April 9, 2026), which describes EPA's duties in reviewing ICs as part of a five-year review process as follows.

> When an IC is a component of a remedial action, the current and long-term effectiveness of that IC should be evaluated and relevant information about that IC should be included as part of the protectiveness determination. In addition to the protectiveness determination, FYRs may identify IC issues and recommend the

> need for additional evaluation and/or follow-up actions included as highlighted issues and recommendations.

That guidance further states that

> All IC instruments should be reviewed to ensure that clear language is used to state the required use restrictions and that legal descriptions reflect current conditions at the site (e.g., ground water ordinance covers the entire current plume area).

Id. at 5. It further provides that dated copies of ICs should be obtained to confirm that each has been implemented as envisioned in the decision documents. *See id.* Thus, ORC recommends that EPA obtain copies of or information about at least the following ICs which are components of several remedies at sites at SRS:

- Site Use/Site Clearance Program (and the administrative controls and land use restrictions for onsite workers therein)
- work controls/work packages that include worker training that are relevant to LUCs;
- health and safety requirements that are relevant to LUCs; and
- any relevant LUCIPs.

When were these last reviewed by SC or EPA? And, How accessible are these, i.e. are they public accessible, and/or protected?

Specific Comments:

Comment 1, Executive Summary, Page ES-1, first paragraph, first sentence: Please add "(SRS)" after "Savannah River Site" in the first sentence to introduce this abbreviation because the abbreviation is not introduced elsewhere before it is used in the second paragraph.

Comment 2, Executive Summary, Page ES-1, second paragraph, last sentence: Please revise this sentence to state that the engineered covers are part of a final remedy, because the remedies also include other components, like land use controls, in addition to the engineered cover. The revised sentence would be as follows. "This is the third phase of the Seventh Five-Year Remedy Review Report, with this report evaluating SRS OUs that have engineered covers as part of a final remedy." Please make this change throughout the document and refer to engineered covers as "part of" a final remedy, unless the engineered cover was the only component of the selected remedy.

Comment 3, Executive Summary, Page ES-1, third paragraph, last sentence: The document states that "the requirements of three consecutive years of decreasing water level in Pit 631-3G" have been met. Please provide a citation or reference to the source of this three consecutive years of decreasing water level requirement.

Comment 4#, Savannah River Site Summary, Introduction, Page1, first paragraph, second sentence: In the second sentence, which discusses the NCP, please include a citation to 40 C.F.R. § 300.430(f)(4)(ii). *See* Five-Year Review Recommended Template, OLEM -9200.0-89, dated January 20, 2016, at template page 3 or PDF page 9 (stating that the lead agency is "preparing this

five-year review pursuant to the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) Section 121, consistent with the National Contingency Plan (NCP)(40 CFR Section 300.430(f)(4)(ii)), and considering EPA policy.").

Comment 5, Savannah River Site Summary, Introduction, Page1, first paragraph: The document states, "[t]he evaluation of the remedy and the determination of protectiveness should be based on and sufficiently supported by data and visual inspections." Please revise to include other sources of information considered during the review process including data and document review, site interviews, site inspections, etc. *See, e.g.,* Comprehensive Five-Year Review Guidance, EPA 540-R-01-007, OSWER No. 9355.7-03B-P, June 2001 at 3-1 (explaining that "Data and other site-specific information that form the foundation for the technical assessment of the remedy at the time of the five-year review are discussed in this chapter, including data and document review, site interview, site inspection, and components of a Five-Year Review report.").

Comment 6, Savannah River Site Summary, Site Chronology, Page4, first complete sentence: The document states, "[t]he Savannah River Laboratory Seepage Basins (904-53G, 904-54G, and 904-55G) and New TNX Basin (904-120G) were also included in the Consent Decree for closure in a RCRA-like manner." "RCRA-like manner" is an undefined term. Please revise to state the following or something similar. "The Savannah River Laboratory Seepage Basins . . . were also included in the Consent Decree for closure consistent with RCRA requirements."

Comment 7, Savannah River Site Summary, Initial Response, Page 7, end of first complete paragraph: Consider including a link to the online depository of the Administrative Record File in this paragraph, as well as the physical location(s) where the Administrative Record File can be viewed.

Comment 8, Issues and Recommendations Section, Page 15, bullet point: The document states, "[d]ue to water-level measurements at Central Shops Burning/Rubble Pits (631-1G/631-3G) OU . . . meet the requirement of three consecutive years of decreasing water-level in Pit 3G." Please provide a citation or reference to the source of the three consecutive years of decreasing water requirement mentioned in this sentence.

Comment 9, Next Review Section, Page 16, second sentence: The document states, "[b]arring a change in the governing laws, another review for the remedies in this report should be completed within five years from the signature date of this document." This statement is incorrect for the reasons Jyl Lapachin explained in her comments on this FYR and should be revised accordingly.