



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

ENVIRONMENTAL COMPLIANCE &

January 2, 2024

Ms. Avery Hammett
SRS Remedial Project Manager
Infrastructure and Area Completion Division
U.S. Department of Energy
Savannah River Operations Office
P.O. Box A
Aiken, South Carolina 29802

JAN - 2 2024

AREA COMPLETION PROJECTS

**EPA comments of the R-AREA GROUNDWATER (NBN) BIENNIAL
EFFECTIVENESS MONITORING REPORT IN SUPPORT OF R-AREA
OPERABLE UNIT (U), JANUARY 2021 THROUGH DECEMBER 2022,
REVISION 0 DATED AUGUST 2023**

Dear Ms. Hammett,

The U.S. Environmental Protection Agency, Region 4 (EPA), has reviewed this R area Groundwater Biennial Effectiveness Monitoring Report. EPA has the following comments.

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

Sincerely,

**JON
RICHARDS**

Digitally signed by JON
RICHARDS
Date: 2024.01.02
09:47:04 -05'00'

Jon Richards
FFA Remedial Project Manager
Superfund & Emergency Management
Division

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

GENERAL COMMENT

1. It is unclear whether data gaps exist in the lateral extent of tritium contamination. The Eastern and Western Tritium Plumes are shown on Figure 3, RAGW Monitoring Stations and 2022 Groundwater Plumes, as two distinct and separate plumes; however, there are no monitoring wells located between the two plumes to provide lateral delineation. Also, according to the A – A' cross-section stratigraphic profile in Figure 9, R-Area Cross-Section with RAGW Eastern Tritium Plume 2022, no wells are shown west of RPS004C to delineate the plume. Furthermore, a figure with a cross-section showing both the Eastern and Western Tritium Plumes is not presented to show whether the plumes are distinct and separate. *Please revise the EMR to discuss the apparent data gap in the lateral delineation of tritium plumes and include a cross-section that shows both the Eastern and Western Tritium Plumes.*

SPECIFIC COMMENTS

1. **Section 3.1, RAGW Monitoring, Page 2 of 40:** The text states that the groundwater monitoring network consist of 28 wells, 4 seep line locations, and 7 surface water locations; however, there appears to be more than 28 wells and only six surface water locations shown on Figure 3, RAGW Monitoring Stations and 2022 Groundwater Plumes. *Please revise the EMR to address this discrepancy.*
2. **Section 3.2, ISD Monitoring, Page 5 of 40 and Figure 5, Five ISD Monitoring Wells Sampled Annually (2018 through 2022), PDF Page 29:** There is a discrepancy between the wells listed in the first paragraph, page 5 versus Figure 5, Five ISD Monitoring Wells Sampled Annually (2018 through 2022). Specifically, well RDB003DU is included in the list of wells that were sampled for carbon-14 and tritium for five years on page 5, but is not shown in the corresponding Figure 5. A well identified as RDB 3DU is shown in Figure 5, but is not included in the list of wells that were sampled for carbon-14 and tritium for five years on page 5. As such, it is unclear if well RDB003DU and well RDB 3DU are the same well. *Please revise the EMR to ensure all well designations are consistently presented between text, figures and tables.*
3. **Section 4.1.1, Eastern VOC Plume, Page 8 of 40:** Well RWT003C is stated to have been sampled during 2021 and 2022 but is not shown on Figure 3, RAGW Monitoring Stations. *Please revise Figure 3, RAGW Monitoring Stations, to include well RWT003C.*
4. **Section 5.1.5, ISD, Page 16 of 40:** It is unclear if the annual monitoring event is scheduled during the rainy season/high water table conditions to ensure groundwater samples are collected to monitor potential source mobilization near the disassembly basin. The text states that the 2017 and 2020 increase in tritium and carbon-14 at well RDB 3D may be due to mobilization of a small shallow legacy spill near the disassembly basin, related to the recent high-water table levels. The EMR also notes that greater than average rainfall was measured at the Savannah River Site during 2020. *Please revise the EMR to state whether the in situ decommissioning (ISD) monitoring is being conducted during the rainy season.*
5. **Figure 3, RAGW Monitoring Stations and 2022 Groundwater Plumes, Page 21 of 40:** It is unclear if the Western Tritium Plume includes the ISD tritium plume that surrounds wells RDB 3D/RDB 3DU. The legend for Figure 3 defines two tritium plumes, one surrounding wells RDB 3D/RDB 3DU and one surrounding well RDB005C, collectively referenced as the Western Tritium Plume in the legend; however, according to Figure 4, ISD Monitoring

