



**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY**  
REGION 4  
ATLANTA FEDERAL CENTER  
61 FORSYTH STREET  
ATLANTA, GEORGIA 30303-8960

February 26, 2024

**ENVIRONMENTAL COMPLIANCE &**

Ms. Avery Hammett, 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

**FEB 26 2024**

**AREA COMPLETION PROJECTS**

**EPA Comments on the TECHNICAL REVIEW OF THE EFFECTIVENESS  
MONITORING REPORT (EMR) FOR THE C-AREA GROUNDWATER (CAGW)  
OPERABLE UNIT REMOVAL ACTION (U) JULY 2022 THROUGH JUNE 2023  
SEMS NUMBER: 82; SRNS-RP-2023-00913, REVISION 0 OCTOBER 2023**

Dear Ms. Hammett,

The U.S. Environmental Protection Agency, Region 4 (EPA), has reviewed the Effectiveness Monitoring Report (EMR) for the C-Area CAGW – July 2022 through June 2023, SEMS Number: 82, Revision 0, Oct 2023. EPA comments are attached.

If you have any questions or require additional information, please contact me at (404) 562-8648.

Sincerely,

**JON  
RICHARDS**  
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Jon Richards  
FFA Remedial Project Manager  
Superfund & Emergency Management  
Division

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

1. It is unclear if the locations where the surface water samples are collected are being impacted by the site conditions (e.g., flow volumes, levels) and therefore may vary at the time of sample collection. For example, surface water stations at the unnamed tributary (i.e., CCT-01, CCT-02, and CCT-03) and Castor Creek (i.e., CC-06, CC-07, CC-08) are shown in different locations. Figure 3 (CAGW OU NTC RA Areas [2019 Baseline Conditions]; Page 36 of 117) shows the locations of CCT-02 and CCT-03 as across the unnamed tributary from monitoring wells CRW026C and CRW028C, respectively; however, Figure 4 (CAGW OU NTC RA Areas [4Q2022]) shows CCT-02 and CCT-03 as located on the same side of the tributary and closer to monitoring wells CRW026C and CRW027C, respectively. Surface water stations CCT-01 and CC-05 exhibit similar inconsistencies in location between Figures 3 and 4. As such, it is unclear if these samples were collected from different locations in the 2019 baseline and current sampling period due to site conditions at the time of surface water sampling. *Please revise the EMR to clarify if these surface water samples were collected at the same locations and if so, ensure the figures are consistent.*
2. The numbering of the figures referenced in the text is inconsistent with the figures provided in the EMR. For example, in Section 3.4.1 (CAGW OU NTC RA), the discussion of the results for background wells CSB 15D and CSB020C references Figure 11, but the data for these background wells are provided in Figure 13 (CAGW RA Peripheral Stations TCE Trends). As another example, Section 3.4.1.6 (Methane) references Figures 15 and 16 for the methane results, but methane results are shown in Figures 17 and 18. *Please revise the EMR to resolve the discrepancies in the figure numbers referenced in the text and provided in the EMR.*

## SPECIFIC COMMENTS

1. **Section 3.4.1.6, Methane, Page 18 of 117:** The text states that seep line location CCSL-23R had a large variation in methane concentrations during the fourth quarter 2022 (4Q22) to second quarter 2023 (2Q23) sampling period; however, Appendix A (CAGW OU NTC RA Analytical Data 2022-2023) reports both results as not detected for CCSL-23R. It is unclear if this variation is in reference to the previous methane concentrations at this location, which are noted to increase from 2018 to 2021 and then decrease to below detection limits in 2022. *Please revise the EMR to clarify the discussion of the current and previous methane results at seep line location CCSL-23R.*
2. **Section 3.4.2, CAGW OU, Page 24 of 117:** The discussion of the Middle Aquifer Zone states that mid-plume wells exhibit slowly decreasing concentrations of TCE; however, a graph showing the trends in TCE concentrations for these wells is not provided as a supporting line of evidence. *Please revise the EMR to include a graph of the TCE concentration trends for the mid-plume wells discussed in this section.*
3. **Figure 16, Ethylene Groundwater Concentrations, Page 50 of 117:** The note on this figure states that elevated method detection limits (MDLs) rendered the analysis of ethylene useless after February 2020, but Section 3.4.1.5 (Ethylene) notes that lower MDLs were achieved in 4Q22 and 2Q23. In addition, it is recommended that the figure show the results that were not detected (ND) differently than the detected data points (e.g., using solid vs. open circles as symbols for each data point) to show the elevated MDLs. For example, ethylene was not detected in 4Q22 but was detected in 2Q23 at several wells. *Please revise Figure 16 to note that the timeframe for the elevated MDLs as discussed in Section 3.4.1.5*

and use different symbols for the data points to differentiate between detected and ND results.

4. **Figure 17, CRW023C Post-RA Groundwater Trends, Page 51 of 117:** The 2Q23 data for chloride, nitrate, and sulfate are not presented on Figure 17. For example, the text in Section 3.4.1.7 (Chloride, Nitrate and Sulfate) notes that nitrate concentrations have been increasing since 2022, but Figure 17 does not include the concentrations reported for nitrate (i.e., 1.4 ug/L and 1.43 ug/L for CRW023C in 2Q23) in Appendix A (CAGW OU NTC RA Analytical Data 2022-2023). *Please revise Figure 17 to include the 2Q23 data for chloride, nitrate, and sulfate.*