



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

January 12, 2020

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

Mr. Brian Hennessey, 730-B
SRS Remedial Project Manager
Savannah River Operations Office
Area Completion Projects
Post Office Box A
Aiken, South Carolina 29802



Dear Mr. Hennessey:

The U.S. Environmental Protection Agency (EPA) has reviewed the DOE-SRS 2018 Groundwater Monitoring Report for the D Area Groundwater Operable Unit, SEMS # 63, dated July 2019.

EPA cannot approve the above mentioned report until the comments below have been addressed. Should you have any questions or concerns, please feel free to call me at on my cell number 404-229-9500.

Sincerely,

A handwritten signature in blue ink that reads "Diedre Lloyd".

Diedre Lloyd
Remedial Project Manager
Restoration & Sustainability Branch
Superfund Division

cc: Angelia Holmes, DOE-SRS, Brian Hennessey, DOE-SRS, Phil Prater, DOE-SRS, Karen Adams, DOE-SRS, Chris Bergren, SRNS-ACP (Signed Original), Susan Fulmer, SCDHEC;

**EPA COMMENTS on the
2018 GROUNDWATER MONITORING REPORT for
D-AREA GROUNDWATER OPERABLE UNIT**

**SEMS NUMBER: 63
DATED JULY 2019**

**SAVANNAH RIVER SITE
AIKEN, SOUTH CAROLINA**

EPA GENERAL COMMENTS:

1. Section 5.2 (Recommendations), Page 20 of 24 states the continued monitoring ensures that any additional loading from the vadose zone will be detected. It is noted the 484-D Powerhouse began operation in 1952, ceased operation in April 2012, and is currently used for military training exercises. However, it does not appear the 484-D Powerhouse unit has been adequately investigated to determine whether unacceptable impacts to the vadose zone or groundwater have occurred as result of powerhouse operations. It is noted the 488-D-Area Ash Basin (DAB), 489-D Coal Pile Runoff Basin (CPRB), and the 431-D DRP surface units received waste from operation of the coal-fired 484-D Powerhouse. As such, it is uncertain whether the powerhouse area is currently a contributing source to the vadose zone and groundwater regarding volatile organic compounds (VOCs), metals, and polychlorinated biphenyl (PCB) contamination.
 - a. Please include data and modify figures for the upcoming 2020 D-Area Groundwater OU Report to demonstrate that the D-Area Powerhouse has a basement area, as discussed during the last core team meeting when this area was discussed. The text and figure should include information about the depth below surface of the basement area and what may have been stored in the basement along with brief outline of the basement's overall dimensions.
 - b. Please revise the 2018 Groundwater Monitoring Report for D-Area Groundwater Operable Unit (U), SEMS Number: 63; SRNS-RP-2019-00454, dated July 2019 (the Report) to address this issue to ensure the 484-D Powerhouse unit is adequately assessed to determine whether the powerhouse area is a contributing source of contamination to vadose zone and/or groundwater.
2. Based on the horizontal extent and geometry of the various metals, trichloroethylene (TCE) and tritium contaminant plume(s), the current monitoring well network installed in the Gordon Aquifer is not adequate to monitor potential Gordon Aquifer groundwater contamination. For example, according to Figure D-8 Potentiometric Surface of the Gordon Aquifer Unit, 2Q2018, Appendix D, Page D-17 of D-76, no Gordon Aquifer wells are located downgradient of the former 489-D CPRB and 488-D DAB or within the Powerhouse Subunit, the Moderator Processing Subunit or the Bubble Tower Subunit historic operational source areas. Revise the Report to address this issue to ensure the Gordon Aquifer is adequately delineated and monitored in the future.
3. Based on the contaminant plume maps and cross-section maps, metals, TCE and Tritium plumes are poorly defined vertically and horizontally. For example, as seen in the figures, the horizontal and vertical extent of aluminum (Figure D-8, no cross-section), beryllium (Figure D-10, D-11 and D-12), cobalt (Figure D-16, D-17 and D-18), manganese (Figure D-20, no cross-section), sulfate (Figure D-

26, Figure D-27 and Figure D-28), TCE (Figure D-30, Figure D-31 and Figure D-32) and tritium (Figure D-33, Figure D-34 and Figure D-35) are inferred. Please revise the Report to address this issue to ensure the full horizontal and vertical extent of all contaminant plumes exceeding applicable regulatory limits is adequately defined.

EPA SPECIFIC COMMENTS:

4. **Section 1.4 Comprehensive Environmental Response, Compensation and Liability Act Related to Activities, Page 3 of 24:** The text states the D-Area Operable Unit (DAOU) consists of the following three main facility areas: the 484-D Powerhouse (Powerhouse Subunit), the D-Area Heavy Water Facility (Bubble Tower Subunit), and the Moderator Processing Facility (Moderator Processing Subunit). However, the three main facility areas were not clearly identified in a figure. As such, the relative boundary relationship between the three main facility areas is not known. Revise the Report to address this issue.
5. **Section 1.4 Comprehensive Environmental Response, Compensation and Liability Act Related to Activities, Pages 3 and 4 of 24:** The text states the Bubble Tower Subunit is no longer a source of trichloroethylene (TCE) contamination to groundwater. However, according to the Appendix A, Table A-4 Summary of Remedial Actions with Operating Equipment at SRS of the Sixth Five-Year Review Remedy Report for SRS OUs with Native Soil Covers and/or LUCs (U), dated June 2019, MicroBlower™ operations are ongoing at the D-Area Operable Unit (Bubble Tower). As such, it is unclear if there is currently a vadose source of TCE contamination to groundwater at the Bubble Tower. Revise the Report to address this issue.
6. **Section 3.0 Monitoring Results, Page 7 of 24:** The text identifies several monitoring sampling stations (i.e., DWP 1, DWP 2, DWP 3, DWP 6, DWP 7, DWP 8, DWP 9, DVSM 2, SVSM-5) that were not sampled during the 2017 and/or 2018 monitoring period. As noted, the monitoring stations were primarily dry and could not be sampled. Additionally, most of these wells are located downgradient and monitor the leading edge of the contaminant plume(s). Since the data needs are not being met at these downgradient sampling stations, the horizontal extent of the contaminant plumes is poorly defined and inferred in most cases. Revise the Report to address this issue to ensure the groundwater monitoring data needs are met at these locations.
7. **Appendix A, Well Construction Summary, Table A-1 Well Construction Summary, Page A-3 of A-6:** The table indicates DCB23D is a piezometer well screened in the Upper Three Runs Aquifer (UTR). However, DCB-23D was utilized in the construction of the water table surface of the Gordon Aquifer. For example, a review of Figure D-8 Potentiometric Surface of the Gordon Aquifer Unit, 2Q2018, Appendix D, Page D-17 of D-76 shows the location of DCB-23D and a groundwater level of 111.18 feet (ft) mean sea level (msl) is depicted in the figure. Revise the Report as appropriate to ensure the aquifer zone of the screened well interval at DCB-23D is clearly defined and documented.