Wells (2022) and Figure 5, Five ISD Monitoring Wells Samples Annually (2018 through 2022), the Western Tritium Plume surrounds well RDB005C and the ISD Carbon-14 and Tritium Plume surrounds wells RDB 3D/RDB 3DU. *Please revise Figure 3 or Figures 4 and 5 to consistently show the extent of the Western Tritium Plume.*

6. **Figure 4, ISD Monitoring Wells (2022), Page 22 of 40:** It is unclear why the Eastern Tritium Plume is not shown on the figure at RAG003DL/RAG003DU and RPS004C/RPS004DUR. *Please revise Figure 4 to include the Eastern Tritium plume.*

MINOR COMMENTS

1. **LIST OF TABLES, Page iv of vi:** The title for Table 2, RCOC Maximum Results for 2022 by Plume does not match the Table 2 title on page 39. The title in the list of tables should read "RCOC Maximum Results for 2021-2022 by Plume." *Please revise the title in the list of tables for Table 2.*
2. **LIST OF APPENDICES, Page iv of vi:** The title for Appendix A currently has incorrect years. The title should read "RAGW Data 2021-2022." *Please revise the title of Appendix A in the list of appendices.*
3. **LIST OF ABBREVIATIONS AND ACRONYMS, Page v of vi:** There are many abbreviations and acronyms used in the text that are not listed. *Please revise the list of abbreviations and acronyms to include Five-Year Remedy Review (5YRR), Gordon Aquifer (GA), Gordon Confining Unit (GCU), Refined Contaminants of Concern (RCOC), South Carolina Department of Health and Environmental Control (SCDHEC), Tan Clay Lower Clay (TCLC), Tan Clay Upper Clay (TCUC), United States Environmental Protection Agency (USEPA), and United States Department of Energy (USDOE). Also, the abbreviation "amsl" and its corresponding definition of "above mean sea level" should be moved to the correct alphabetical order on the list.*
4. **Section 4.1.4, Former Northern Tritium Plume, Page 12 of 40:** The text provides reference to contamination trends at well RSE 10DU as "Appendix C, Figure C-61"; however, contamination trends for this well are shown in Figure C-60, Time Series Plot for Tritium Station for RSE 10. *Please revise the text to provide the correct figure reference.*
5. **Section 5.1.5, ISD, Page 16 and Section 5.1.5, ISD, Page 16 of 40:** There is conflicting information reported for the carbon-14 trend in well RDB 3D. The text states that carbon-14 concentrations have decreased in well RDB 3D since 2017. However, Figure C-4, Time Series Plot for Carbon-14 Station for RDB003, indicate that these contaminants have been decreasing since 2020, not 2017. *Please revise the text to state that carbon-14 concentrations have decreased since 2020.*
6. **Section 5.2, RAGW Recommendations, Page 17 of 40:** The abbreviation "RRSB" is used for the first time in the second paragraph but is not defined. *Please define the first use of "RRSB".*
7. **Figure 3, RAGW Monitoring Stations and 2022 Groundwater Plumes, Page 21 of 40:** There is a duplicate well identifier for well RDB 2D. *Please remove the duplicate well identifier.*

8. **Figure D-4, Western Tritium Plume 2018, Page D-9 and Figure E-3, R-Area LAZ Well Water Elevations 2020, Page E-7 of E-8:** The figure titles list the incorrect year. *Please revise the figure title to reflect the correct year.*